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# SIGMA XI QUARTER CENTURY RECORD AND HISTORY

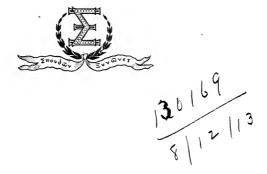
1886-1911

COMPILED BY

#### HENRY BALDWIN WARD

SECRETARY OF THE SOCIETY OF THE SIGMA XI

WITH THE ASSISTANCE OF THE CHAPTER SECRETARIES



UNIVERSITY OF ILLINOIS
URBANA-CHAMPAIGN

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#### PREFACE

The Baltimore Convention of the Society instructed the Corresponding Secretary in 1909 to prepare a complete catalog of the membership. The Washington Convention in 1911 authorized the printing of the list. The result is this book. The preparation of the record has demanded a large amount of work for which the Society is indebted first of all to the secretaries of the individual chapters. Rapid rotation in office, frequent shifts in the personnel of a chapter, and the lack of permanent records have made it difficult to ascertain accurately some of the important facts in the history of almost every chapter despite the prolonged efforts of the present-day officers and of the resident members. In one case (Ohio) all of the original records were destroyed by fire and in other chapters early record books and papers cannot be found.

The membership list of each chapter is published on the authority of the Chapter Secretary, and each chapter history is signed by him. In addition, I have spared no effort to help make each list complete and to correct all errors. The delays incident to the investigation of doubts arising in reading manuscript and proof have led to the discovery of numerous errors, and have resulted as a matter of fact in demonstrating the omission of some forty names from one chapter list; yet this has postponed the appearance of the book many months. It is too much to hope that all errors have been corrected; for any that still remain I ask the most charitable consideration of all.

By vote of the Washington Convention the list was limited to the membership on December 31, 1911, and each member was to be given the position held at that date. There have been changes, of course, but this book is more than a mere address list, and despite the changes the record indicates closely the present relations of the membership.

The examination of original records and the study of the history of Sigma Xi has proved very interesting to me and I trust the results may appeal to others. This history forms clearly an important part of the movement that has led to a new conception of educational values and a new emphasis in educational work. The men who have been leaders in Sigma Xi have been also prophets of the new education. It is fitting to chronicle their work in the establishment of the organization. But the records are scanty. In spite of extended investigation of all available sources I fear I have not done full justice to some of the men who have

unselfishly devoted time and energy to establish high ideals of scholarship in science. No one can record properly the influence of the army of less conspicuous workers who have contributed powerfully to build up the Society as it is to-day. Sigma Xi itself stands as the evidence of their loyalty to ideals.

To the numerous enthusiastic helpers who have prepared copy, checked lists and data, and done the many other tiresome things which have made this record possible, I wish to express my sincere thanks. To those who are the victims of the errors that still remain, I offer my heartfelt apologies.

HENRY B. WARD.

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## FOUNDERS OF THE SOCIETY OF THE SIGMA XI AND CHARTER MEMBERS OF THE ALPHA CHAPTER

WILLIAM ASHER DAY

JOHN JACOB BERGER

JOHN KNICKERBACKER

WILLIAM ADDAMS MOSSCROP

WILLIAM HERMAN RILEY

EDWIN NASH SANDERSON

HARRY EZRA SMITH

FRANK VAN VLECK

CHARLES BENJAMIN WING

HENRY SHALER WILLIAMS

#### ACTIVE CHAPTERS OF THE SIGMA XI SOCIETY

Number	Institution	Location Fo	nunded					
1	Cornell University	Ithaca, New York	1886					
2	Rensselaer Polytechnic	· ·						
	Institute	Troy, New York	1887					
3	Union College	Schenectady, New York.	1887					
4	The University of Kansas .	Lawrence, Kansas	1890					
5	Yale University	New Haven, Connecticut	1895					
6	The University of Minnesota	Minneapolis, Minnesota.	1896					
7	The University of Nebraska	Lincoln, Nebraska	1897					
8	Ohio State University	Columbus, Ohio	1898					
9	University of Pennsylvania.	Philadelphia, Pennsylvania	1899					
10	Brown University	Providence, Rhode Island	1900					
11	The State University of Iowa	Iowa City, Iowa	1900					
12	Leland Stanford Junior							
	University	Palo Alto, California	1901					
13	University of California	Berkeley, California	1902					
14	Columbia University	New York City	1902					
15	The University of Chicago.	Chicago, Illinois	1903					
16	University of Michigan	Ann Arbor, Michigan .	1903					
17	University of Illinois	Urbana, Illinois	1903					
18	Case School of Applied Science		1904					
19	Indiana University	Bloomington, Indiana .	1904					
20	University of Missouri		1905					
21	University of Colorado	Boulder, Colorado	1905					
22	Northwestern University .	Evanston, Illinois	1906					
23	Syracuse University	Syracuse, New York	1906					
24	The University of Wisconsin		1907					
25	University of Washington .	Seattle, Washington	1907					
26	Worcester Polytechnic							
		Worcester, Massachusetts	1908					
27	Purdue University		1909					
28	Washington University	Saint Louis, Missouri .	1910					
DEFUNCT CHAPTERS								
Beta	Stevens Institute of							
		loboken, New Jersey	1887					
Delta		ew Brunswick, New Jersey	1887					
		,						

Note. The numbers are those used in recent statistical tables, printed in the annual convention proceedings. They indicate the order of founding the active chapters but possess no official significance.

#### GENERAL CONVENTIONS OF SIGMA XI

I	Ithaca				May 17, 18	1893	*4
II	Springfield .				August 28, 29	1895	5
III	Toronto .				August 20	1897	6
IV	Columbus .				August 22, 23	1899	8
$\mathbf{v}$	Denver				August 28	1901	11
$\mathbf{VI}$	Washington				December 30	1902	14
VII	Philadelphia				December 29	1904	19
VIII	New York .				December 31	1906	19
(IX)	Chicago .				January 3	1908	26
·Χ	Baltimoret				January 2	1909	26
XI	Boston				December 29	1909	27
XII	Minneapolis				December 30	1910	28
XIII	Washington				December 28	1911	28

\* Total number of chapters in active membership in the Society and entitled to representation in the Convention.

†To avoid any possible confusion in the change from biennial to annual conventions, this is numbered the tenth, although the special convention in Chicago was not styled the ninth in the published proceedings. [From title page of the Proceedings of the Baltimore Convention.]

#### THE COUNCIL FOR 1911-1912

#### EX-OFFICIIS

Past Presidents

HENRY SHALER WILLIAMS (1895–1901) SAMUEL WENDELL WILLISTON (1901–1904) EDWARD LEAMINGTON NICHOLS (1904–1909) FRANK OLIN MARVIN (1909–1910)

#### CHAPTER REPRESENTATIVES

Term Ending January 1, 1913

ALBERT DEFOREST PALMER (Brown)

JOHN CAMPBELL MERRIAM (California)

FRANCIS RAMALEY (Colorado)

STEPHEN ALFRED FORBES (Illinois)

WILLIAM KENDRICK HATT (Purdue)
CHARLES WINTHROP CROCKETT (Rensselaer)
HARRIS JOSEPH RYAN (Stanford)
FRANCIS EUGENE NIPHER (Washington University)

VICTOR LENHER (Wisconsin)
WILLIAM HERBERT HOBBS (Michigan)

Term Ending January 1, 1914

Julius Stieglitz (Chicago)
Chairman of the Council
Charles Sumner Howe (Case)
Thomas Huston Macbride (Iowa)
Edgar Henry Summerfield Bailey (Kansas)
Henry Turner Eddy (Minnesota)
Ellery Williams Davis (Nebraska)
William Alfred Locy (Northwestern)
Edward Orton, Junior (Ohio State)
Arthur Woolsey Ewell (Worcester)

Term Ending January 1, 1915
CARLETON CLARENCE CURTIS (Columbia)
HENRY SHALER WILLIAMS (Cornell)
CARL H EIGENMANN (Indiana)
OSCAR MILTON STEWART (Missouri)
EDGAR FAHS SMITH (Pennsylvania)
WILLIAM HENRY METZLER (Syracuse)
OLIN HENRY LANDRETH (Union)
HENRY LANDES (Washington State)
JOHN CLAYTON TRACY (Yale)

## THE HISTORY OF THE SOCIETY OF THE SIGMA XI



#### PART I

#### FOUNDING OF SIGMA XI

It is scarcely more than half a century since the work of Darwin, Huxley, Pasteur, Virchow, Lister, and a host of able and energetic coworkers forced science upon the attention of the educational world. Men now busily engaged in college teaching were students of Louis Agassiz at Harvard and many more can recall his enthusiastic campaigns for the introduction of actual scientific study into the curriculum of the schools. Many teachers, still young and productive workers, trace their inspiration for biological research to the impulse imparted by Martin at Johns Hopkins. Numberless instances of similar import might be cited from the history of associated fields of scientific activity. The study of science is a thoroughly modern pursuit. In the New World it has not yet surpassed the working period of a single generation.

It is, then, only natural that those movements which have sprung into being as a by-product of the pursuit of science can show only scanty records when tested by the count of years. Phi Beta Kappa was more than one hundred years old before Sigma Xi came into existence. But the latter has now completed a record of twenty-five years and may justly cast up the account in somewhat formal manner, both to preserve the story of these beginnings and to establish the course for future development in the light of the failures and successes of the past. Its source may be traced clearly to the confluence of two streams that, arising, one within the student influence and the other from the teaching circle of a great university, joined at an opportune moment into a current strong enough to cut its way through obstacles and to establish for itself a permanent course. It is appropriate first to chronicle the origin of the movement; then to discuss the evolution of its internal organization; and finally to review its work and the results of its influence so far as they can be ascertained.

To graduate students in geology Professor Henry S. Williams often spoke, as early as 1883 at least, of the need of an honorary society for scientific students similar to Phi Beta Kappa. He discussed this also with colleagues in natural history branches but found one of them so strongly opposed to any organization using Greek letters as its name and others also so antagonistic to recognizing differences in the grade of work prepared by different students that he received scant encouragement for the general plan. As a result he organized in the spring of 1886 a society of geological students to which were elected fourteen members, including some who are now among the most distinguished of

present day geologists in this country.

Soon after this Professor Williams, still realizing the need of a society of broader and more general scope, drew up a plan for the

[From First Printed Constitution; no date, apparently published 1887.]

#### SIGMA XI PREAMBLE

If stores of dry and learned lore we gain, We keep them in the memory of the brain: Names, things, and facts, - whate'er we knowledge call, -There is the common ledger for them all: And images on this cold surface traced Make slight impression, and are soon effaced. But we've a page, more glowing and more bright, On which our friendship and our love to write; That these may never from the soul depart, We trust them to the memory of the heart. There is no dimming, no effacement there; Each new pulsation keeps the record clear; Warm, golden letters all the tablet fill, Nor lose their lustre till the heart stands still. Daniel Webster.

Friendship in Science. While those whose heart and soul is in their work, are coping with the great problems of Nature, let them remember that the ties of friendship cannot be investigated, but only felt. Let them join heart and hand, forming a brotherhood in Science and Engineering; thus promoting and encouraging by those strong, personal attachments of friendship, the highest and the truest advances in the scientific field. To lend aid and encouragement to those newer brothers, who likewise laboring in the same sphere are aspiring to honored positions. And in collegiate halls to award an honor, which to scientific recipients shall signify, "Come up higher."

Therefore, with these ends and objects, the signers of this paper, do hereby agree to lend their efforts to the establishment of an

organization to be publicly known as the

#### SOCIETY OF THE SIGMA XI

WM. A. DAY, Cornell University, '86. WM. H. RILEY, Cornell University, '86. FRANK VAN VLECK, Stevens Institute of Technology '84. H. E. SMITH,

Cornell University, '87. WM. A. MOSSCROP,

Cornell University, '88.

CHAS. B. WING, Cornell University, '86.

JOHN KNICKERBACKER, Rensselaer Polytechnic Institute, '86.

JOHN J. BERGER, Rensselaer Polytechnic Institute, '86.

EDWIN N. SANDERSON, Rensselaer Polytechnic Institute, '86.

Society of Modern Scientists. The preamble of this organization which

is in a sense the forerunner of Sigma Xi, closed thus:

"Therefore we believe it is highly desirable to encourage high attainments among the future students of Cornell University and other kindred institutions by recognizing by some mark of honor those who exhibit special ability in investigating, understanding, and interpreting the facts of nature in the various branches of modern science.

"We believe that this end may be attained by an association of such graduates as understand and thoroughly appreciate these principles, in a society to be known to the outside world by some simple and appropriate badge, who shall from time to time add to their numbers from each graduating class such men as they shall deem worthy to unite with them in elevating the tone of scientific study and encouraging and

honoring the scientific scholar."

About the same time, namely shortly before the Cornell Commencement in 1886, two engineers, William A. Day, a Cornell senior, and Frank Van Vleck, Stevens Institute, 1884, the youngest member of the Cornell University faculty, planned\* the formation of an honorary scientific society. In the fall they drew into the circle seven others, also all engineering students then at Cornell, and began the work of organizing such a society. They selected the name Sigma Xi, published a constitution, and had begun to keep formal records of their proceedings. The aims and ideals of the new organization are well indicated by the preamble of the first printed constitution, which is reproduced here on the opposite page.

It will be noted that this was issued before Professor Williams became connected with the organization and that the intention of making the society "a brotherhood in Science and Engineering" was expressed in words at least. Yet the membership and its activities gave reason for the conclusion expressed by many in contact with it at the time that

this was strictly an engineering society.

It was inevitable that the two movements thus independently started should soon come in contact, and when Professor Williams endeavored to interest some of the engineers in his plan he learned of the movement that had been inaugurated and was brought into intimate touch with its founders. Enthusiastically he at once suggested broadening the scope of this organization so as to make it a University society and to include in it all science students worthy of membership. Finding his proposal was favorably received he generously dropped his own movement, feeling that the Sigma Xi would be a better working nucleus since its

\*"You may remember Wm. A. Day '86. He and myself were just before the '86 Commencement slowly toiling up the hill from town when he suggested to me the idea of a scientific Phi Beta Kappa. The thought of it at once impressed me, and we then in a way reviewed the field and the methods of organization. Together we went to my room, and before we parted we had the whole plan of organization formulated and a definite plan of campaign outlined. The following Fall we called together the gentlemen whose names now appear on the list of charter members, and with that band pushed out and achieved a success which has almost astonished the original projectors."

(Private letter from F. Van Vleck, dated Los Angeles, 1892.)

formal organization had proceeded further than that of the Society of Modern Scientists. How very early this was in the history of Sigma Xi appears from the original minute book of the Society, which records that at the second formal meeting, not dated, the proposals of Professor Williams were accepted and at the fourth meeting, also undated, he was

enrolled as a member.

Among the group of engineers the leader was undoubtedly Frank Van Vleek, a brilliant young instructor in Mechanical Engineering. He was in fact the only one of that group who was not still a student. By force of character and devotion to the idea he aroused an enthusiastic interest in the plan and spent much time and energy in working out the details of the organization. The breadth of view and catholicity of spirit which characterized the group that Van Vleck brought together is thoroughly evidenced by its reception of the idea of a greater society laid before it by Professor Williams. It was this power to grasp a greater idea and to work for its achievement that brought for their organization that success which had been sought but not found by earlier enterprises. As the first brief history of Sigma Xi says:

"The movement looking toward the organization of a scientific honorary society in colleges is not new. At various times it has been proposed and in one or two institutions societies have been formed. One of the proposals emanated from Rochester University, and it is believed that a chapter was formed there. With the idea of obtaining the cooperation of scientific colleges generally, correspondence was opened with the heads of the principal scientific institutions. It appeared that all were in the main favorable to the idea, but yet active efforts never seem to have been put forth to establish any of these proposed and possible chapters. Then later, the proposing body at Rochester seems to

have disappeared altogether."

At the fifth meeting, undated but probably in the early winter of 1887, the Union Chapter was formally admitted and a committee of two, Professor Williams and Mr. Berger, was appointed to consider the establishment of a chapter at Yale. Professor Williams was also the first president elected by the Cornell chapter on May 20, 1887. Other facts tend to show distinctly that he was called into a position of leadership in the new organization. Of course, in that he remained on the ground, he enjoyed a great advantage over others of the founders, since he was able to foster and guide the movement in its formative period of growth. In fact Professor Williams was considered as one of the founders of the Society and is listed as such in the second publication it issued, where his name is signed to the same preamble and statement of aims that appears in the earliest edition already mentioned.

Professor Williams became at once the prophet of the new movement and gave voice to its spirit in his inaugural address. This was reprinted as a pamphlet entitled "The Ideal Modern Scholarship," and designated as the presidential address delivered at the inauguration of the Alpha Chapter of the Sigma Xi Society, Cornell University, Ithaca. New York, June 15, 1887. It must have been a critical moment for

the young organization, and a commonplace statement of its ideals would have resulted in its being assigned a place beside the numerous other organizations in university life that come into notice and as soon pass out, or persist if at all in uninfluential mediocrity. But this was a challenge, bold, dignified, quiet, and unanswerable. It appealed powerfully both to mind and heart; it was the call to arms. This document is so fundamental to the history of Sigma Xi that it is impossible to refrain from quoting briefly some of its most striking passages.

"We meet to-day to inaugurate a new ideal of scholarship; \* \* \* a new ideal, not a scholarship: for we have many scholars of this modern sort to whom we may look up as our models, but to lift this modern scholarship to a place of first rank; to make it the ideal for ambitious students; to make the attainment of it an honor to be coveted beyond others; this has not before been attempted in the history of

American universities.

"The old ideal, before the mind of the literary scholar, contemplates such a training of the intellect and such an acquirement of learning as shall fit the scholar to grasp quickly, accurately, and thoroughly knowledge bound up in the literature of the world, together with the power to communicate it readily, vividly, and forcefully to his fellows. This is the ideal which most students aspire after \* \* \* and it is reasonable to ask why should anyone propose another? \* \* \* We propose a new ideal because we \* \* \* would follow the spirit of that scholarship, the letter of whose law binds and excludes us. \* \*

"I cannot do better than express \* \* what we conceive to be the essence of the scholarship which it is the purpose of our society to rec-

ognize. \* \*

"The first element in scholarship is learning. The real scholar sets before himself \* \* to know everything of something and something of everything. But the something, as well as the everything, changes \* \* The learning which yesterday made the scholar is ignorance today. The spirit of scholarship, then, demands \* \* modern learning. The old scholarship taught us to reverence the knowledge recorded in books; \* \* in the course of time, thus, authority came to be respected more than accuracy and imitation of the ancients received higher honor than adaptation to modern conditions. The modern scholar seeks knowledge as a means toward the vigorous expression of his manhood, a knowledge \* \* of those seething elements in the midst of which he lives, and of which he is one. \* \*

"The second element essential to the scholar is power of communication with his fellows. \* \* He must have acquired a thorough familiarity with his own language as a vehicle of thought, but besides this he must be able to use German and French; with these he can reach the civilized

world.

"Thirdly, he must be a specialist. In his specialty he must think for himself, plan for himself, act for himself. Here he must rest on no one, but be himself a support for others. He must be a constant student, constantly advancing, and, making stepping stones of his dead self, rise to higher things.

"Such are a few of the elements of that scholarship which it is the

purpose of our society to recognize, foster, and develop. \* \* In lighting your torches we bid you light them at the brightest living altars of learning, and not at the smouldering coals of dead issues. \* '

"He who only imitates the past forgets the demands of the present, \* \* but he who adapts himself best to modern issues, who serves best

the present age, has been, will always be the successful man."

At the fifth meeting the Society thus reorganized made its first elections to membership, choosing four members of the Cornell faculty, viz., Professor R. H. Thurston, J. H. Comstock, W. R. Dudley, and C. D. Marx, together with five graduate students, Messrs. C. S. Prosser, E. H.

Preswick, A. W. Smith, F. W. Simonds, and H. E. Summers.

The sixth meeting, which was the first to be dated and was held May 20, 1887, was presided over by Mr. Van Vleck, who seems to have been chairman of the Society up to that time. The final establishment of chapters at Union and Rensselaer was reported and as the first set of officers were elected the following: President, H. S. Williams; Vice-President, F. Van Vleck; Recording Secretary, C. D. Marx; Corresponding Secretary, C. B. Wing; Treasurer, A. W. Smith.

It is said that from the first the founders expected that women would be admitted when the Society should become firmly established, yet it was not until the end of 1888, that any were actually elected. At the previous meeting, which was the thirteenth of the Alpha Chapter, a motion was passed instructing a committee "to look over the list of graduates and present at the next meeting for the election of members

the names of such persons as they deem desirable."

This committee reported at the fourteenth meeting on December 5, 1888, thirty-nine graduates among whom were the following five women: Mrs. Anna Botsford Comstock, '76; Mrs. Susanna Phelps Gage, '80; Mrs. Harriet Grotecloss Marx, '84; Miss Julia Warner Snow, '88, and Miss Mary Margaretta Wardwell, '88. The first woman chosen from among the undergraduates was Miss Elizabeth Harwood Boynton, a senior, now Mrs. F. V. Coville, elected at the meeting of May 13, The movement thus started does not seem to have met with unanimous approval since at the first general convention, May 17, 1893, one chapter proposed an amendment declaring women ineligible to membership in Sigma Xi. This proposal met with little favor and since then no one has questioned the policy of Sigma Xi in offering membership on equal terms to men and women.

#### GROWTH OF THE SOCIETY AND FORMATION OF CHAPTERS

When in 1893 the Society held its first general convention, it enrolled only four chapters. The results of six years' work appeared very meager. The Society had been conspicuously started upon its public history and the outlook in 1887 was commented upon in most sanguine terms by the Cornell student paper. It had found a leader, it had set up an ideal and that ideal had been approved. Inquiries had come from other institutions regarding the new movement. Permits for the establishment of six other chapters had been sent out from the Alpha Chapter and tentative plans had been laid for the organization of still other chapters. All this had come to pass within a single year. But here the movement seemed to pause.

Two years more passed by and the situation was unchanged. The enthusiastic and vigorous opening of the campaign had not been followed by a corresponding extension of the Society's influence. Indeed it seemed as if the movement had suffered a distinct setback. Two of the chapters which had been established went out of existence almost immediately and others to which chapter letters had been assigned never even completed their formal organization. The Society was restricted to a single state and embraced only one institution of such numerical strength that it could exercise any considerable outside influence, while other institutions of similar numbers and rank had refused to become associated with the undertaking. It looked as if the time were not ripe for such a movement, and even the leaders wondered if the new ideals were really to find a place in the educational system.

In 1889 Kansas was voted a charter. This was a start in a new field, but even after that step was taken it led to no further development for several years. The first general convention in 1893 found the Society of the Sigma Xi still consisting of three chapters in New York State and one in the west. This convention organized a standing committee on extension and spent much time in discussing the policy of the Society. The next two years were characterized by great activity, but it was almost purely internal. When the second convention assembled in 1895 the chapter roll had been increased only by the addition of a single new name, that of Yale, admitted in March of that year. The correspondence of these two years still preserved in the archives of the Society shows that inquiries concerning the aims of Sigma Xi and petitions for the establishment of new chapters had come in numbers. The idea was spreading and new centers wished to join in its propagation. But the leaders in the organization were alive to the dangers of the situation and aware of the ease with which a false move might be made. As one of them wrote: "I would like to see new chapters added, but after our experience \* \* I am in favor of moving slowly. Our policy should be in the direction of first establishing chapters in the best institutions where they will receive the active support of men who are of recognized standing."

In 1894 an attempt was made to organize in the Sheffield Scientific School at Yale a society to promote a high standard of scientific work. Professor Williams, who was then on the Yale faculty, heard of the movement and called the attention of the movers to the similar organization already firmly established at Cornell. At that time he found five Yale men on the roll of the Sigma Xi: Anthony, Bedell, Crehore, Eddy, and himself. On discussing the matter with the students and faculty, Professor Williams soon discovered that the desire to secure recognition for members of the Scientific School from Phi Beta Kappa had long been prominently on their minds; and appreciating that under these conditions their interest and support would be at best divided, he advised that Sigma Xi discourage any advances at that time. The class of 1894 was unable to agree on any plan of action and the matter was left

undecided.

The correspondence of this period shows that the chapters of Sigma Xi were favorable to the establishment of a chapter at Yale, but only

provided that the support of the best men there could be secured so as to insure the success of the movement. The matter lay dormant for a year and was reopened by the publication in February, 1895, of an editorial in the Yale Scientific Monthly entitled, A High Stand Society

in Sheff, from which the following may be quoted:

"For a number of years there has been a growing recognition of the need of a high stand society in the Scientific School. So strong was this feeling last year that a serious effort was made by '94 S. to organize one, but they were unable to carry their plans into execution before graduation. An indifference to high scholarship is far too prevalent, and any society which by high standards of admission and by development of its members should encourage a better standard of work

would be an invaluable force in the Scientific School. \* \* \*

"It would, therefore, appear that the best results would be obtained through a society formed somewhat on the same lines as Phi Beta Kappa. but with a distinctly scientific basis, whose object should be the promotion of original investigation. In organizing such an association it would be well to look around somewhat. There is a society, Sigma Xi, of just this nature existing in Cornell, Stevens, and other scientific schools, which was founded in 1886 by a Sheffield graduate, Prof. H. S. Williams, '68, now professor of geology at Yale, and which deserves careful consideration. \* \* \*

"The principles on which Sigma Xi is founded seem to us to be sound and have succeeded where they have been put in operation. It would be well for us to profit by their experience if such a society should be organized at Yale. Whether it is best that this should be local is open to argument. Sigma Xi is sure to succeed and to grow. If it does, the same reasons which make Phi Beta Kappa valuable: its fame, its high standard, and general acceptance, will be increasingly applicable to the Scientific Society as well, and would year by year make it more valuable than a local organization. If, as we understand, they will meet us half way, would it not be well to inquire into the advisability and possibility of establishing it in Yale?"

This editorial led in a few weeks to the organization of a society and to a petition for a charter from Sigma Xi. Notice of granting the charter is contained in a letter from President C. C. Brown, dated March 8; this charter was received and formally accepted at a meeting of the charter members held in New Haven, March 16, when temporary officers were elected. On March 29 Professor Frederick Bedell of Cornell formally inaugurated the Yale chapter, and soon after wrote to President Brown: "I was much pleased with the start the Society has at New Haven, and it is more than likely that our youngest chapter

will soon be one of the strongest."

Thus it was that eight years after the importance of the move had impressed itself on the original group of Sigma Xi members a chapter came into existence at Yale. It was, however, far stronger in having originated in response to an internal demand for such an organization rather than as a result of any outside influence such as that recorded in the early minutes of the Alpha Chapter of Sigma Xi. Yale was committed to Sigma Xi on her own initiative.

The establishment of the Yale chapter was a most significant factor in the history of Sigma Xi. Not only that it added to the chapter roll a new name, but also and even more, that the new chapter was located in one of the oldest, strongest, and most influential of American instituitions. Moreover, its faculty was rich in men justly ranked among leaders in scientific research; its scientific laboratories, museums, and publications were widely and favorably known, and its entrance into Sigma Xi laid at once an additional and evident emphasis on original The Cornell chapter had now a worthy rival in the contest for scientific leadership. Moreover the Yale chapter had its own opinions and did not hesitate to express them. For instance, one of its officers writes within two weeks in regard to a chapter letter: "We will adopt Y and if anyone wishes to give it a Greek significance he can call it Upsilon; but we shall call the chapter the Yale chapter." That same spring also it prepared certain amendments to the Constitution which were presented to the convention at Springfield in August. At that convention finally the Yale representative on the committee on extension, Professor Williams, though newly appointed, formulated and presented the report of that committee, which has since been printed with the Constitution, and has been powerfully influential in shaping the de-

velopment of Sigma Xi.

Yale took at once, and has held ever since, a prominent position in directing the policy of extension towards which Sigma Xi was then looking. But this influence was exerted with constant consideration for the attitude of the parent chapter at Cornell, which up to that time had borne the brunt of the fight. This cordial relation is shown clearly in the position of Yale with reference to the next great question which came up in the Society. Kansas had been granted a charter in 1889 and others of the vigorous and rapidly growing state universities of the central west had been quick to ask the value of the organization, and finding its ideals peculiarly well adapted to the demands of their environment were petitioning for charters. Yale men, like Eddy at Minnesota, were leaders in these movements and Yale influence had always been prominent in western colleges. No doubt then the Yale chapter was inclined to favor such applications, and yet one of the Yale leaders writes to one of the Cornell officers in 1896 as follows: "At Buffalo \* \* western men were strongly of the opinion that \* \* and several others of the state universities should have chapters. \* \* Now it seems to me that it rests much with the Cornell chapter as to whether we shall adopt one or the other policy. \* \* If you at Ithaca after hearing [the arguments] and considering what the effect upon the Society will likely be, if you think the time is ripe for so extending the Society and practically yourselves losing control of its policy and guidance, which you have always held from the beginning, I am ready to accept the decision and take part in the advance."

Those who had opposed expansion were now lining up in its favor. After the Yale chapter was organized, one prominent member of Sigma Xi who had voted against other petitions wrote in 1895, "I am inclined now to the opinion that some of the better western institutions should be recognized." This was a year before the inquiry quoted above

was made concerning the opinion of the Cornell chapter. What views the Alpha chapter held may be inferred from the fact that its officers appear as leaders in urging the granting of charters given in 1896 to Minnesota, in 1897 to Nebraska, and in 1898 to Ohio. Meantime the convention of 1897 at Toronto had spoken strongly in favor of extension which had been made the theme of the presidential address of that convention, delivered by Professor Williams. The current was setting strongly towards the west, and he himself favored the general policy of extension; nevertheless he wrote in that year to Cornell voicing once more the same consideration for the parent chapter:

"We are not yet fully out of the woods; there are still important problems to come up regarding the policy of the Society and I had hoped we might keep the active nucleus at Cornell. The advantage of having several members in one place is that every matter may be discussed thoroughly." But Cornell was actively committed to the policy of extending the influence of the Society as widely as possible, and no doubt also felt convinced that the welfare of the organization might safely be entrusted to the hands of the state universities with which she was in closest touch and with whose ideals she was thoroughly

familiar.

The western movement halted for the moment, as Pennsylvania in 1899 and Brown in 1900 were the next to be granted charters. The same year also saw Iowa admitted; so that the close of the fifteenth year of Sigma Xi history found the organization with eleven chapters, as against only five chapters at the end of the tenth year. The growth of the Society was even more vigorous in the next succeeding period. After Stanford in 1901, California and Columbia followed in 1902; Chicago, Michigan, and Illinois were admitted in 1903; Case and Indiana in 1904, and Missouri and Colorado in 1905. Twenty years had resulted in the organization of twenty-one chapters. Northwestern and Syracuse were added in 1906. Wisconsin and Washington State in 1907, Worcester in 1908, and Purdue in 1909; finally Washington University in 1910 made the total of twenty-eight active chapters in the first quarter century of Sigma Xi history.

Of the institutions represented on the chapter roll thirteen are state universities and one, Purdue, a state technical school, while two others, Cornell and Pennsylvania, have somewhat analogous positions in eastern states. The latter are included usually, however, in the endowed institutions of university rank, in which Sigma Xi has eleven chapters. In addition there are three endowed technical schools having

Sigma Xi chapters.

Geographically considered, the Society is represented by chapters in seven endowed universities and two endowed technical schools in the eastern states, by a chapter in every north central state university and in two endowed universities and two technical schools in the north central region, while two state universities and one endowed institution on the Pacific coast are represented. There are in all nine chapters in the east and nineteen west of the Alleghenies, of which three are on the shores of the Pacific. Thus far no chapters have been organized in southern institutions, but the increasing interest in re-

search throughout the south is indicative of the approaching participa-

tion of that region also in the movement.

Within the past two or three years some conservatism has been manifested in granting charters to new institutions, since it has been generally felt that the precise method of determining qualifications for election to membership needed recasting in order that different chapters might secure reasonably uniform results. In case a basis can be determined which will be as readily applied in an institution with a limited number of scientific workers and only occasional students who are qualified for membership, as in a large university or technical school affording opportunities for selection among the many students of each annual group, then sentiment seems to favor the organization of chapters in a much larger number of institutions than are yet represented. The problem is now under discussion.

The Society is so young that only one chapter has had occasion to mark the passing of years in any formal manner. On July 2, 1906, the Alpha Chapter celebrated the twentieth anniversary of the founding of that chapter and of the Society. The occasion coincided with the summer meeting of the American Association for the Advancement of Science at Ithaca. The other chapters sent official greetings and many of them appointed official delegates to convey their congratulations to the parent chapter on this occasion. The program included a public address by Dr. J. C. Branner of Stanford University, on the California Earthquake, and a dinner tendered visiting members and delegates by

the Cornell Chapter.

#### PART II

#### INTERNAL ORGANIZATION

The original constitution, adopted by the founders of the Society and carefully observed by the parent organization, the Cornell chapter, provided that "a convention of the Society consisting of delegates from each chapter shall be held each year, or oftener, if appointed by the President." It also made provision for officers of the Society to be elected at the annual convention, as well as for chapter officers chosen in accordance with chapter by-laws, and stated specifically the powers and duties of these officers in a section apart from that dealing with chapter officers. In a series of sections, this document prescribed with some definiteness the manner of selecting delegates, the proper form for credentials and also an extended and definite order of business for the convention. Furthermore, one article of this original constitution was devoted to providing the means by which new chapters might be established. Thus, although it was in appearance the organic law of a single chapter only and is quoted as such in the minutes of the first convention,\* this document was in fact far broader and more

<sup>\*</sup>V. A. Moore, in his president's address to the Cornell Chapter, in June, 1903, expresses the same idea, when he says of the first convention, "The essential work of this meeting was the adoption of the constitution previously prepared by the Alpha Chapter."

[Announcement of the First]

#### CONVENTION

OF THE

### Society of the Sigma Xi

HELD WITH THE

Alpha Chapter, Cornell University
May 17 and 18, 1893

#### Program

#### WEDNESDAY, MAY SEVENTEENTH

The convention will assemble for business session at 2:30 p.m. in the Architectural Lecture Room, Lincoln Hall.

#### THURSDAY, MAY EIGHTEENTH

FORENOON

Second Business Session.

AFTERNOON

Third Business Session.

#### EVENING

Public meeting in Chemical Lecture Room, at eight o'clock. Address by E. L. Nichols, President, upon

#### "PHOTOGRAPHY AS AN INSTRUMENT OF RESEARCH"

At the close of the address the delegates and the members of the local chapter will be tendered a reception at the house of Professor Nichols, where the initiation of newly elected members will also take place. significant than the constitution of any one chapter could have been. All of the facts show unmistakably that the founders of Sigma Xi had in mind a comprehensive general organization and endeavored to meet

the needs of such a body.

In spite of these provisions for general meetings, the Society existed for several years merely as a group of separate chapters without rules for action or formal methods of procedure actually used for the general society. The need of a closer organization soon became apparent and at the nineteenth meeting of the Cornell Chapter, March 3, 1890, it is recorded that the matter of calling a convention was referred to the officers of the chapter with power to act. At the next meeting, April 20, the minutes record that favorable replies were reported from the chapters at Union and the Rensselaer Polytechnic, so that the committee was instructed to call a convention at Ithaca on May 16 and 17, 1890, and delegates were elected to represent the chapter. Owing to the impossibility of securing a quorum, t since no replies could be obtained from the chapters at Rutgers and Stevens Institute, it was subsequently

decided to hold a conference of the three existing chapters.

The minutes make no mention of the outcome of these plans and the next formal reference to the problems of a general organization for the Society occurs a year and a half later. On November 14, 1892, action was taken by the Cornell Chapter looking towards revoking the charters of the two defunct chapters; and after the chapter roll had been corrected a formal call for a convention in May, 1893, was sent out in the name of the Cornell Chapter. The officers for the first convention were those of the parent chapter, in part at least, as shown in the written record of that meeting; but no records exist in the minutes of the Cornell Chapter, or in the Record Book of the general Society, to show except by inference the correction of the chapter roll, the sending of a formal call for the convention, or the organization of the convention. Undoubtedly the details were arranged by the Cornell Chapter, for it printed and distributed the program, a copy of which is reproduced on the opposite page. It also entertained the delegates at its thirty-third meeting, according to the chapter's records which are identical with the part of the Convention records. On this occasion Professor E. L. Nichols gave a public lecture after which the chapter held a reception in honor of the delegates to the Convention. Here terminates the record in the chapter minutes, but the delegates must have been inspired with enthusiastic devotion to the work of the occasion, for they attacked the problem of discussing

†This phrase, taken from the old records, shows distinctly that the Society at that time considered itself obligated by the provisions of the original constitution which specified for a quorum delegates from three-fourths of the active chapters. It also indicates marked consideration for the two chapters, which, so far as can be ascertained, never held but a single meeting each, and might have been eliminated from consideration under the terms of the constitution without any formal action. At the same time, since there were only three chapters in existence, it is apparent that a legal majority of the membership would have required the presence of delegates from every chapter at all times before the granting of the charter to Kansas on December 4, 1889.

and modifying, item by item, the old constitution presented by the Cornell Chapter, and succeeded in working into shape a considerable

portion of the new law before adjournment was reached.

While the action noted in 1890 was the only attempt on record prior to the first formal convention of 1893 to assemble the chapters for general action, unwritten history tells of several other futile efforts to secure such a meeting, all of which resulted inevitably in "no quorum present," since two of the five original chapters had an existence on paper only. Once that the difficulties were solved, a convention actually held and a revised constitution adopted, the machinery of the general Society has operated regularly and with very little complication. series of eight biennial conventions was held from 1893 to 1906, then a special convention in 1907, followed by annual conventions from 1908 to date. After the first convention, which was independent of any other meeting, all these gatherings have been held in conjunction with the annual meeting of the American Association for the Advancement of Science. The naturalness of this affiliation was so apparent that when the Association changed its customs and replaced the midsummer meeting by one in the holiday period, Sigma Xi followed the change and since then has met regularly in Convocation Week, and at the place chosen for the meeting of the Association. These gatherings have been unusually successful in bringing together scientific workers whose technical interests are so varied that they could hardly hope to come in contact in any other way. The Sigma Xi dinner has been a regular feature of the gathering ever since it was so successfully inaugurated at St. Louis. The address delivered then by David Starr Jordan is one of the most accessible and best known of all articles on the aims and ideals of Sigma Xi. Subsequent dinners have assumed a less formal character, but, in spite of the pressure of other engagements during the limited period actually available in Convocation Week, the social part of the Sigma Xi Convention has been greeted each year with increasing interest and pleasure. The younger men welcome gladly this opportunity to meet on an informal, fraternal basis those who have won a place in science, and the varied representation on this occasion from year to year is the means of developing a growing interest in the achievements of the Society among many who would otherwise know little or nothing regarding its work and the results thereof.

While the social side of recent conventions has been successfully developed, some criticism has been passed on the unsatisfactory character of the business meetings. The great variety of scientific programs during Convocation Week and the multiplicity of demands from special organizations render it impossible to select a time for the business session which does not conflict with numerous other attractions and duties. Delegates entrusted by their respective chapters with important responsibilities for Sigma Xi are kept away from its meeting despite their best endeavors, and after a prolonged discussion a call of the house has more than once disclosed no quorum present. The resulting confusion, loss of time and effort, and uncertainty as to the outcome, have given rise to a demand, apparently growing in strength, that the business meetings of Sigma Xi should be held distinct from those of

other organizations. In this event they might be less frequent and yet provide adequately for the business needs of the organization. The Minnesota Chapter has this year presented amendments to the Constitution of the Society calculated to introduce separate conventions and to make them biennial rather than annual. While this move is clearly justified by the experience of recent years, may it not be equally wise to retain the annual social gathering in Convocation Week which has done such good service in bringing members in touch with each other? The wide geographic and scientific range of chapters and membership demands centripetal influences strong enough to hold together the separate elements. The cohesive power of personal contact is too valuable to be lightly dispensed with. Its value to the Society is great and its inspiration to the individual member still greater.

#### GENERAL CONVENTIONS

The first convention of the Sigma Xi Society was held at Cornell University, being called to order on May 17, 1893, by the Vice-President of the Cornell Chapter, L. M. Dennis, who presided during the first day; whereas the President, E. L. Nichols, presided over the sessions of May 18. The group of delegates was not large; three chapters, viz., Alpha (Cornell), Theta (Union), and Iota (Kansas), were represented by delegates as given in the appended list.\* The Zeta (Rensselaer Polytechnic Institute) Chapter was not represented in person, although the minutes indicate that it presented certain amendments to the proposed constitution. The records, still existing in the Record Book of the Society, are signed by J. H. Tanner, Secretary. The Convention held four sessions during two days and after receiving reports from various chapters proceeded to discuss and adopt with some minor amendments "the Constitution prepared by the Cornell Chapter." The new Constitution was ordered printed, and the Treasurer

#### \*FIRST CONVENTION

Officers
President—Edward Learnington Nichols (Cornell)
Vice-President—Louis Munroe Dennis (Cornell)
Secretary—John Henry Tanner (Cornell)

Francis Cary Caldwell (Cornell)
Charles Francis Osborne (Cornell)
James McMahon (Cornell)
Charles Caroll Brown (Union)

James Hough Stoller (Union) John Henry Comstock (Kansas) Ernest George Merritt (Kansas)

Committee on Extension Charles Francis Osborne (Cornell), Chairman James McMahon (Cornell) Edgar Henry Summerfield Bailey (Kansas) James Hough Stoller (Union) Palmer Chamberlain Ricketts (Rensselaer)

†As already noted, this was in reality the constitution prepared by the founders of Sigma Xi for the entire society. It had been in keeping of the parent chapter, and had been carefully observed in all matters that pertained both to general interests, and to chapter responsibilities. So far as the convention records show, it came up in its original unaltered form, and the action of the delegates was really a revision of the organic law of the Sigma Xi rather than the adoption of a constitution, even though the latter construction is placed on it in the written records.

was authorized to procure an official seal and monogram for the Society. After much discussion regarding the policy of the organization a standing committee on new chapters was appointed; this was subsequently known as the Committee on Extension. The Convention voted down an amendment declaring that women are ineligible to membership. At the close Professor C. C. Brown (Union) was elected President for two years, Professor James McMahon (Cornell) Corresponding Secretary for four years and Professor J. H. Comstock (Cornell) Treasurer for two years. The record contains no mention of the selection of the other officers, vice-president and recording secretary, which are enumerated in the Constitution.

The second biennial convention of the Society of the Sigma Xi was held at Springfield, Massachusetts, August 28 and 29, 1895, under the presidency of Professor C. C. Brown (Union). Its membership is shown in the appended list.\* The President, in his report, gave a detailed statement of the founding of the Yale Chapter in March, 1895, and of correspondence regarding new chapters. He also reported his appointment of Professor H. S. Williams as the Yale representative on the Committee on Extension, which was created by the last Convention. In the absence of the chairman of that committee, Professor Williams stated the views of the committee regarding the policy of the Society in founding new chapters. These remarks and the resolutions subsequently adopted by this convention were printed and distributed for the information of the Council and chapters. Both the remarks and the resolutions have in later years been incorporated into the Constitution, and are printed with it regularly as Appendix I (see page 52). They have thus come to be regarded as a distinct part of the organic law governing the organization.

The importance of this action can hardly be overestimated. For the success of the movement to extend the influence of Sigma Xi, which was just taking shape, it was essential to have a policy as firm as it was broad, both definite and unassailable. To leave the decision in granting new charters to the chance of circumstances was to open the door to all sorts of variation and to individual interpretation of unexpressed ideals and undefined standards, even where personal bias was rigidly excluded. Just at this moment Sigma Xi found its interpreter in the person of one of the founders, whose individual achieve-

#### \*SECOND CONVENTION

#### Officers

President—Charles Caroll Brown (Union) Vice-President—Frank Olin Marvin (Kansas) Secretary—James McMahon (Cornell)

#### Delegates

Henry Shaler Williams (Yale) James Hough Stoller (Union) Olin Henry Landreth (Union) Frank Olin Marvin (Kansas)

Henry Byron Newson (Kansas) James McMahon (Cornell) Ernest George Merritt (Cornell) James McGiffert, Jr. (Rensselaer)

The Committee on Extension had been increased by the addition of Henry Shaler Williams (Yale), appointed April 3, 1895, on the organization of the Yale Chapter; otherwise its membership remained as constituted at the close of the first convention and recorded on the previous page.

ment in the field of research was of the highest type. His expression of the aims of the Society and his statement of the standards that should be observed in the admission of new chapters commanded immediate support, and have been unreservedly accepted and recognized by Sigma Xi since then.

Certain other amendments to the Constitution were adopted; these concerned the method of procedure in applying for and in establishing

a new chapter, including the form of the charter.

The most important change in the organization of the Society was unquestionably the establishment of the Council. By constitutional amendment the Committee on Extension was given a permanent existence, under the name of the Council, and its powers were made definite. The officers of the Society became ex-officio members, and provision was made for an additional representative elected by each chapter; the elective members were to hold office for five years, and one of them was to be named as chairman by the president. The chief duty of the Council was to advise on the granting of charters; no charter was to be granted without the consent of three-fourths of the Council, as well as of three-fourths of the chapters. (See Art. II of the Constitution as amended in 1895.)

The Corresponding Secretary was instructed to print the amended constitution, together with a revised list of members, and to have a suitable letter-head devised and engraved. After tendering a hearty vote of thanks to the retiring President for his untiring efforts in be-

half of the Society, the Convention adjourned sine die.

The third biennial Convention of the Society was held at the University of Toronto, August 20, 1897. The most important question handled by the meeting was the problem of extension. President Williams, in his address, dwelt upon the ideals of the Society and the history of the Yale chapter, and expressed the opinion that Sigma Xi, if rightly guided, would take a place of leadership in the movement under way to place science on an equal footing with literature, as a factor in the highest liberal education (See Constitution, Appendix II, page 53). The Constitution was amended so as to abolish the veto power of three negative ballots in the election of new members, since this power had been abused by irresponsible persons. Reports from the various chapters were given by delegates present. It was voted that the ordinary geographic name of the chapter might be used when desired instead of the Greek letter (See Constitution, Appendix III. page 54). The Council was ordered to prepare in printed form a summary of the remarks on extension for the information of the various chapters. The Secretary was requested to distribute typewritten copies of the minutes to the different chapters. These two actions were subsequently combined in the form of a pamphlet including the full proceedings of the Convention. Since then the convention proceedings have all been issued in printed form. It was unanimously voted that the selection of the time and place for the meeting of the next Convention be referred to the five officers with power, but that "this Convention is of the opinion that it is desirable that the Convention should be held at the same time and place with the meeting of the American Association for the Advancement of Science."

The fourth biennial Convention was held at Columbus, Ohio, on August 22 and 23, 1899. Various amendments to the Constitution were made with a view to providing for the selection of new members more definitely in accordance with the general purpose of the Society, and chapters were recommended to employ the method of selection by means of a Board of Electors. The Convention fixed upon Tuesday evening of Convocation Week as the regular meeting time for future Conventions, and the place of the meeting of the American Association for the Advancement of Science as its meeting place. It also decided to plan for a reunion of the Society at the next meeting of the Association, thus bridging over the interval between the biennial conventions. Lists of officers and statistics from chapters, which were read before the meeting, were for the first time included in the published record of the Convention.

The fifth biennial Convention was held in Denver, Colorado, on August 28, 1901, Vice-president Samuel W. Williston presiding in the enforced absence of the President. The problem of choosing members was a prominent subject in the discussion, and numerous suggestions on this question are contained in the reports of chapters, and in the discussions of the Convention. The question of modifying the form of the badge was broached, and after full discussion the Council was requested to invite suggestions from chapters and individual members,

and to report to the next Convention.

The Convention recorded a vote of thanks to the retiring President, Professor H. S. Williams, "in recognition of fifteen years of wise counsel and guidance since the Society's birth and six years of devoted and exemplary administration of the Presidential office." The retiring address of the President was made a part of the records of the Convention. The statistics regarding chapters added to the convention records are in this case accompanied by lists of scientific papers read

at recent chapter meetings.

The sixth Convention was held December 30, 1902, at Washington, D. C., the change in time being associated with a similar change in the program of the American Association for the Advancement of Science. Much attention was again devoted to the question of the election of members and the groups of students eligible to membership, and these points were emphasized in the address of the President, Professor S. W. Williston, which was printed in full in the Convention proceedings. A part of this address has since then been printed as Appendix VI of the Constitution (see page 54). The meeting provided for a social session as well as a business meeting at the next Convention.

The seventh Convention was held December 29, 1904, at the University of Pennsylvania, President S. W. Williston in the chair. The President, in his address, emphasized the responsibilities which were laid upon the organization and also the need of more frequent and perfect communication between chapters and members. The report of the committee recommending a change in the form of the badge was favorably acted upon and steps taken to modify the method of admitting new chapters, and to make conventions of the Society annual.

The eighth biennial Convention was held at Columbia University, New York City, December 31, 1906, under the presidency of Professor E. L. Nichols. The preparation of a membership record for the entire Society was broached and an appropriation made to collect data therefor. The question of the badge was discussed at length, and the action of the Council in the selecting of a uniform official badge for future members was endorsed.

A special Convention of the Society was held at the University of Chicago, January 3, 1908, under the presidency of Professor E. L. Nichols. The Convention adopted constitutional amendments specifying the form and use of the badge, and the method of presenting a petition for the establishment of a new chapter. A report by the Cornell Chapter, which is printed in full in the Convention Proceedings, submitted for discussion the question of junior or associate members. The President's address and the report of the Corresponding Secretary are printed in the Proceedings, but statistical data regarding chapters are omitted.

The tenth Convention of the Society was held at Johns Hopkins University, January 2, 1909, President E. L. Nichols in the chair. The President in his report discussed the difficulty of arranging a time for the Convention so as to avoid conflicts with other organizations when the meeting was held in connection with Convocation Week. He reported on the progress of the Society and the establishment of new chapters. He spoke also of the desirability of forming chapters in centers of scientific activity, such as Washington, D. C., where no institution of learning offers conditions conforming with those laid down by the Society for the organization of an active chapter. The Convention authorized the preparation of a Sigma Xi catalog and the canvas of the chapters to determine the advisability of publishing the same. Amendments to the Constitution were formulated covering the voting of new chapters.

The eleventh Convention was held at the Massachusetts Institute of Technology, December 29, 1909. The address of the President, Professor F. O. Marvin, called attention prominently to the fact that the general scheme of conducting the business of the organization was not adequate for the Society with its large and widely scattered present membership and recommended more centralization of authority. Recommendations for change in the Constitution, made by various chapters in the form of a series of proposed amendments, which were printed as appendices to the Proceedings of the Convention, were referred to a Committee of Seven, with instructions to print and distribute in advance the results of their deliberations in order that action might

be taken at the next Convention.

The twelfth Convention of the Society was held at the University of Minnesota, on December 30, 1910. The address of the President, Dean F. O. Marvin, discussed primarily the tremendous increase in the membership of the Society and in the geographic range of its chapters, and emphasized the seriousness of the problems which had arisen in connection with this growth. The President recommended that greater authority should be conferred upon the Council, and that conventions

should be held only periodically instead of annually and should be distinct from the meetings of other organizations. The report of the Committee of Seven was, after discussion, referred to the Chapters for further suggestion and to the Committee for revision preparatory to final consideration at the next Convention.

The Corresponding Secretary was authorized to undertake the preparation and publication, at the expense of the Society, of a Quarter Century Record under the direction of the Executive Committee. Amendments to the Constitution regarding the granting of charters were acted upon. The constitutional amendments pending were printed

as an appendix to the Proceedings of the Convention.

The thirteenth Convention was held at Washington, D. C., December 28, 1911. The President, Dean Henry T. Eddy, in his address dealt primarily with the position taken with reference to the granting of new charters and the principles which had actuated the Council in its attitude towards recent petitions for charters. The President recommended that the Society hold its Conventions apart from the meetings of other organizations, that the necessary expenses of one delegate from each chapter be paid from the general treasury of the Society, and that the Council be granted much greater powers in the transaction of business. The report of the Corresponding Secretary on the Quarter Century Record and History was approved and the contract for printing the same awarded. The report of the Committee of Seven was carefully discussed and the Convention voted not to add new classes of active members, but agreed to the constitutional amendments providing for non-resident membership and for greater powers of the Council. An important step was taken when the Convention instructed the Council in considering the admission of new chapters to insure that at any petitioning institution there shall be a satisfactory and continuous output of research work. This provision is now printed with the Constitution. (App. VII, page 55.)

### THE SELECTION OF MEMBERS

The methods followed in selecting members have been greatly modified in the course of the twenty-five years which have elapsed since the first candidates were chosen. Yet the change is hardly more than a natural modification due to the growth of the Society and the increase in the number of students pursuing scientific branches and hence subject to consideration. In the large universities of the present whose single department often exceeds in enrollment the entire student population of the institutions where Sigma Xi began its history, the individual consideration given in earlier years is impossible. The earlier plan did more than merely select those whose work justified the honor of election to Sigma Xi; it served to develop and clarify in the minds of the members themselves the precise ideals which Sigma Xi was endeavoring to inculcate. This plan is described as follows, by one of the early Cornell members.

"At first it was deemed necessary to discuss every candidate in the whole society. The members who recommended one must be there to give his record and make personal defense of his eligibility, and three

black-balls were sufficient to exclude him. But as the Society grew larger, this method of selection proved unfair and unsatisfactory, especially since the power of the three black-balls came near ruining the Society. There seemed to be prejudice and conspiracy year after year to keep out men from certain departments. This finally brought about a revolt of the stronger members, and the perfectly fair method of election by committee, employed since that time, has proved most satisfactory."

The difficulties outlined have been repeated many times in other chapters. In general their solution has been reached in much the same way, so this method of election is now specified in the Constitution and thus imposed upon the various chapters. While the method of electing members has not been subjected to criticism in recent years, there has been widespread discussion concerning the basis for reaching a decision in regard to the qualifications of the different types of mem-

bers specified in the Constitution.

Regarding faculty elections there is little chance for any pronounced differences in opinion. The publication of research work is a specific test which can be applied as concrete evidence to establish the "noteworthy achievement as an original investigator" which the Constitution exacts of any faculty member in order to be eligible to active membership. Concerning the next group also, the specifications are equally definite since the "actual work" demanded by the Constitution to make resident graduates eligible can readily be demonstrated to a Board of Electors. But when one comes to consider undergraduates there is great diversity of opinion as to the meaning of the phrase "who has given promise of marked ability," by which the Constitution establishes the standard for elections from this group.

The present vigorous discussion of the question is by no means new. The same difficulties existed in the early days of the Society, and are vividly set forth in a letter recounting the experiences of that period:

"Those of us who remember the beginnings will recall that for several years candidates were discussed with a great deal of care by the whole chapter and often long meetings extending into the midnight hours and sometimes postponed second meetings were necessary to settle the question of proper candidates. In these meetings we conferred together and by working on concrete cases developed our ideas of the signs of real ability by which the proper undergraduate could be recognized. We fought over the 'marking system' and came to the conclusion that the marks given students for recitations and examinations were not (as then applied) a satisfactory criterion for judging the 'promise' along the lines contemplated by the Society. We learned that personal touch in the classroom and laboratory were needed to supplement the marks and that in our own classes were men who attained high marks who did not show as good promise as others lower in average standing, as measured by examination papers.

"We insisted that the marks were founded on ideals of scholarship, which as to mental ability signified little more than power of verbal memory and a close attention to language and words, and did not signify (not much at least) the ability of the student to comprehend what he had learned, nor his capacity to make original investigation and judgment of the truth, and could not be relied on as evidence of promise of ability to discover truth or to conduct original research successfully, which is demanded of a scientific scholar. The Yale men as the discussion progressed, caught the idea, but for some time the Society was in bad favor for presuming to question the 'marking system.' As the fundamental ideas of the Society came to be better un-

derstood, a strong chapter was developed at Yale.

"Later discussion has arisen as to the meaning of 'promise' in the Constitution. On the one side it has been urged that men should be elected only on evidence of some accomplished work, and the result of carrying out that idea would be to exclude undergraduates from election. In reply to this it has been urged that the Society, to be of most value in universities, must select the men in their formative period, and this election could be taken by them to mean that their elders recommended them to try their strength in graduate work; also that in case the Society waited for definite completed work, it would come into competition with the scientific societies in various branches of science whose membership is distinctly based upon acquirement of some real results by the path of original research.

"A move in the opposite direction has found many advocates; they have urged that in some branches of science and in technical subjects, when there are larger classes, it is very difficult to discover in the undergraduate sufficient expression of 'ability in research' to judge between one and another, so that in selecting the Society will be forced to rest purely upon marks, while in other subjects with fewer students or in fields of work where the student meets in closer relationship with his instructors in the laboratory, differences in this ability could be detected. It is urged that to apply the rules of the Society too rigidly

will unduly exclude good men from the technical group."

## NAME AND EMBLEMS

The key of Sigma Xi was devised by the first members, without attributing any special significance to the letters. In the first Constitution printed in 1888 the title of the Society is given in Art. I, Sec. 1, as follows:

The name of this organization shall be known under the Greek designation of the Sigma Xi Society.

Several years later Professor Williams hunted out words to form an appropriate Greek motto having the same initials. The original form of the motto was  $\Sigma \pi o \nu \delta \hat{\omega} \nu \Sigma v \delta \nu \epsilon_s$  with the significance "Partners in Investigation." Both this form of the motto and this interpretation appear written in an old record under the date of May 18, 1891.

In the Constitution as revised in 1892, Art. I, Sec. 1 appears thus:
The name of this organization shall be the Society of the Sigma Xi; its motto Σπουδῶν Ξυνῶνες "Companions in Zealous Research."

The latter form of the Greek motto has been generally followed in publications of later date. It appears that this form is supported by classical authority as being the best Attic Greek. At the Cornell Convention the Treasurer, Professor Comstock, was authorized to procure a seal and monogram, and two years later at Springfield, Professors Osborne and McMahon were instructed to devise a suitable letter head. One of the original members writes that the seal of the Society was designed by Professor Osborne, who also selected the

colors that were adopted by the organization.

The original Constitution (1887) specified the conditions under which new chapters might be granted, but did not designate any chapter by name or letter, although it mentions the use of the chapter letter on the insignia of the Society. The later edition of the first Constitution (1888) opens with a list of the five chapters designated by Greek chapter letters. No reference is made to this in the text, but in the headings which introduce the list of members the names of these chapter letters appear again. No evidence has been found to show when the letters were granted or by whom they were given to these and to later chapters. Curiously, the letters used do not follow the order of the Greek alphabet or appear to be in any other way related to the names of the chapters employing them.

A clipping from an old Cornell college paper (of 1887?), in speaking of the early days of the Society and its rapid progress, says: "The society is in a prosperous condition and promises considerable benefit for its members. Already chapters have been established at Stevens Institute of Technology, Harvard, Rutgers, Massachusetts Institute of Technology, Rensselaer Polytechnic Institute, and Union College, and organizations of chapters are under way at several other colleges."

When the names in the list cited are compared in the order given with the letters of the Greek alphabet, provided Alpha is kept for the Cornell Chapter, each known chapter mentioned, either defunct or existing, receives its proper chapter letter with the exception of Union. Is it possible that Harvard was to have been the missing Gamma Chapter, Massachusetts Institute the missing Epsilon, and some "other college" the Eta Chapter? It is not improbable that in some details the plans of the founders were not realized. The missing chapter letters would certainly suggest that such was the case, whether or not the list cited indicates correctly the institutions at which chapters were to have been formed.

So far as old correspondence and official documents furnish any evidence, the letters which have been used in various places to refer to certain chapters are the following: Alpha, Cornell; Beta, Stevens Institute; Delta, Rutgers; Zeta, Rensselaer Polytechnic Institute; Theta, Union; Iota, Kansas; Kappa, Columbia; Mu, Minnesota; Pi, Pennsyl-

vania; Upsilon, Yale; Omega, Ohio.

This irregularity is explained in part by unwritten records from the recollections of an early officer that "when Yale was founded its letter should have been Kappa, but the chapter objected to any letter but Y, saying that anyone who liked could call it Upsilon. The next chapter (Minnesota) followed the example of Yale and adopted the letter M; then came Nebraska with N, Ohio with O, Pennsylvania with P. Iowa wanted to take I, but could not on account of Kansas having Iota. California, Columbia, and Chicago could not all take C. This put an

end to the 'initial' business; and the convention of 1897 had in any case authorized the use of geographical names instead of Greek letters." When and why Minnesota's M became Mu, Pennsylvania's P became Pi, and Ohio's O became Omega research has not yet disclosed. The latter is particularly hard to decide since the files of the Society contain early correspondence from the Ohio Chapter asking to be assigned Omikron as a chapter letter. And the request was approved!

Within recent years several attempts have been made to establish again a list of chapter letters and to extend them to those chapters which have never been granted such designations. But no official action has been taken by any Convention, and no method is provided as yet by which any chapter may secure a chapter letter for its proper

use.

The use of a designative initial would be both appropriate and convenient, but while the present list of chapters would furnish only one claimant each for B, K, O, R, U, and Y, there are two contestants each for N, P, and S, three each for I and M, four for W and six for C. An arbitrary designation would be difficult to introduce since the alphabetic sequence was abandoned so long ago and certain letters have been pre-empted. Meanwhile the newly organized chapters remain without any chapter letter although several have expressed repeatedly

a desire for such a designation.

It is of course evident that the limits of either the Greek or the Roman alphabet have been reached and that if the Society is to have that development which its principles deserve, a double or even a triple letter combination would soon become necessary. The difficulties of remembering such a designation and applying it correctly are great within the organization and insurmountable outside of its circle. On the other hand a geographical or institutional designation is easily recognized and used by all; it does add an important fact for both writer and reader, and there is little ground for confusion. As one old member writes: "It may be heterodox but I like Cornell Chapter better than Alpha Chapter, although no one can fail to recognize the fitness of the latter name. Kansas Chapter has a meaning to me that Iota does not unless I consult the list which even we old members do not always have at hand; and to me, at least, Columbia sounds more dignified than Kappa. Why just think what Sigma Xi would have lost if the Yale men had been willing to submerge under some Greek initial the name of that grand institution and if we had not enjoyed the benefit of its standing in science."

## PART III

### THE WORK OF SIGMA XI

Of the further progress of the Society little need be said in detail. What one prominent Cornell member writes of that chapter has proved

true of others generally:

"The Society had many ups and downs in its early years, but on the whole had a healthy growth, and has undoubtedly had a great and salutary effect at Cornell, for it was the plan of the founders of Sigma Xi not merely that high standing should win election, but that powers

of investigation should count for much."

The record of individual chapters is given in the historical sketches written by the chapter secretaries. The same difficulties have repeated themselves again and again in the different chapters. On the whole the new chapters have profited both by the experience of the older ones and by the increasing prestige which has accompanied the growth of the organization.

Sigma Xi has certainly done good service for American universities in emphasizing the educational and cultural value of scientific training. By stamping as the primary factor in scientific pursuits the power to investigate, to advance the limits of knowledge, it has laid the emphasis on the general good and has freed itself from the self-centered tendency of some educational movements. Locally it has often taken the lead in the discussion of educational values, and while never failing to recognize the worth of research in pure science both to the individual and to the world, it has put on an equal basis the pursuit of applied science which in the hands of modern civilized nations has prolonged human life and made it in a thousand ways infinitely better worth living. The emphasis thus laid upon service may justly be regarded as

a worthy contribution to the advancement of the nation.

The Society has contributed to the encouragement of research in the first instance by adopting the research standard as its basis in the election of members. The selection is limited in the case of faculty members and of graduate students to those who have demonstrated their ability in investigation, and even among the undergraduates the clearly evidenced promise of such ability is the essential condition for nomination and election. Everyone must recognize some imperfections in the system and yet the errors in individual cases disappear when one examines the total result. There is abundant testimony that the ideals which Sigma Xi has upheld in university and college circles have stimulated many to enter upon or to train for research work in order to prove themselves worthy of membership. On the other hand membership has brought to others in equal numbers a realization of the responsibility laid upon them to uphold the high standards of Sigma Xi.

The various chapters have sought further to emphasize investigation by paying due honor to the investigator. From the outset chapters have held private meetings at stated intervals at which the programs have been devoted primarily to the presentation of the results of investigations both on the part of members and of others. Such meetings have been instrumental in putting members broadly in touch with the progress of science and in counteracting the narrow specialism so readily produced by intensive research in any one field. They have suggested new relations between different lines of work and have been a distinct stimulus to further research on the part of both speakers and hearers. The development of the social and fraternal spirit among investigators has been a useful and otherwise undischarged function in many communities.

In many of the older institutions of learning in this country it has been the custom for nearly half a century to include among the

events of commencement week a literary oration delivered by some distinguished man appearing under the auspices of Phi Beta Kappa. Minnesota was apparently the first to appreciate that the new learning deserved equally dignified presentation before the university public, and on June 3, 1896, Professor Henry T. Eddy, later President of Sigma Xi (1909-1911), delivered the first Sigma Xi Commencement Oration. The independent relation existed only a few years and was supplanted by a new arrangement. Sigma Xi undertook to alternate with Phi Beta Kappa in securing some distinguished speaker to address the university community during commencement week under the joint auspices of the two societies. The first speaker under this new plan was Professor T. C. Mendenhall, who delivered the annual address on May 31, 1899. A year later the Kansas chapter inaugurated the same plan at the University of Kansas. Since then Pennsylvania, Illinois, and perhaps other chapters, have made similar arrangements. For some years the Nebraska chapter provided for the midwinter commencement of the University an oration by some scientific man of national reputation in the same fashion as Phi Beta Kappa cared for the summer commence-

ment by introducing a literary oration.

In connection with the regular series of private meetings some chapters have also provided open meetings with a more formal program to which the general public has been invited. The object of bringing the results of scientific investigations effectively before the community has been so well attained by such public addresses that certain chapters have endeavored to emphasize still more strongly the purpose of the Society by inviting speakers from a distance and giving to the occasion a more conspicuous character. In order to secure the advantages of united action the four chapters at Missouri, Kansas, Iowa, and Nebraska organized a circuit and provided for a group of three or four addresses to be given at each university in successive periods. month of February was selected as the most favorable season. first speaker in 1907 was Doctor Charles S. Minot of Harvard; in 1908, Professor R. H. Chittenden of Yale delivered the addresses; in 1909 Professor A. G. Webster of Clark, and in 1910 Professor Percival Lowell of Harvard. The plan proved so successful that other chapters desired to be included in the circuit and ultimately several such circuits were organized in the mid-west. While every university community is favored with many addresses by men of prominence and ability, these Sigma Xi lectures have met with distinct favor and the fundamental reason lies in the presentation in a form intelligible to an educated audience of the results of scientific research by men who speak with authority and are recognized as themselves investigators of first rank.

At least one chapter, Ohio, has been the recipient of funds from outside sources for the maintenance of an independent series of such lectures by scientific investigators. The results of the gift are recorded

in the history of the Ohio chapter.

Although such influences have been exercised in the main in a purely local fashion and reach the great body of the people through a multitude of minute channels so that they are difficult to detect and still more difficult to measure, yet when occasion offers the training for service

and the impulse to it have manifested themselves in a more conspicuous fashion. The most striking instance of this is undoubtedly the relation of the California chapter to the invasion of bubonic plague, related so briefly and unostentatiously in the history of that chapter. It would be impossible to estimate in any adequate fashion the commercial and humanitarian results following directly from this action of the California chapter; and the published report of this work has been the means of helping scientific workers and health officials in widely scattered communities both in the United States and beyond its limits. In fact this publication has been commented on by foreign investigators of international reputation as the greatest single contribution ever published on the subject of the eradication of bubonic plague.

Record should be made of the fact, as is conspicuously shown in the history of the Society, that Sigma Xi has not accepted or followed any narrow definition of research. It has laid the emphasis on creative power in the broad sense and has recognized that the engineer in constructing a bridge or in solving some other technical problem which presents itself in the course of his professional work may manifest the same originality that is shown by the student of natural or physical science in the work more ordinarily called investigation. Sigma Xi has not been blind to the fact that the breeder who seeks to develop a new type of grain or a strain of any given variety of domesticated animal meets an unknown situation that demands as great accuracy in observing, comparing, and utilizing data, as great investigative and creative power as the chemist who strives to build up new compounds or the physiologist who experiments to analyze complicated functions into their component parts. Sigma Xi may justly trace much of her success to this power to recognize original investigation in a higher sense than is embraced in the definition of the scholastic, and may safely rest her future on this readiness to seek and to know the truth wherever it can be found.

### MEMBERSHIP RECORDS

A brief pamphlet on the organization of Sigma Xi, printed in 1888 by the Alpha Chapter, gives a list of the chapters with officers and members at that date. It records five chapters with 108 members, of which Cornell had sixty, Stevens six, Rutgers twelve, Rensselaer sixteen, and Union fourteen. On 1893 the second complete list of members was published, also by the Alpha Chapter; this list included only four chapters, but the membership roll had grown to 318, distributed as follows: Cornell, 196; Rensselaer, 48; Union, 36; Kansas, 38. Since then no general record of the membership has been published up to the date of the present work.

Many partial records have been prepared by different chapters. Kansas printed in 1899 the first membership record of an individual chapter and in 1905 published a supplement list. The Yale Chapter issued a complete chapter record in 1905. In 1907 both Columbia and Union published such lists, and Minnesota did the same in 1908.

The growth of Sigma Xi in membership may be traced in the statistical tables appended to the convention proceedings. Such data were first included in the Proceedings of the Fourth Convention, 1899,

although in brief form. They have grown more complete in recent years. In the earlier years, the series is biennial only; and in some cases the figures conform to the time of printing the pamphlet, while in others they agree with the date of the convention. Unfortunately, also, these data contain evident and sometimes serious errors due to various causes, and it was difficult to get the series corrected by the chapters, as the officers responsible for them had retired and the errors were not easy to check. Hence the lists of names submitted by the various chapters for this Record were collated and the results are given in the form of tables appended to this discussion (page 32). Even this method has not yielded results that are comparable in all respects, but the figures do not depart widely from the truth, although they differ distinctly from the data given in the Proceedings of earlier date.

The lists of names printed in the Record do not afford any basis for determining the active membership and the table showing this is made from the earlier Convention Proceedings. It does not cover the time before 1899 but even then Sigma Xi had only eight chapters, in which the largest active membership was 68 at Cornell, whereas three out of the eight chapters had less than 25 members each at that date. The total working membership in that year was only 279. In 1911 every chapter of the first list but one had doubled or trebled its active membership, and the new chapters had brought the total active mem-

bership up to 1,868, a sixfold increase in twelve years.

The data on total membership are grouped under 26 calendar years, covering the 25 years of the Society's history. From this table it appears that after ten years of existence Sigma Xi listed 645 members in six chapters. Five years later it had nearly tripled its membership, having 1,559 members in twice as many chapters as before. Again in 5 years it more than tripled its membership and at the same time doubled its chapter list, having 4,090 members in 23 chapters. In the last five years the total membership has almost doubled again, reaching the grand total listed in this volume of 7,498 members in 28 chapters. Cornell is the only chapter which has yet passed the thousand mark and Yale the only other that has half as many, although four others have reached

close to the five hundred limit.

The table giving the annual elections to membership enables one to determine the character of the growth made by the Society and its individual chapters. For ten years the total annual increment never reached 100, even including the charter members of newly organized chapters. It rose to 260 in the fifteenth year, to 612 in the twentieth, and to the maximum of 731 in the twenty-third, only to fall again to 659 in the twenty-fifth year. The number of graduate students elected in the first ten years was very small, probably because there were not many available. In recent years the selection of graduate students has been more marked. In this the Society has only followed the growth of graduate instruction in the institutions in its membership. Of the present total membership recorded in this volume, 601, or 8 per cent, were charter members, 3,153, or 42 per cent, were elected from the undergraduates, 2,061, or 28 per cent, were chosen as graduate students, 1,334, or 18 per cent, as faculty members, and only 349, or less than 5

per cent, as alumni members. Probably the last figures should be raised, as some chapters seem to have entered alumni members under graduate elections to membership. Even with that it appears that the chapters have not availed themselves to any large extent of the privilege of electing alumni members. The classified totals also show that the chapters differ widely in their policy, as some have elected large numbers of undergraduate members and others have confined their elections almost wholly to graduate students.

In consulting the tables it should be borne in mind that by order of the Washington Convention the chapter rolls for this Record closed with December 31, 1911. If the reader wishes to study the record of an individual chapter he will follow the horizontal line introduced by the name of the chapter. On the other hand the vertical columns show the condition of the Society in any given year and the successive totals trace the changes in the entire organization during the quarter century of its

history just completed.

## ACTIVE MEMBERSHIP BY CHAPTERS

No.	Chapter	1899	1901	1902	1904	1907	1908	1909	1910	1911
1	Cornell	68	75	91	82	108	127	152	140	132
2	Rensselaer	13	9	9	10	18	24	28	28	41
3	Union	10	8	10	14	11	12	12	13	12
4	Kansas	24	26	31	35	50	65	62	82	72
5	Yale	50	65	91	86	105	120	121	119	114
6	Minnesota	44	45	47	54	70	81	84	86	100
7	Nebraska	32	39	38	40	48	60	62	59	58
8	Ohio State	38	40	55	60	70	70	74	79	80
9	Pennsylvania		37	47	68	70	102	114	115	98
10	Brown		29	28	33	45	39	40	38	37
11	Iowa		17	22	30	47	48	47	51	63
12	Stanford			26	38	38	40*	41	55	53
13	California		1	57	66	85	93 .	77	73	69
14	Columbia	- 11		26	87	45	45	50*	50*	58
15	Chicago				127	257	165	135	165	166
16	Michigan		1		46	83	81	82	104	90
17	Illinois		1		48	78	90	133	154	134
18	Case		1		15	26	32	21	20	18
19	Indiana		1 ::	1	14	34	33	34	36	30
20	Missouri		::	::		46	63	76	62	62
21	Colorado		1 ::	1 ::		39	32	35	36	42
22	Northwestern		::	1 ::	::	24	30	39	44	33
23	Syracuse		1 ::	1 ::	1 ::	25	33	41	44	45
24	Wisconsin		1 ::			42	78	113	129	129
25	Washington State	::	1 ::		1 ::	22	24	27	37	37
26	Worcester	• • • • • • • • • • • • • • • • • • • •			1		34	27	42	26
27	Purdue							20	34	42
28	Washington University	• •					••		13	27
20		080	200	***	0.50	1400	1001			
	Totals by years	279	390	578	953	1486	1621	1747	1908	1868

The figures are taken from Chapter Reports as published in Convention Proceedings. \*Estimated.

### TOTAL MEMBERSHIP OF SIGMA XI

No.	Name	1886	1887	1888	1889	1890	1891	1892	1893	1894	1895	1896	1897	1898
	Active Chapters													
1	Cornell	14	47	92	108	129	156	182	205	250	279	319	358	400
2	Rensselaer	1	16	23	28	31	38	46	53	54	61	64	69	76
3	Union	١	15	19	23	26	30	35	39	45	57	64	71	78
4	Kansas	١			١	21	25	30	37	48	53	66	73	78
5	Yale	1	1	1		٠		1			44	76	102	132
6	Minnesota		::	1	::	::	1	1	1 ::			38	53	73
7	Nebraska		1		::		1 ::	1	1 ::		!!		32	68
8	Ohio State	1 :::	1	::	::				::	::	!!	1		57
	Defunct Chapters	١	1		1				١		١		1	٠.
*	Stevens (Beta)	۱	12											1
*	Rutgers (Delta)		6			• • •	• • •							
											***	**		
	Totals by years	14	96	152	177	225	267	301	352	415	512	645	776	980
No.	Name	1899	1900	1901	1902	1903	1904	1905	1906	1907	1908	1909	1910	1911
1101	Active Chapters	2000				2000					1000	2000	2020	
1	Cornell	442	493	549	606	665	722	775	854	894	935	978	1011	1070
2	Rensselaer	79	84	88	94	104	114	124	132	148	163	182	195	208
3	Union	78	80	83	90	99	102	111	120	128	138	145	157	164
4	Kansas	86	99	107	125	131	147	160	173	189	212	236	271	286
5	Vale	158		221	257	289	330	364	410	446	488	524	551	597
6	Yale	87	102	119	143	160	186	210	229	252	276	308	329	334
7	Minnesota	83				128		155		201	224	243	266	289
8	Nebraska			109			143		179					324
	Ohio State	59		80		119	128	172	192	216	239	268	293	
9	Pennsylvania		64	95		156	198	234	260	287	317	348	411	440
10	Brown		35	50		69	75	86	109	116	122	136	156	168
11	Iowa		15	24		36	58	75	97	112	127	145	165	182
12	Stanford				34	40	64	80	88	107	125	143	163	180
13	California			16	61	86	110	134	160	181	208	232	360	393
14	Columbia	١				75	102	172	210	250	283	306	338	376
15	Chicago					108	170	203	231	276	307	367	381	425
16	Michigan					67	101	146	192	239	287	339	388	443
17	Illinois	1				40	68	98	133	188	262	364	411	467
18	Case		١	١			19	41	59	80	96	128	141	161
19	Indiana			۱		٠	16	37	- 61	70	78	85	93	101
20	Missouri	١	۱	l	1			56	73	87	109	127	148	161
21	Colorado	١	1	١				32	45	54	69	77	85	90
22	Northwestern		1	1	1		1		38	54	65	83	89	90
23	Syracuse	::	::	1		::	::	::	27	43	51	59	73	85
24	Wisconsin	::	::	::		::	::	::		79	97	132	153	177
25	Washington State	::	::	::		::		::		39	50	59	64	70
26	Worcester	::	1			1	1 ::				34	55	70	83
27	Purdue	1					1	• • •	• • •		1	24	47	72
1 28	Washington University.	1											12	46
1 20	" wanting out Oniversity												12	10

Totals by years..... 1090 1350 1559 1868 2390

3483 4090 4754

2871

> 5380 6111

7498

## ANNUAL ELECTIONS TO MEMBERSHIP

=			_		T	1889				1890				=						
		1886			1887		L	1	888		_ .		1889	•			1	890		_
Number	Name	Charter Members Undergraduates Graduate Students	Faculty Members Alumni Members	Charter Members	Graduate Students	Faculty Members	Charter Members	Undergraduates	Graduate Students	Faculty Members	Alumni Members	Charter Members	Graduate Students	Faculty Members	Alumni Members	Charter Members	Undergraduates	Graduate Students	Faculty Members	Alumni Members
	Active Chapters				$\top$		1						Π							_
1 2 3 4	Cornell	13	1	7 15	7 1	13 1 2	2	. 13	2	2	26	1	1 4	1 1	1 	5	16 3 4	1 1	1 2 4	7
	Defunct Chapters Stevens (Beta)			5	1															
	Stevens (Beta) Rutgers (Delta)		<u> </u>	5	4	3	- -	<u> </u>	• • •	•••	•••	•••	<u> </u>			•••				
	Classified totals	13	l 1 l	32 1	19  1	18 1	2	. 20	6	4 1	26	1 ا	5 <sup> </sup> 7	2	1	5	23	6	7	7
	Grand totals	14			82				56				25					48		
	Active Chapters	1891			1892		Ť	1	1893				189	ı			1	1895		_
1	Cornell	13 7	7	] 1	10  9	6   1	-	. 13	8	2			6 23	6	ļ		13	14	2	
1 2 3 4 5	Rensselaer Union Kansas Yale		1 2		8 3 2	i i		5	4 	2			1 7	2 1	3	20	6 4 17	<sub>3</sub>	5 1 4	
	Classified totals	22 10	7 3	!	21 14	7 2	<u> </u>	25	12	4	•••]	2	4 27	9	3	20	40	24	13	٠.,
	Grand totals	42			44		1		41				63					97		_
/		189	6	1897			Ť	1898				1899					1	1900		
1 2 3 4 5 6 7 8 9 10 11	Cornell Rensselaer Union Kansas Yale Minnesota Nebraska Ohio State Pennsylvania Brown	24 18 3 6 1 14 18 11 8		13	23 9 5 6 5 1 12 6 12 2 8	1		32 6 3 15 15 33 328 5	3 1 12 2 3	1 3 1	i	:::  :::	4 14 3 5 1 7 7 1 1 3 2 1	i i	1 1	12 28 12	33 5 22 13 13 10 24 4	 1 1 6 1	6  1 2 2 1  2 16	i
	Classified totals	18 58 38	19 3	13	57 32	28	:	28 109	31	35	1	7	4 26	8	2	52	134	42	31	1
	Grand totals	13	3		131				204				110	0				260	1	_
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## ANNUAL ELECTIONS TO MEMBERSHIP-Continued

			2	906				1	1907					1908	3			:	1905	)
	Name	Charter Members	Undergraduates	Grad'te Students	Faculty Members	Alumni Members	Charter Members	Undergraduates	Grad'te Students	Faculty Members	Alumni Members	Charter Members	Undergraduates	Grad'te Students	Faculty Members	Alumni Members	Charter Members	Undergraduates	Grad'te Students	Faculty Members
	Active Chapters																			
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1 3	Minnesota	• • • •	17	18	6	••••		14	20	9	:::	• • •	17	21	2			24	12	1 2
10	Ohio State		11 15	7	2			19	2	3			12	5	2 2			16	7	2 4 5 6
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13	Brown	• • •	8 10	0	1 6 2	9	• • • •	18 6 7	7 2 13 3 20 2 3 1 4 4 4		• • •	• • •	5	1 5		1		16 22 12 12	6 3 13 4 12 7 5 1 6	1
1 5	Stanford			3	2	3		'	4	2	13		4	7	4	3		11	11	4
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19	Columbia	• • • •	15	23		• • • •	•••1	24	15	1 1	2	• • •	16	15	1	1			10	7 2 1
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	Cornell	: Charter   Charter	Under-	191	Faculty		Charter	Members Tinder-	graduates		G   Facuity	Alumni	Charter	Lote-	graduates	Graduate C	Faculty Members	fied	-	Tota
()	Cornell	: Charter Members	Under- graduates	Craduate Students	Faculty		ı	Members	15 13	Graduate	5	1	Charter	Lote-	87 graduates	Students	Faculty Members	fied	Members	107-
H	Cornell		Under-	27 Students	Faculty		ı	Members	15 13 6 Staduates	Students	5	_	Charter	Cota - Laburi 3 7 5	85 graduates	Students	Faculty Members	fied	Wembers	107 20 16
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H	Cornell		22 12 19 18 15  8	27 27 312 111	Faculty	3	1 2 1 6	Tinder-	15 15 15 15 15 16 15 26 18 19 26	Graduate 30 Students	5  6 1	1 1  3 10	Charter	Cota - Laburi 3 7 5	885 16 185 6 172 323 231	363 363 363 363 363 3647 364 364 364 364 364 364 364 364 364 364	Faculty 7 Security 8 4 3 6 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9	fied	819 Wempers 1 23 2 1 8 35	107 20 16 28 59 33 28
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H	Cornell		19 19 18 15 15 18 18 18 10 10 10 10 10 10 10 10 10 10 10 10 10	27 27 27 27 27 27 3 12 11 14 12 4 13	Faculty	3	1	Members	15 15 15 15 16 15 26 11 13	Students	5  6 1	1 1  3 10	Charter	Cota - Laburi 3 7 5	885 16 185 6 172 323 231	363 363 363 363 363 3647 364 364 364 364 364 364 364 364 364 364	Faculty 7 Security 8 4 3 6 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9	fied	23 22 1 8 35 26 14	107 20 16 28 59 33 28 32 44 16 18
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	Cornell Rensselaer Jnion Kansas fale Minnesota Nebraska Jhio State Pennsylvania Brown owa Stanford California Columbia Chicago Michigan Illinois Jase Indiana Missouri Colorado Northwestern		2 12 19 18 15 18 18 18 10 11 17 20 344 233 10 11 36 6	277 33 122 111 12 44 133 1066 113 9 6 6 11 11 11 11 11 11 11 11 11 11 11 11	Faculty	3	1 1		### 15 13 6 15 26 1 1 1 3 27 12 25 1 38 27 12	38 Craduate 10 115 5 38 Students	5 6 1 2 2 1 1 6 6 8 8 5 6 17	3 10 	Charter	Cota -Laburi 3 7 5	516 185 6 172 323 180 154 254 73 84 77 118 132 4 269 231 77 166 218 27	363 363 311 167 368 147 44 588 444 477 155 174 325 67	122 113 35 8 4 4 3 6 6 9 9 3 4 4 9 9	fied puuniy	Ranguay 49 . 7 23 2 1 8 3 5 2 4 4 4 5 1 . 3 5	107 20 16 28 59 33 28 32 44 16 18 18 39 37 42
	Cornell Rensselaer Jnion Kansas fale Minnesota Nebraska Jhio State Pennsylvania Brown owa Stanford California Columbia Chicago Michigan Illinois Jase Indiana Missouri Colorado Northwestern		2 12 19 18 15	27 111 44 13 106 10 13 44 11 11 11 11 11 11 11 11 11 11 11 11	Faculty	3	1 1		83180 PETER   15   15   15   15   15   16   15   16   16	38 10 11 15 5 8 Sindents 8 Sindents 8 3	5  6 1 1 2 2 2 1 1 6 6 8 5 6 7 4 1 1 2 1 1 1 1 2 1 1 1 1 1 1 1 1 1 1 1	3 10  11 	Charter	Cota -Laburi 3 7 5	8018nD818 516 185 6172 323 231 80 154 27 73 84 77 1182 269 231 77 16 62 18 18 18 18 18 18 18 18 18 18 18 18 18	363 363 311 167 368 147 44 588 444 477 155 174 325 67	122 113 35 8 4 4 3 6 6 9 9 3 4 4 9 9	fied puuniy	Ranguay 49 . 7 23 2 1 8 3 5 2 4 4 4 5 1 . 3 5	107 20 16 28 59 33 28 32 44 16 18 18 39 37 42
	Cornell Rensselaer Jnion Kansas Yale Minnesota Nebraska Nebraska Nebraska Nebraska Nebraska Nebraska Nebraska Nebraska Nebraska Nowa Sanowa Owa Stanford California Columbia Chicago Michigan Illinois Lase Indiana Missouri Colorado Northwestern Syracuse Wisconsin Washington State Worcester		22 122 129 188 155 187 223 100 111 36 6 6 12 213	1910 2810 277 31 122 44 122 44 133 106 100 100 100 100 100 100 100 100 100	Faculty	3 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	1 1	Members Trader-	83180 P8 15 13 6 15 13 6 15 13 6 15 13 6 11 13 12 25 1 38 27 12 6 11	38 10 1 1 1 5 8 Students	5	1 1 3 10 	1 1 2 1 1 1 1 2 2 1 1 1 1 2 2 1 1 1 1 1	Total 37555088382824652266974334766278	516 185 516 185 516 185 516 185 517 232 323 180 154 27 77 118 269 231 77 166 27 172 182 183 184 185 185 185 185 185 185 185 185 185 185	363 363 367 367 367 367 367 367 367 367	122 113 35 8 4 4 3 6 6 9 9 3 4 4 9 9	fied puuniy	Eageley 49 . 7322 1 8 35 26 4 4 4 5 1 3 5 2 4 4 4 5 1 3 5 2 4 1 1	107 20 16 28 59 33 28 32 44 16 18 18 39 37 42
	Cornell Rensselaer Jnion Kansas fale Minnesota Nebraska Jhio State Pennsylvania Brown owa Stanford California Columbia Chicago Michigan Illinois Jase Indiana Missouri Colorado Northwestern		2 12 19 18 15	277 33 122 111 12 44 133 1066 113 9 6 6 11 11 11 11 11 11 11 11 11 11 11 11	Faculty	3 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	1 1	Tinder-	83180 PETER   15   15   15   15   15   16   15   16   16	38 10 11 15 5 8 Sindents 8 Sindents 8 3	5  6 1 1 2 2 2 1 1 6 6 8 5 6 7 4 1 1 2 1 1 1 1 2 1 1 1 1 1 1 1 1 1 1 1	3 10  1 4	Charter	Total 37555088382824652266974334766278	8018nD818 516 185 6172 323 231 80 154 27 73 84 77 1182 269 231 77 16 62 18 18 18 18 18 18 18 18 18 18 18 18 18	363 363 311 167 368 147 44 588 444 477 155 174 325 67	122 133 58 44 99 112 77 122 77	fied puuniy	Ranguay 49 . 7 23 2 1 8 3 5 2 4 4 4 5 1 . 3 5	107 20 16 28 59 33 28 32 44 16 18 18 39 37 42
	Cornell Rensselaer Jnion Kansas Yale Minnesota Nebraska Dhio State Pennsylvania Brown Owa Stanford Ralifornia Columbia Chicago Michigan Illinois Case Indiana Missouri Colorado Northwestern Syracuse Washington State Worcester Purdue Washington University Defunct Chapters		22 122 129 188 155 187 223 100 111 36 66 121 121 121 121 121 121 121 121 121	1910 2810 277 31 122 44 122 44 133 106 100 100 100 100 100 100 100 100 100	Faculty	3 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	1 1	Tinder-	891snpst 5 15 13 6 15 26 1 1 1 1 2 2 5 1 38 27 1 2 2 5 1 38 2 7 1 2 2 5 1 3 2 5 1 2 2 5 1 3 2 5 1 2 2 5 1 3 2 5 1 2 2 5 1 3 2 5 1 2 2 5 1 3 2 2 5 1 3 2 2 5 1 3 2 2 5 1 3 2 5 1 2 2 5 1 3 2 5 1 2 2 5 1 3 2 2 5	38 10 11 15 5 8 Sindents 8 Sindents 8 3	5	1 1 3 10 	1 1 2 1 1 1 2 2 1 1 1 2 2 1 1 1 2 2 1 1 1 2 2 1 1 1 2 2 1 1 1 2 2 1 1 1 2 2 1 1 1 2 2 1 1 1 2 2 1 1 1 2 2 1 1 1 2 2 1 1 1 1 2 2 1 1 1 1 2 2 1 1 1 1 2 2 1 1 1 1 1 2 2 1 1 1 1 1 1 2 2 1	Total appul 3755508338282462269744347762278112	516 185 6 154 185 6 154 254 254 269 269 27 118 132 24 269 27 16 62 27 17 18 18 18 18 18 18 18 18 18 18 18 18 18	363 363 311 167 368 147 44 588 444 477 155 174 325 67	122 113 35 8 4 4 3 6 6 9 9 3 4 4 9 9	fied puuniy	Eageley 49 . 7322 1 8 35 26 4 4 4 5 1 3 5 2 4 4 4 5 1 3 5 2 4 1 1	107-20-16-28-28-28-28-28-28-28-28-28-28-28-28-28-
	Cornell Rensselaer Jnion Kansas fale Minnesota Nebraska Jhio State Jennsylvania Brown Jennsylvania Brown Jeafford California Columbia Chicago Michigan Illinois Lase Indiana Missouri Colorado Northwestern Syracuse Wisconsin Washington State Worcester Purdue Washington University.		22 122 129 188 155 187 223 100 111 36 66 121 121 121 121 121 121 121 121 121	1910 2810 277 31 122 44 122 44 133 106 100 100 100 100 100 100 100 100 100	Faculty	3	1 1 1 6	Tinder-	8838mpst5 15 13 6 15 12 6 11 13	38 10 11 15 5 8 Sindents 8 Sindents 8 3	5	1 1 3 10 	1 1 2 1 1 1 2 2 1 1 1 2 2 1 1 1 2 2 1 1 1 2 2 1 1 1 2 2 1 1 1 2 2 1 1 1 2 2 1 1 1 2 2 1 1 1 2 2 1 1 1 2 2 1 1 1 2 2 1 1 1 1 2 2 1 1 1 1 2 2 1 1 1 1 2 2 1 1 1 1 1 2 2 1 1 1 1 1 1 2 2 1	Total 37555088382824652266974334766278	516 185 6 172 323 231 154 254 73 118 132 4 269 27 16 62 27 16 62 27 27 27 27 27 27 27 27 27 27 27 27 27	363 363 311 167 368 147 44 588 444 477 155 174 325 67	Hereit A 1 1 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	fied puuniy	829 Weight 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	107 200 166 28 59 33 28 28 44 166 160 166 19 99 8 17 77 8 8 7
	Cornell Rensselaer Jnion Kansas ('ale. Winnesota Nebraska. Jhio State ennsylvania Brown owa Stanford California Columbia Chicago Michigan Illinois Lase. Indiana Missouri Colorado Northwestern Syracuse Wisconsin Washington State Worcester Purdue. Washington University Washington University Washington University Defunct Chapters Stevens (Beta)	12	1000 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	1910 21 shapping 27 27 31 12 11 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	Faculty	3 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	1 1	Members Tinder-	8838mp8459 15 13 6 15 12 6 11 13 6 11 12 15 6 11 12 15 6 11 12 15	38 10 11 15 5 38 10 12 83 83	5	1 1 1 3 10 10 11 4 4 	1 1 2 1 1 1 2 1 1 1 1 2 1 1 1 1 2 1 1 1 1 2 1 1 1 1 1 2 1	Total 3775508838828246226697443447662788122 555	516 185 172 323 323 154 254 7 118 132 24 269 231 177 16 62 277 21 27 27 21 27 21 21 21 21 21 21 21 21 21 21 21 21 21	363 363 311 167 368 147 44 588 444 477 155 174 325 67	122 113 35 88 4 4 3 3 6 6 9 9 1 1 2 2 2 2 2 4 3 3 1 1 2 2 9 1 1 3 3 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	muniy   988555599330099555599768335884449964489	829 Weight 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	Gran Tots 107/200 166 288 599 332 288 329 444 166 118 118 117 77 422 446 118 117 77 446 118 117 117 118 118 118 118 118 118 118

## OFFICERS OF THE GENERAL SOCIETY

### PRESIDENTS OF SIGMA XI

EDWARD LEAMINGTON NICHOLS		(Cornell)	1893
CHARLES CAROLL BROWN .		(Union)	1893-1895
HENRY SHALER WILLIAMS .		(Yale)	1895–1901
SAMUEL WENDELL WILLISTON		(Kansas)	1901-1904
EDWARD LEAMINGTON NICHOLS			1904–1909
Frank Olin Marvin			1909–1910
HENRY TURNER EDDY		(Minnesota)	1910

The records do not show that the General Society had any regularly constituted officers before the First Convention at Ithaca in 1893.

## VICE-PRESIDENTS OF SIGMA XI

Louis Munroe Dennis				(Cornell)	1893
FRANK OLIN MARVIN .				(Kansas)	1895-1897
HENRY TURNER EDDY				(Minnesota)	1897-1899
SAMUEL WENDELL WILLIS					1899-1901
HENRY TURNER EDDY				(Minnesota)	1901-1904
THOMAS HUSTON MACBRI	DE			(Iowa)	1904-1909
FRANCIS CARY CALDWELL				(Ohio)	1909-1910
JOHN MERLE COULTER				(Chicago)	1910

### RECORDING SECRETARIES OF SIGMA XI

John Henry Tanner (Cornell), at the Ithaca Convention in 1893. James McMahon (Cornell), at the Springfield Convention in 1895. James McMahon (Cornell), pro tempore, vice James McGiffert, Junior

(Rensselaer), absent, at the Toronto Convention in 1897.

Francis Cary Caldwell (Ohio State), pro tempore, vice Elton David Walker (Union) absent, at the Columbus Convention in 1899.

James McMahon (Cornell), pro tempore, vice Francis Cary Caldwell

(Ohio State) absent, at the Denver Convention in 1901.

EDWIN SCHOFIELD CRAWLEY (Pennsylvania), at the Washington Convention in 1902, and at the Philadelphia Convention in 1904.

Herbert Osborn (Ohio State), vice William Trelease (Cornell) resigned,

at the New York Convention in 1906.

HERBERT OSBORN (Ohio State), at the Chicago Convention in 1908 and at the Baltimore Convention in 1909.

JOHN CLAYTON TRACY (Yale), at the Boston Convention in 1909.

Francis Clinton Shenehon (Minnesota), pro tempore, vice John Clayton Tracy (Yale) absent, at the Minneapolis Convention in 1910.

DAYTON CLARENCE MILLER (Case), at the Washington Convention in 1911.

### CORRESPONDING SECRETARIES OF SIGMA XI

JAMES McMahon			(Cornell)	1893-1904
HENRY BALDWIN WARD			(Illinois)	1904

### TREASURERS OF SIGMA XI

JOHN HENRY COMSTOCK		(Cornell)	1893-1895
JAMES HOUGH STOLLER		(Union)	1895-1897
HENRY BYRON NEWSON			1897-1899
ELLERY WILLIAMS DAVIS .		(Nebraska)	1899-1901
LAENAS CLIFFORD WELD		(Iowa)	1901-1904
LUCIEN MARCUS UNDERWOOD		(Columbia)	1904–1908
JAMES FURMAN KEMP		(Columbia)	1908

## COUNCIL OF THE SOCIETY OF THE SIGMA XI1

## THE COUNCIL FOR 1895-1897

## **EX-OFFICIIS**

President		HENRY SHALER WILLIAMS (Yale)
Vice-President		Frank Olin Marvin (Kansas)
Recording Secretary .		James McGiffert, Junior (Rensselaer)
Treasurer		JAMES HOUGH STOLLER (Union)
Corresponding Secretary		James McMahon (Cornell)

## CHAPTER REPRESENTATIVES

CHARLES FRANCIS OSBORNE (Cornell)

Chairman of the Council

CHARLES WINTHROP CROCKETT (Rensselaer)

CHARLES SMITH PROSSER (Union)

SAMUEL WENDELL WILLISTON (Kansas)

LOUIS VALENTINE PIRSSON (Yale)

## THE COUNCIL FOR 1897-1899

### **EX-OFFICIIS**

President		HENRY SHALER WILLIAMS (Yale)
Vice-President		HENRY TURNER EDDY (Minnesota)
Recording Secretary .		ELTON DAVID WALKER (Union)
Corresponding Secretary		JAMES McMahon (Cornell)
Treasurer		HENRY BYRON NEWSON (Kansas)

## CHAPTER REPRESENTATIVES

EDWARD LEAMINGTON NICHOLS (Cornell)
Chairman of the Council
CHARLES WINTHROP CROCKETT (Rensselaer)
CHARLES SMITH PROSSER (Union)
SAMUEL WENDELL WILLISTON (KANSAS)
HENRY SHALER WILLIAMS (Yale)
WILLIAM RICKETSON HOAG (Minnesota)

<sup>1</sup> The Council was first provided for in amendments to the Constitution adopted at the Springfield Convention in 1895. The term of members elected by chapters was then made five years. As new chapters were installed and new councilors elected, the membership of the Council changed irregularly. The new Constitution, adopted December 28, 1911, fixed the term of a councilor at three years and provided that one third of the members retire each year.

### THE COUNCIL FOR 1899-1901

### EX-OFFICIIS

## CHAPTER REPRESENTATIVES

Edward Leamington Nichols (Cornell)
Chairman of the Council
Charles Winthrop Crockett (Rensselaer)
Maurice Perkins (Union)
Erasmus Haworth (Kansas)
Louis Valentine Pirsson (Yale)
William Ricketson Hoag (Minnesota)
Charles Edwin Bessey (Nebraska)
Albert Martin Bleile (Ohio)

## THE COUNCIL FOR 1901-1902

### EX-OFFICIIS

#### CHAPTER REPRESENTATIVES

EDWARD LEAMINGTON NICHOLS (Cornell)
Chairman of the Council
CHARLES WINTHROP CROCKETT (Rensselaer)
MAURICE PERKINS (Union)
ERASMUS HAWORTH (KANSAS)
LOUIS VALENTINE PIRSSON (Yale)
HENRY TURNER EDDY (Minnesota)
CHARLES EDWIN BESSEY (Nebraska)
ALBERT MARTIN BLEILE (Ohio State)
EDGAR FAHS SMITH (Pennsylvania)
JOHN EDWARD HILL (Brown)
SAMUEL CALVIN (IOWA)

## THE COUNCIL FOR 1902-1904

### EX-OFFICIIS

President . . . Samuel Wendell Williston (Kansas)
Vice-President . . Henry Turner Eddy (Minnesota)
Recording Secretary . Edward Schoffeld Crawley (Pennsylvania)
Corresponding Secretary James McMahon (Cornell)
Treasurer . . . . Laenas Gifford Weld (Iowa)

### CHAPTER REPRESENTATIVES

EDWARD LEAMINGTON NICHOLS (Cornell) Chairman of the Council

CHARLES WINTHROP CROCKETT (Rensselaer

JAMES REAGLES TRUAX (Union). Frank Olin Marvin (Kansas)

Louis Valentine Pirsson (Yale) HENRY TURNER EDDY (Minnesota)

CHARLES EDWIN BESSEY (Nebraska)

ALBERT MARTIN BLEILE (Ohio State) EDGAR FAHS SMITH (Pennsylvania)

JOHN EDWARD HILL (Brown)

Samuel Calvin (Iowa)

GEORGE ABRAM MILLER (Stanford)

WILLIAM EMERSON RITTER (California) HENRY EDWARD CRAMPTON (Columbia)

# THE COUNCIL FOR 1904-1906

## EX-OFFICIIS

President . . . . EDWARD LEAMINGTON NICHOLS (Cornell)
Vice-President . . . THOMAS HUSTON MACBRIDE (Iowa)
Recording Secretary . . WILLIAM TRELEASE (Cornell)
Corresponding Secretary . . . . . HENRY BALDWIN WARD (Nebraska)
Treasurer . . . . LUCIEN MARCUS UNDERWOOD (Columbia)

#### CHAPTER REPRESENTATIVES

FRANK OLIN MARVIN (Kansas) Chairman of the Council

HENRY SHALER WILLIAMS (Cornell)

CHARLES WINTHROP CROCKETT (Rensselaer)

OLIN HENRY LANDRETH (Union) JOHN CLAYTON TRACY (Yale)

HENRY TURNER EDDY (Minnesota) ELLERY WILLIAMS DAVIS (Nebraska)

CHARLES SMITH PROSSER (Ohio State)

EDGAR FAHS SMITH (Pennsylvania)

JOHN EDWARD HILL (Brown)

Samuel Calvin (Iowa)

GEORGE ABRAM MILLER (Stanford) WILLIAM EMERSON RITTER (California)

HENRY EDWARD CRAMPTON (Columbia) JOSEPH PAXSON IDDINGS (Chicago)

FREDERICK CHARLES NEWCOMBE (Michigan)

Morgan Brooks (Illinois)

CHARLES SUMNER HOWE (Case)

CARL H EIGENMANN (Indiana)

## THE COUNCIL FOR 1907-1909

### EX-OFFICIIS

## CHAPTER REPRESENTATIVES

Frank Olin Marvin (Kansas) Chairman of the Council HENRY SHALER WILLIAMS (Cornell) CHARLES WINTHROP CROCKETT (Rensselaer) OLIN HENRY LANDRETH (Union) JOHN CLAYTON TRACY (Yale) HENRY TURNER EDDY (Minnesota) ELLERY WILLIAMS DAVIS (Nebraska) WILLIAM McPherson (Ohio State) Edgar Fahs Smith (Pennsylvania) JOHN EDWARD HILL (Brown) Samuel Calvin (Iowa) Vernon Lyman Kellogg (Stanford) WILLIAM EMERSON RITTER (California) HENRY EDWARD CRAMPTON (Columbia) Samuel Wendell Williston (Chicago) Frederick Charles Newcombe (Michigan) Morgan Brooks (Illinois) Charles Sumner Howe (Case) CARL H EIGENMANN (Indiana) OSCAR MILTON STEWART (Missouri) JOHN BERNARD EKELEY (Colorado) CHARLES BEACH ATWELL (Northwestern) CHARLES WESLEY HARGITT (Syracuse) VICTOR LENHER (Wisconsin) HENRY LANDES (Washington State)

## THE COUNCIL FOR 1909-1910

## **EX-OFFICIIS**

President . . . . . . . Frank Olin Marvin (Kansas)
Vice-President . . . . Francis Cary Caldwell (Ohio State)
Recording Secretary . . . . . John Clayton Tracy (Yale)
Corresponding Secretary . . . . . . . . . . . . . . . . . James Furman Kemp (Columbia)

### CHAPTER REPRESENTATIVES

CHARLES SUMNER HOWE (Case) Chairman of the Council HENRY SHALER WILLIAMS (Cornell) CHARLES WINTHROP CROCKETT (Rensselaer) OLIN HENRY LANDRETH (Union) EDGAR HENRY SUMMERFIELD BAILEY (Kansas) JOHN CLAYTON TRACY (Yale) HENRY TURNER EDDY (Minnesota) ELLERY WILLIAMS DAVIS (Nebraska) WILLIAM McPherson (Ohio State) Edgar Fahs Smith (Pennsylvania) JOHN EDWARD HILL (Brown) SAMUEL CALVIN (Iowa) VERNON LYMAN KELLOGG (Stanford) WILLIAM EMERSON RITTER (California) CARLETON CLARENCE CURTIS (Columbia) Julius Stieglitz (Chicago) WILLIAM HERBERT HOBBS (Michigan) STEPHEN ALFRED FORBES (Illinois) CARL H EIGENMANN (Indiana) OSCAR MILTON STEWART (Missouri) Russell D George (Colorado) CHARLES BEACH ATWELL (Northwestern) CHARLES WESLEY HARGITT (Syracuse) VICTOR LENHER (Wisconsin) HENRY LANDES (Washington State) ARTHUR WOOLSEY EWELL (Worcester) WILLIAM KENDRICK HATT (Purdue)

## THE COUNCIL FOR 1910-1911

### **EX-OFFICIIS**

Past Presidents

HENRY SHALER WILLIAMS (1895–1901)
SAMUEL WENDELL WILLISTON (1901–1904)
EDWARD LEAMINGTON NICHOLS (1904–1909)
FRANK OLIN MARVIN (1909–1910)

## CHAPTER REPRESENTATIVES

Julius Stieglitz (Chicago) Chairman of the Council HENRY SHALER WILLIAMS (Cornell) CHARLES WINTHROP CROCKETT (Rensselaer) OLIN HENRY LANDRETH (Union) EDGAR HENRY SUMMERFIELD BAILEY (Kansas) JOHN CLAYTON TRACY (Yale) HENRY TURNER EDDY (Minnesota) ELLERY WILLIAMS DAVIS (Nebraska) WILLIAM McPherson (Ohio State) EDGAR FAHS SMITH (Pennsylvania) John Edward Hill (Brown) SAMUEL CALVIN (Iowa) Guido Hugh Marx (Stanford) JOHN CAMPBELL MERRIAM (California) CARLETON CLARENCE CURTIS (Columbia) WILLIAM HERBERT HOBBS (Michigan) STEPHEN ALFRED FORBES (Illinois) CHARLES SUMNER HOWE (Case) CARL H EIGENMANN (Indiana) OSCAR MILTON STEWART (Missouri) Russell D George (Colorado) CHARLES BEACH ATWELL (Northwestern) CHARLES WESLEY HARGITT (Syracuse) VICTOR LENHER (Wisconsin) HENRY LANDES (Washington State) ARTHUR WOOLSEY EWELL (Worcester) WILLIAM KENDRICK HATT (Purdue) Francis Eugene Nipher (Washington University)

## LIST OF PUBLICATIONS BY THE SIGMA XI SOCIETY

Sigma Xi. The Preamble [Signed by nine original student-members of the Society of the Sigma Xi] and Constitution. n. p. n. d. 13 pp. [Ithaca, N. Y., 1887]

Probably the first printed constitution, published before Professor Williams took part. Preamble and Salutatory reprinted here (p. 2).

The Organization of the Scientific Society of the Sigma Xi. Frank Van Vleck, J. Henry Comstock, C. D. Marx, Committee on Publication, Cornell University, Ithaca, N. Y. Andrus and Church, 1888, 28 pp. Contains list of chapters; discussion of the purpose, history, and organization of Sigma Xi; list of members and officers of various chapters; publications of the Sigma Xi Society.

The Organization of the Scientific Society of the Sigma Xi. Frank Van

Vleck, J. Henry Comstock, C. D. Marx, Committee on Publication, Cornell University, Ithaca, N. Y. Andrus and Church, 1888, 40 pp. Same as preceding except that printed lists of new members are intercalated between pp. 14 and 15 and pp. 16 and 17; and Constitution, paged independently (10 pp.), between Membership Lists and Publications of the Sigma Xi Society.

Constitution of the Society of the Sigma Xi. Revised 1892. E. D.

Norton, Printer, [Ithaca, N. Y.] 1892. 16 pp.

Constitution of the Society of the Sigma Xi. Revised and Adopted at Convention, May 18, 1893. Andrus and Church, [Ithaca, N. Y.] 1893. 18 pp.

List of Members of the Society of the Sigma Xi. [Ithaca, N. Y., 1893.]

68 pp.

Officers of the General Society, list of members arranged by chapters, with brief biography and list of publications for each, also with chapter officers.

Constitution of the Society of the Sigma Xi. As amended in Convention, August 29, 1895. Andrus and Church, [Ithaca, N. Y.] 1895. 20 pp.

Sigma Xi. Report on Extension. Presented to the Springfield Convention, Aug. 29, 1895, by the Committee appointed in Convention May 18, 1893. (Extract from the Records. Printed for the Information of the Council and Chapters.) n.p.n.d. [1896.] 4 pp.

Proposed Amendments to the Constitution of the Sigma Xi Society, and to the By-laws of the Alpha Chapter. Report of the Special

Committee, presented Feb. 27, 1897. n. p. n. d. 4pp.

Amendments to the Constitution of the Society of the Sigma Xi, recommended by the committee to whom Prof. Comstock's resolution and other resolutions relating to the same subject were referred for consideration and

Amendments to the By-Laws recommended for adoption in case the proposed amendments to the Constitution should be adopted by the Society. (These constitutional amendments were passed unanimously by the Third Convention in August, 1897.)

Sigma Xi. Proceedings of the Third Convention. Including a Summary of the Discussion on Extension. Toronto, August 20, 1897. (Printed by order of the Convention, for the Information of the Chapters.) n.p.n.d. 8 pp.

Sigma Xi. Proceedings of the Fourth Convention. Held at Columbus, August 22, 23, 1899. (Printed by order of the Convention, for the Information of the Chapters.) [Ithaca, N. Y.] n.d. 12 pp.

Constitution of the Society of the Sigma Xi as amended in Convention August 23, 1899. Andrus and Church [Ithaca, N. Y.] 1900. 28 pp.

Constitution of the Society of the Sigma Xi. As amended in Convention August 23, 1899. n.p.n.d. Andrus and Church [Ithaca, N. Y.] 1901. 27 pp.

Advance Sheets of "Appendix to Proceedings" [of Fifth Convention], (For Information of Convention.) n.p.n.d. 8 pp.

Being appendix pp. 17-22 inc. of Proceedings of the Fifth Convention.

Sigma Xi. Proceedings of the Fifth Convention. Held at Denver, August 28, 1901. (Printed by order of the Convention for the Information of the Chapters.) [Ithaca, N. Y.] n.d. 24 pp.

Sigma Xi. Proceedings of Sixth Convention. Held at Washington, D. C., December 30, 1902. n.p.n.d. 16 pp.
Including information of Chicago and Michigan Chapters organized May and June, 1903.

Sigma Xi. Proceedings of Seventh Convention. Held at Philadelphia, Pa., December 29, 1904. [Philadelphia, Pa.] n.d. 16 pp.

Constitution of the Society of the Sigma Xi. As amended in Convention August 23, 1899. Andrus and Church, [Ithaca, N. Y.] 1904. 30 pp.

Proceedings of Eighth Biennial Convention of the Society of the Sigma Xi. New York, December 31, 1906. With Statistic of the Chapters [for 1906-07] and List of Officers for 1907. n.p.n.d. 8 pp.

Published in December 1907; data corrected to November.

Constitution of the Society of the Sigma Xi. As amended in Convention August 23, 1899. n.p.n.d. 32 pp. [Lincoln, Neb.] With six appendices.

Proceedings of the Special Meeting of the Society of the Sigma Xi. Chicago, January 3, 1908. n.p. March, 1908. 16 pp.

On Page 3 of Proceedings of Tenth Convention of the Society of the Sigma Xi is this footnote: To avoid any possible confusion in the change from biennial to annual conventions this is numbered the tenth, although the special convention in Chicago was not styled the ninth in the published proceedings.

Proceedings of Tenth Convention of the Society of the Sigma Xi. Baltimore, January 2, 1909. n.p. April, 1909. 8 pp.

Proceedings of the Eleventh Convention of the Society of the Sigma Xi. Boston, December 29, 1909. n.p. April, 1910. 16 pp.

Proceedings of the Twelfth Convention of the Society of the Sigma Xi.

Minneapolis, December 30, 1910. n.p. March, 1911. 28 pp.

Society of the Sigma Xi. Report of the Committee for the Revision of the Constitution. n.p.n.d. 8pp. [Ithaca, 1911.]

Proceedings of the Thirteenth Convention of the Society of the Sigma Xi. Washington, December 28, 1911. Issued by the Recording Secretary, Cleveland, March, 1912. 28 pp.

## LIST OF PUBLICATIONS ABOUT THE SOCIETY

MARX, CHARLES D.

Preparatory Training for Scientific and Technical Studies. Paper delivered December, 1897, by Professor Charles D. Marx, C.E., Professor of Civil Engineering, Cornell University. The Academy, Syracuse, N. Y., March, 1888. Reprint. 18 pp.

McMahon, James

Sigma Xi. A Sketch of the Origin and Growth of the Society: Its Aims and Ideals. Cornell Alumni News, vol. 2, No. 31, pp. 207–208. May 16, 1900. [Unsigned.] Includes an extract from a private letter written by Frank Van Vleck in 1892 to the Corresponding Secretary, James McMahon, concerning the foundation of the Society.

Sigma Xi, At the American Association for the Advancement of Science. No signature. Science; new series, vol. 11, pp. 965–966. June 22, 1900.

Brief history, list of chapters and name of officers at date.

Sigma Xi, the American Association, and the Geological Society of America. Editorial. Journal of Geology, May-June, 1900, Vol. 8 pp. 359-361. Reprinted, as quoted article, with source, in Science, new series, vol. 12, pp. 196-197. August 3, 1900.

JORDAN, DAVID STARR

Comrades in Zeal. Popular Science Monthly, vol. 64, pp. 304–315. February, 1904. (Address at the first annual banquet of the Honorary Society of Sigma Xi, St. Louis, December 31, 1903.)

B[ENJAMIN], M[ARCUS]

Sigma Xi. Popular Science Monthly, vol. 69, pp. 281–282. September, 1906.

WARD, HENRY BALDWIN.

The Part of Sigma Xi in Scientific Education. Proceedings of the Society for the Promotion of Engineering Education, vol. 15, pp. 285–294. 1907.

## CONSTITUTION

OF THE

## SOCIETY OF THE SIGMA XI

AS AMENDED DECEMBER 28, 1911

## ARTICLE I

#### NAME AND OBJECT

Section 1. The name of this organization shall be the Society of the Sigma XI; its motto  $\Sigma \pi o \nu \delta \hat{\omega} \nu = \Sigma \nu \nu \hat{\omega} \nu \epsilon s$  Companions in Zealous Research.

SEC. 2. The object of this Society shall be to encourage original investigation in science, pure and applied, by meeting for the discussion of scientific subjects; by the publication of such scientific matter as may be deemed desirable; by establishing fraternal relations among investigators in the scientific centers; and by granting the privilege of membership to such students as during their college course have given special promise of future achievement.

### ARTICLE II

## CHAPTERS

SECTION 1. Chapters may be established at any institution offering courses of study in those subjects which it is the object of this Society to promote, provided that these courses are substantially equivalent to the usual four-year college course. [See Appendix I, II.]

SEC. 2. Alumni chapters may be established at any place other than an institution of learning on the application of not fewer than five alumni members of collegiate chapters; and such alumni chapters shall have all the powers and privileges of collegiate chapters except as here-

inafter provided.

SEC. 3. A petition for a charter for the establishment of a new chapter shall be communicated to the president of the Society, who shall refer it to the chairman of the Council. When the chairman shall have notified the president of the consent of three-fourths of the members of the Council, the president shall then refer the petition to the several chapters in good standing in the Society. No charter shall be granted without the consent of three-fourths of the Council, and of three-fourths of the chapters. The consent of a chapter shall only be given at a chapter meeting. In all chapters whose membership is fifty (50) or less, the quorum required in order to vote upon the admission of new chapters shall be one-half the active membership, and in all other chapters the quorum shall be twenty-five. Three-fourths of the votes cast must be in the affirmative in order to give consent.

SEC. 4. Chapters not reporting their votes on a question submitted by the Council within a period of six (6) months from the time the question is submitted, shall be regarded as having voted in the affirmative on said question. This amendment shall apply only to the votes of chapters on the admission of new chapters.

Sec. 5. A charter for the establishment of a new chapter shall be issued as soon as the president has received notification of the consent of

the requisite number of chapters.

Sec. 6. The form of charter shall be as follows:

To whom it may concern: Be it known that a Charter for the establishment of a chapter of the Society of the Sigma Xi at........ is hereby granted to the following persons as Charter Members, conveying to them and their duly elected associates and successors all the privileges conferred by the Constitution of the Society:

In witness whereof the signatures of the President and Secretary and the seal of the Society are hereunto affixed on this the \_\_\_\_\_\_ day of \_\_\_\_\_ in the year of our Lord \_\_\_\_\_.

SEC. 7. There shall be at least three meetings of each chapter during the college year.

## ARTICLE III

#### MEMBERSHIP

Section 1. The Society shall consist of active, alumni, and honor-

ary members.

Sec. 2 (a) The active membership of the chapter at any institution shall be composed of such resident professors, instructors, graduate students, and undergraduates as are members of the Society. The alumni membership of the chapter shall consist of former active members no longer connected with the institution, and such graduates as may be admitted to membership under the provision of Section 5; they shall have all the privileges of active members when present at any meeting of their chapter, except that they shall not vote at the election of new members. Members of any chapter who may become connected with another institution at which there is a chapter shall be entitled to enrollment as active members in the latter, on presenting satisfactory credentials.

(b) Membership of alumni chapters shall be composed of alumni members of collegiate chapters, and such graduates of other institutions of learning at which there are no chapters of the Society, as may be

elected to membership in the Society by alumni chapters.

SEC. 3. Honorary members shall be scientific workers, who have achieved eminence in some branch of pure or applied science. They shall be entitled to all the benefits of the Society, including the right to attend and take part in conventions and meetings, but not the right of suffrage.

Sec. 4. The following, and no others, are eligible to active membership in a chapter at any institution: (a) any professor or instructor of the institution who has shown noteworthy achievement as an original

investigator in some branch of pure or applied science; (b) as a non-resident member, any professor, instructor or investigator, connected with a neighboring educational, scientific, or professional institution not having a chapter, who would otherwise be eligible for active membership; (c) any resident graduate who has by actual work exhibited an aptitude for scientific investigation; (d) any undergraduate in the fourth year class, or else in the class substantially equivalent thereto, who has given promise of marked ability in those lines of work which it is the object of this Society to promote. [See Appendix I, II, VI.]

SEC. 5. Any graduate of the institution of not less than five years standing is eligible to membership on the same conditions as prescribed

for professors and instructors in (a) of Section 4.

## ARTICLE IV

#### ELECTION OF MEMBERS

SECTION 1. Active members shall be elected for any chapter by the active membership of such chapter in the manner to be hereinafter defined.

SEC. 2. The election of members, when performed by the active

membership as a body, shall be by ballot.

SEC. 3. When the election is according to Section 2 an affirmative vote of three-fourths of the active members present shall be necessary for election.

SEC. 4. When the active membership of a chapter exceeds twentyfour, the election of new members may be accomplished in the following

manner:

Nominations shall be made by active members in writing, presenting together with the name of the nominee full testimony of his eligibility signed by the nominator and a seconder. Such written nominations shall be sent to the chapter's recording secretary and by him forwarded to the chapter's president, who shall be chairman ex officio of a board of electors, of a membership fixed by the chapter, but which at no time shall be less than five in number. This board shall be selected from the active members by ballot at the annual election of the chapter's officers; vacancies occurring thereafter to be filled by the board itself. A unanimous vote of the above board shall be necessary for election. [See Appendix IV.]

SEC. 5. The number of undergraduates elected during any one year shall not exceed one-fifth of the senior class in the scientific and technical

courses.

SEC. 6. Honorary members shall be elected only at a convention of the Society, and by a vote of three-fourths of the delegates present.

## ARTICLE V

### INITIATION

SECTION 1. Such persons elected as provided for in Article IV, shall, before they exercise the privileges of membership, be initiated at such time after the election as the by-laws of each chapter shall designate, according to the following form:

## Form of Initiation.

SEC. 2 (a) The members-elect shall be ushered into the presence of the chapter by a marshal or marshals to be appointed by the president for the occasion.

(b) The president or his deputy shall explain the aims and objects

of the Society.

(c) The president shall next read the following pledge, to which each novitiate shall in turn assent as his name is called: Do you hereby pledge yourself to uphold the principles of the Society of the Sigma Xi, and assume the responsibilities incumbent upon active membership therein?

(d) The president then addressing those who have taken the pledge, shall formally pronounce them admitted to membership in the Society of

the Sigma Xi, and shall invite them to sign the constitution.

(e) Each new member shall affix his signature to the Constitution, and shall then receive from the president the certificate of membership.

(f) The president shall present the new members to the chapter. Sec. 3. Should any member-elect be unavoidably absent from the general initiation, he may, at the pleasure of the chapter, be provided with an opportunity to assent to the pleage given in Section 2 (c) and to sign the Constitution, and the president shall then formally admit him to the Society, and present him with the certificate of membership.

Certificates of Membership

SEC. 4. The certificate of membership of this Society shall bear the signatures of the president and secretary of the chapter, and the seal of the Society.

The form of the certificate should be as follows:

## ARTICLE VI

### INSIGNIA

Section 1. The badge or symbol to be worn by members of this Society shall be a gold watch-chain pendant, charm, or pin of octagonal shape, bearing the monogram of the Greek letter Sigma, superimposed upon the Greek letter Xi. The monogram may be jewelled, enameled, or embossed as desired. On the reverse side or back of the badge shall be engraved in the upper line the name of the college in which the owner was initiated, together with the date of such initiation. Also on the reverse, in the center shall be placed the chapter symbol in the middle of the numeral of the year in which such chapter was chartered. On the lower line shall be the owner's name, together with the numeral of the class in which he graduated and the name of such college where graduation took place. Provided that the continued use of the older design of the badge shall be optional with the several chapters.

SEC. 2. The colors of this Society shall be electric blue and white.

SEC. 3. The official letter head shall be the monogram of the So-

ciety.

Sec. 4. The Seal shall consist of a wreath of laurel, typifying the honorary character of membership in the Society, arranged as an oval enclosing the words "THE SOCIETY OF THE SIGMA XI" at the top, and the motto "Σπουδῶν Ξυνῶνες" at the bottom. These words shall form an inner oval concentric with the first, punctuated with ten stars, and enclosing a field illuminated by the lamp of research. Above the lamp in the field of illumination shall be placed the monogram "ΣΞ," and below it the date of foundation, 1886.

## ARTICLE VII

#### OFFICERS AND COUNCIL

SECTION 1. The officers of the Society and of each chapter shall be a president, vice-president, a recording secretary, a corresponding secretary, and a treasurer.

Election of Officers

SEC. 2. The officers of the Society shall be elected only at conventions. The terms of office shall be as follows:

President2	years
Vice-President2	vears
Recording Secretary	
Corresponding Secretary4	vears
Treasurer2	years

The term of office of the corresponding secretary shall begin at the close of the convention at which he is elected, and continue until the close of the second biennial convention after his election, or until his successor is elected.

The terms of the other officers shall begin immediately after their election, and continue until the close of the next biennial convention, or until their successors are elected.

SEC. 3. The officers of the several chapters shall hold office for

similar periods, unless otherwise provided for by the by-laws.

SEC. 4. A plurality of votes shall suffice for the election of any officer.

## Duties of Officers

SEC. 5. The duties of the officers of the Society and of the several chapters shall be those which usually pertain to the several offices. In addition thereto the corresponding secretary shall hold and preserve all the papers, except the current records, of the Society or chapter respectively.

## The Council

The Council shall be composed of the past presidents of the Society, the officers of the Society, ex officio, and an additional member to be elected by each chapter from its active members. The term of an elected member shall be three years; one-third of the elected members shall retire annually. Whenever a vacancy occurs, a successor shall be elected at once by the regular electors for the remainder of the term. The presi-

dent shall name one of the elected members as Chairman and a second member as Secretary to serve to the end of their terms as councilors.

## Duties and Powers of the Council

SEC. 7. (a) The Council shall be the executive committee of the Society.

(b) It shall advise on the general policy of the Society.

(c) It shall consider and vote on the granting of charters as provided for in Art. II, Sec. 3, and on the basis of the following recommendations:

1. That the Council, in determining the award of a charter to an institution, should give a close scrutiny to the facilities and opportunities of the institution for the advancement and encouragement of original research in the various branches of science, and to the qualifications of its scientific faculty to accomplish these ends.

2. That the number of distinct branches of science represented by full professors in the institution should be at least five; and these branches should include mathematics, physics, chemistry, biology (some

department of it), and engineering (some department of it).

3. That the number of graduate and resident members of the institution required to make the charter membership should be at the least ten; and of these not less than nine should be members of the instructing body; and each person should be adjudged by the Council to be fully worthy of membership in the Society.

(d) To meet the expenses of the Society, it shall have full power to levy assessments on all the chapters pro rata on the basis of active mem-

bership not to exceed fifty cents per active member per year.

(e) It shall submit to each chapter for approval all plans for extraordinary appropriations not covered by the previous paragraph (d). A three-fourths vote of the chapters shall be required for such approval.

(f) It shall nominate officers for the general society and shall notify each chapter of such nominations three months in advance of the time of election. Additional nominations may be made by any chapter or group of chapters, and notice of such nominations should be sent to each chapter six weeks in advance of the time of election.

## ARTICLE VIII

### CONVENTIONS

Section 1. A regular convention of the Society, consisting of delegates from each chapter, shall be held annually. Special conventions shall be called by the president on the written demand of one-third of the active chapters, and three months' notice of the date and special objects of such convention shall be sent to each chapter. [See Appendix V.]

## Delegates

SEC. 2. (a) Each chapter in good standing shall be entitled to a

representation of three delegates at each convention.

(b) The delegates representing any chapter shall be chosen from its active or alumni members; except that in case any chapter shall be un-

able to send its own members, it may appoint members of any other chapter as its representatives.

(c) In convention the votes shall be by chapters, each chapter hav-

ing one vote.

(d) The expenses of delegates shall be paid by the chapter sending them.

(e) Any vacancy caused by disability of, or resignation of the secretary, corresponding secretary, or treasurer, shall be temporarily filled by an appointment by the president until such office is filled by vote of the convention.

## Credentials

SEC. 3. (a) The appointment of each delegate shall be certified to by the secretary of the chapter appointing him, in a letter to the committee on credentials of the convention.

(b) These credentials shall be presented to this committee in person

by the delegate.

## Order of Business

SEC. D. (a) Appointment by the president of three members to serve as a committee on credentials.

(b) Report of committee on credentials.

(c) Reading of the proceedings of the last convention.

(d) Reading of the president's report.
(e) Reading of the treasurer's report.

(f) Reading by delegates of the chapter reports.

(g) Reading by the secretary of the reports of chapters having no delegates present.

(h) Reports of committees.

(i) General business.

(j) Election of officers.

(k) Selection of time and place for the meeting of the next convention.

(l) Adjournment of business meeting.

(m) Public session.

### Quorum

SEC. 5. Delegates from three-fourths of the chapters in good standing in the Society shall constitute a quorum at a convention.

### ARTICLE IX

#### EXPENSES

Section 1. Expenses of the Society which shall be voted by conventions shall be met by an assessment on the several chapters, *pro rata*, on the basis of their active membership.

## ARTICLE X

### AMENDMENTS

Section 1. This Constitution may be altered or amended at a convention, by a vote of two-thirds of the chapters represented.

Amendments can be brought before the convention only

when recommended by some chapter.

SEC. 3. Notification of any proposed amendments to this Constitution must be sent to each chapter by the corresponding secretary of the Society, at least three months before the time of the convention at which such amendments are to be considered.

## APPENDICES

The following appendices consist of extracts from the Society's convention records bearing on matters of general policy and adminis-They have regularly been printed in the pamphlet entitled Constitution of the Sigma Xi and have been regarded as expressions of policy by the General Convention for the general advice of individual chapters.

APPENDIX I

Report of the committee on policy of extension, Convention of 1895 "The policy of the Society in the establishing of new chapters is a

matter of vital importance to its future growth and standing.

"The Society was established in 1886 by a few earnest workers in the engineering sciences, as a means of rallying and encouraging those qualities which were deemed of the first importance in their own lines of investigation. It soon became broadened and enlarged to represent the general ideals of highest scholarship in the minds and before the ambitions of every earnest student in any branch of science. It proposed to recognize and elect to its membership those men in our institutions of learning who should exhibit in a marked degree the qualifications of natural endowment and training required for successfully conducting original research in the various branches of science.

"Thus original research bears the same relation to Sigma Xi as literary scholarship does to Phi Beta Kappa; and it is believed that the cause of original research, and that part of the higher education which trains the qualities required in scientific pursuits, will be benefited by honoring with election to Sigma Xi those men who during their college

course show marked proficiency in these directions.

"In founding new chapters the Society should realize its responsibility and should not grant a charter to every institution that may think itself properly equipped to teach science; but on the contrary great care is necessary in establishing chapters, in order to ensure the proper discrimination of men who are to go forth as representatives of the best results of scientific education in the United States. To attain these ends our policy should be eminently and sternly conservative, while at the same time we should be fully alert and sensitive to the needs of progress in science and education.

"We should not plant the Society in any institution which has not already developed a clear appreciation of the dignity and needs of the scientific education, and a vivid realization of the distinction between scientific and literary ability. In order to make Sigma Xi an honor society it is essential that the men of first rank in the institution be given election, and this will not be possible where Phi Beta Kappa sets the only standard of excellence, and scientific men are ranked as only second

to literary scholars.

"In establishing a new chapter, therefore, we should not take into consideration any claim of advantage to accrue to the institution by such chapter, or any mere desire of individuals to become members of the Society; but in each case we should make sure that we entrust the power of distributing the honor of membership only to such persons and institutions as are capable of giving the education and training necessary to the carrying on of scientific investigation, and as have shown by their organization and equipment that they know the requisite qualifications, and are likely to confer the honor where it properly belongs.

"We should not only look for this active and pervasive spirit of research, but we should also be well assured of the hearty co-operation of the scientific faculty in the establishment of the local chapter, and in maintaining its standing in harmony with the interests of the Society."

## Recommendations, Convention of 1895

"In order to secure these ends, upon motion of the chairman pro tempore, the following recommendations were adopted, regarding the

policy of the Society in establishing new chapters:

"(1) That the Council, in determining the award of a charter to an institution, should give a close scrutiny to the facilities and opportunities of the institution for the advancement and encouragement of original research in the various branches of science, and to the qualifications of its scientific faculty to accomplish these ends.

"(2) That the number of distinct branches of science represented by full professors in the institution should be at least five; and these branches should include mathematics, physics, chemistry, biology (some

department of it) and engineering (some department of it).

"(3) That the number of graduate and resident members of the institution required to make up the charter membership should be at least 10; and of these not less than 9 should be members of the instructing body; and each person should be adjudged by the Council to be fully worthy of membership in the Society."

### APPENDIX II

Extract from presidential address, Convention of 1897

"The Society, if rightly guided, may take a place of leadership in the movement now going on to place science on an equality, so far as it deserves it, with literature as an element in the highest liberal education. Science at present owes its place in the higher education rather to its value as a direct means of attaining success in practical ways than to its value in general education. As such, science is to be compared rather with law, medicine or theology—technical fields of study, than with language, literature and philosophy, which are the essential factors of a liberal education.

"The time has come for making a permanent place for science among those latter factors of the modern liberal education. In shaping the future policy and extension of Sigma Xi, this thought, if correct, should be kept in mind: Phi Beta Kappa stands for the traditional conception of

the liberal culture, in which precedence is given to literature and what literature contains. In order to win a permanent place for science in that ideal education, it must be demonstrated that the study of science contributes a factor to this ideal which is not and cannot be furnished by the literary branches. This quality we believe to be found in the ability

and promise of original research.

"In extending the Society we should realize the importance of holding up this educational position of science for recognition and honor. The practical side of science is felt and appreciated more in the institutions of the West where progress and activity are more vigorous; the value of a broad and liberal education is more deeply appreciated in the East where competition is closer and where the machinery of society and custom is more rigid and exacting. Our ideal for science is broader than either of these. We would exalt the scientific study of things by giving it a place of honor among the humanities of a liberal culture, and we would give new vigor to scholastic study by infusing into it the live practical problems of modern science."

## APPENDIX III

Extract from records, Convention of 1897

"Some discussion arose as to the use of Greek letters for designating the chapters. It was moved and carried that any officer may when he pleases use the ordinary (or geographical) name of a chapter instead of its Greek letter."

## APPENDIX IV

Extract from records, Convention of 1899

"The following resolution was moved and carried: That the Society suggests to the several chapters that when the method of election is employed as provided for in the Constitution, Article IV, Section 4, as amended in 1899, the action of the board of electors be referred to the chapter for formal ratification."

### APPENDIX V

Extract from records, Convention of 1899

"Moved and carried that the regular time of the meeting of the conventions of the Society be the Tuesday evening of the week of meeting of the American Association for the Advancement of Science, and the place be the meeting place of the Association, unless otherwise provided for by the officers of the Society."

## APPENDIX VI

Extract from address of President Williston, Convention of 1902

"The object of the Society is to weave a closer bond between those actuated by the desire of adding to the world's knowledge in science, or of making the world better because of science; to encourage the student in the pathway he has chosen; to support by mutual counsel;

and to remove obstacles by a union of strength—in other words, to coordinate, to unify and to promote the spirit of scientific research in the

University.

"The pathways of science are already so diverse that we catch but brief glimpses of each other through the tangled growth of unexplored forest—we are constantly forgetting in our own zeal that there are others near by who are as zealous as we, and there seems to be no better way in the University by which we may be occasionally brought into the clearings for mutual advice. As teachers, the one chief bond between us is the training of the young in science—and what is the good of all our labor unless we help others to do better than we have done? It is the mission of the Sigma Xi to draw this bond more closely, to let us not forget that we are teachers above all else.

"Permit me, therefore, to urge upon all the chapters the greater development of the educational and social side of our fraternity . . . I believe that the students should be elected to membership as early as possible, and be given the privileges of companionship and counsel while yet they are of most benefit to them . . . Such a custom is almost sure to bring about greater enthusiasm among both students and faculty, a more full attendance at the meetings, and what is best of all, permits a closer personal relationship between instructors and students . . . .

"The Society has served a most useful purpose in bringing into closer relationships not only those who are interested in the discovery of new truths, but also those who seek the new application of old truths. I believe that the full and sympathetic association of the students in all branches of scientific work should be continued—more indeed now than ever before, since the trend of college education is to differentiate early along the lines of professional education. The Society should be further extended among our chief technological schools, schools that are destined to exert a still more powerful influence in the future."

## APPENDIX VII

Extract from records, Convention of 1911

Instructions to the Council regarding admission of chapters: that at any petitioning institution there shall be a satisfactory and continuous output of research work.



# THE CHAPTERS OF THE SOCIETY OF THE SIGMA XI

## **ABBREVIATIONS**

Used with names given under chapter headings

A Elected as alumni member of chapter

C Charter member of chapter.

- F Faculty member of chapter G Elected as graduate student member of chapter
- U Elected as undergraduate student member of chapter
- 1907 etc., Year of election to membership in chapter

\* Biography in American Men of Science † Biography in Who's Who in America

† Biography in Who's Who in America
() Indicates membership in another chapter, the name of which is included within the parentheses

## ALPHA CHAPTER

CORNELL UNIVERSITY, ITHACA, NEW YORK

Parent Chapter

Founded November, 1886

#### HISTORICAL SKETCH

Sigma Xi arose out of the desire for comradeship in a small group of earnest and scholarly university men, whose tastes and training were along engineering and scientific lines and who found their intellectual ideas not altogether in sympathy with the old established ideals of literary scholarship. They were beginning to realize that the American college is but the culmination of the disciplinary training of the high school, and were quite unconsciously formulating for American education the true university spirit. Although effort had often been put forth to establish an intercollegiate, scientific society, such a body did not come into actual existence until the founding of the Alpha Chapter of this

organization.

In the spring of 1886, Mr. William A. Day, a member of the senior class in the Sibley College of Mechanical Engineering at Cornell, suggested the idea of a scientific Phi Beta Kappa to Professor Van Vleck of Sibley College. It is on record that the conversation took place as the two were climbing Buffalo Hill and that before they parted they went to Mr. Van Vleck's room and outlined an organization and a plan of campaign. Seven other members, namely: William H. Riley, Harry E. Smith, William A. Mosscrop, Charles B. Wing, John Knickerbocker, John J. Berger, and Edwin N. Sanderson, of the classes of 1886 and 1887, were taken into their confidence. Of the nine original members five were in the course of mechanical and four in that of civil engineering. One of them had previously studied at Stevens Institute of Technology and at Johns Hopkins University, and three at Rensselaer Polytechnic Institute.

A meeting was soon held at which a temporary organization was effected, Mr. Van Vleck being chosen president.\* Although not on record officially, it is, however, generally understood that the late Robert Henry Thurston, then Director of Sibley College, gave much encouragement and advice.

It seems that the idea of these nine projectors did not extend beyond the engineering departments. It so happened that Professor Henry Shaler Williams, at that time head of the department of Geology, was planning the organization of a similar society in his own branch of science. A conference was soon brought about at which Professor Williams successfully urged the formation of a single society to include all

<sup>\*</sup>The minutes of this and of the several subsequent meetings in which the organization was perfected are still in the possession of the Alpha Chapter, and form a part of its permament records.

departments of pure and applied science. Because of this effort, Professor Williams is generally regarded as one of the ten founders of Sigma Xi, these being symbolized by the ten stars on the seal.\* The organization now being in permanent form, Professor Williams was, at the sixth meeting, held May 20, 1887, elected the First President of the Society. The other officers were: Vice-President, F. Van Vleck; Recording Secretary, C. D. Marx; Corresponding Secretary, C. B. Wing; Treasurer, A. W. Smith.

In shaping their constitution these founders sought to emphasize the spirit which drew them together rather than the different aims by which they were personally distinguished. This was the spirit of independent investigation and research—of seeking out and knowing for oneself, as contrasted with learning the traditions of the past. It was a formal embodiment of the "zeitgeist" whose eyes are turned forward, not backward. It is a significant fact that in making elections of new members, the prominent qualification has been, not the acquired knowledge of the candidate, but the shown ability to learn and to progress. Such are true university men, whether they carry on their investigations inside university walls or outside in the busy world of practical life. Although the founders were not fully aware of it, the result has shown that they stood at the parting of the ways for higher education in America.

During the academic year of 1886-7 twelve professors from the various scientific departments, four resident graduates, nine non-resident alumni, and six members of the graduating class were elected. A provisional constitution, which provided for the establishment of other chapters and for a biennial convention, was adopted. Four chapters in other

institutions were organized, two of which are now extinct.

In commencement week of 1887, Professor H. S. Williams delivered the inaugural address, entitled The Ideal Modern Education, in which he set forth the aims and objects of the new society. From the time of its organization until the first formal convention (1893) the Alpha Chapter

was the controlling body.

The first convention met in the architectural lecture room of Cornell University, May 17, 1893, under the presidency of Professor E. L. Nichols. Delegates were present from four chapters, viz.: Cornell, Union, University of Kansas, and Rensselaer Polytechnic Institute. The essential work of this meeting was the adoption, with slight modifications,

of the constitution previously prepared by the Alpha Chapter.

Up to the time of this first convention, the history of the society was largely a history of the Alpha Chapter. Since then, however, the Alpha Chapter has been only one of an ever increasing number of chapters, with a history that presents no especially interesting details. Its membership, active and alumni, is nearly one thousand. It has had, up to the present time (1911), over one hundred and forty meetings, including the initial meetings of organization, previously mentioned. A large number of these meetings have been lectures to which the general public were invited.

(\*) See Art. VI, §4 of the Constitution, p. 49.
(†) Those at Stevens Institute of Technology, Hoboken, N. J., and Ruters College, New Brunswick. N. J.

At the time Sigma Xi was founded tradition and authority had been the dominant factors in estimating the quality of scholarship. As our Society has grown, and has become a prominent factor in most of our universities, men have come to know that knowledge of the present is far more important than tradition—that individual discernment, power of initiative, and honesty, surpass all authority in the equipment of a scholar of the new sort.

This characteristic of the Sigma Xi spirit is, however, to be distinguished from the "commercial" tendency which was evident in the sturdy engineering students of that time, and the Society stood for intellectual

energy rather than sordid ambition.

Although the founders were preparing to use their intellectual training and equipment in the practical affairs of life, and expected to reap personal benefit from such application, they realized that success was to be the outcome of properly applied energies, and that nature was not to be conquered by any kind of sophistry, but by the application of skill and energy in discovering and utilizing her boundless resources. The spirit which dominated in the founding of Sigma Xi, already is dominating the higher universities of America, and the scholar of this new type is taking his place of leadership in all the progress of the new era.

H. S. W. AND J. MCM.

### **PUBLICATIONS**

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versity. June 9, 1900. pp. 16.

President's Address to the Cornell Chapter of the Sigma Xi. George F. Atkinson, Ph. B., Professor of Botany in Cornell University. June

8, 1901. pp. 10.

President's Address to the Cornell Chapter of the Society of the Sigma Xi. Veranus A. Moore, B. S., M. D., Professor of Comparative Pathology and Bacteriology, Cornell University. June 6, 1903. pp. 13.

By-Laws of the Alpha Chapter of the Society of the Sigma Xi. pp. 7

n. p. n. d.

By-Laws of the Alpha Chapter of the Society of the Sigma Xi. (As

revised 1897) pp. 7. n. p. n. d.

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Sigma Xi. Resident Members of the Cornell Chapter 1909-1910. pp. 4. n. p. n. d.
Sigma Xi. Resident Members of the Cornell Chapter 1911-1912. pp. 4. n. p. n. d.

## OFFICERS FOR 1911-12

President Heinrich Ries
Vice-President Ernest Blaker
Recording Secretary FLOYD KARKER RICHTMYER
Corresponding Secretary JAMES MCMAHON
Treasurer WILLIAM ALBERT RILEY
Councilor HENRY SHALER WILLIAMS

## MEMBERSHIP ROLL

Fred Lee Ackerman U 1901 Edmeston, N. Y.
Architect

Arthur Adams U 1901 Halifax, N. S.

Arthur Adams U 1901 Halif Consulting Engineer

Edward Thomas Adams U 1894 Palo Alto, Cal.
Oscar Perry Akers G 1904\* Meadville, Pa.

Professor of Mathematics, Allegheny College
Calvin Dodge Albert F 1908 Ithaca, N. Y.

Assistant Professor of Machine Design, Cornell University

Maximilian Claude Albrech U 1906 Pittsburgh, Pa. Chief Chemist, Food and Drug Inspection Laboratory

Charles Anderson Alexander U 1897
Mechanical Engineer and Contractor

Batavia, N. Y.

Anna Allen U 1909 Ithaca, N. Y. (Mrs Albert Hazen Wright) Assistant in Zoology, Cornell University

Arthur Augustus Allen U 1907 Ithaca, N. Y. Instructor in Vertebrate Zoology, Cornell University

Caroline Louise Allen U 1904 Albany, N. Y. (Mrs Frederic G Dunham)

Frank Allen G 1900\* Winnipeg, Canada Professor of Physics, University of Manitoba

William Daniel Allen U 1906 Silver Lake, Col.
Manager, Arawatz Mining Company

William Gordon Allen U 1904 Seneca Falls, N. Y. Salesman, Gould's Manufacturing Company

William Ambler U 1900 (Case CF 1904) Cleveland, Ohio

The Ambler Realty Company

Adeline Sarah Ames G 1911 Normal, Neb.

Walter Otto Amsler U 1895 Pittsburgh, Pa.
Scientist

Leroy Anderson U 1902\* (California F 1908) Berkeley, Cal.
Professor of Agriculture, University of California

Ross Peter Anderson G 1910 Instructor in Chemistry, Cornell University

ALPHA CHAPTER G 1911 Houghton, Mich. William Anderson Instructor in Physics and Electrical Engineering, Michigan College of Mines F 1892\*† (Stanford CF 1902) Palo Alto, Cal. Professor of Psychology, Leland Stanford Junior University F 1887\*† William Arnold Anthony (Deceased 1908) G 1909 Tokio, Japan Bunrokn Arakawa Professor of Engineering Philadelphia, Pa. Alexander Floyd Armstrong U 1901 Civil Engineer, Sun Company G 1888\*† Lafayette, Ind. Joseph Charles Arthur Professor of Botany, Purdue University Ithaca, N. Y. George Francis Atkinson G 1888\*† Professor of Botany, Cornell University U 1907 Elmhurst, Long Island, N. Y. Herbert Sidney Austin Engineer New York City G 1895 William Eugene Austin Architect Cleveland, Ohio Augustine Ridenour Ayers U 1899 Mechanical Engineer, Lake Shore and Michigan Southern Railroad Company Hiram Douthitt Ayres G 1904 Ithaca, N. Y. Instructor in Physics, Cornell University U 1906 (Missouri F 1908) Columbia, Mo. Lee Seldon Backus Instructor in Veterinary Science, University of Missouri Florence (Winger) Bagley G 1901\* Urbana, Ill. (Mrs William Chandler Bagley) G 1900\*† (Illinois F 1910) Urbana, Ili. William Chandler Bagley Director of School of Education, University of Illinois F 1891\*† Ithaca, N. Y. Liberty Hyde Bailey Dean, College of Agriculture, Cornell University Alvin Walter Baird U 1905 Portland, Ore. Lecturer in Surgery, University of Oregon G 1902\* (Illinois F 1906) John Wallace Baird Worcester, Mass. Professor of Psychology, Clark University Linnaeus Earl Baker U 1904 Gas Power Specialist U 1897 Homer Gage Balcom

Lafayette, Ind.

New York City

Balcom and Darrow, Consulting Engineers Caroline Willard Baldwin G 1895 Palo Alto, Cal.

(Mrs Charles Theobald Morrison)

Wesley Manning Baldwin U 1907\* New York City Instructor in Anatomy, Cornell Medical College

Albert Ball U 1901 New York City Teacher, Cooper Union

 Norman Frank Ballantyne U 1893 Westmount, Que. Designer

Assistant Entomologist, Bureau of Entomology

U 1889\*†

F 1905\*

Washington, D. C.

Ithaca, N. Y.

Nathan Banks

William Nichols Barnard Professor of Steam Engineering, Cornell University Ithaca, N. Y. F 1906 Fred Asa Barnes Assistant Professor of Railroad Engineering, Cornell University Columbus. Ohio U 1901 Lelia (Harvie) Barnett (Mrs Samuel Jackson Barnett) G 1897\* (Stanford CF 1902) Columbus, Ohio Samuel Jackson Barnett Assistant Professor of Physics, Ohio State University Pittsburgh, Pa. Jesse Edmund Barney IJ 1899 Engineer, Westinghouse Electric and Manufacturing Company G 1887\*† New York City John Henry Barr Consulting Engineer, Union Typewriter Company Sydney, N. S. W. G 1894 Samuel Henry Barraclough Professor of Engineering, University of Sydney U 1906 Nunda, N. Y. John Hall Barron Agriculturist Ithaca, N. Y. Mortier Franklin Barrus G 1910 Assistant Professor of Plant Pathology, Cornell University G 1908\*† Brooklyn, N. Y. Elias Hudson Bartley Professor, Long Island College Hospital Calvin Lewis Barton U 1899 New York City Engineer and Contractor, McHarg-Barton Company U 1903 Mexico, Mex. Isaac M Baum Manager, Mexican National Gas Company U 1905 John Andrew Baumgardner Flint, Mich. Director of Laboratory, Buick Motor Company Agnes Sime Baxter G 1894 Columbia, Mo. (Mrs Albert Ross Hill) A 1888 Willard Beahan Cleveland, Ohio First Assistant Engineer, Lake Shore and Michigan Southern Railroad Alvin Casey Beal G 1911 Ithaca, N. Y. Assistant Professor of Floriculture, Cornell University Bergie Barrie Beckett U 1904 Seattle, Wash. Manager, Seattle Office, Pierson, Roeding and Company Elias Hyrum Beckstrand G 1901 Salt Lake City, Utah Professor of Mechanical Engineering, University of Utah Frederick Bedell G 1891\*† Ithaca, N. Y. Professor of Applied Electricity, Cornell University Raynor Monroe Bedell II 1902 Montclair, N. J. Engineer James Munsie Bell G 1903\* Chapel Hill, N. C. Associate Professor of Chemistry, University of North Carolina Ruby Green Bell F 1905 (Stanford G 1904) Ithaca, N. Y. (Mrs Albert William Smith)

New York City

Mark Anthony Beltaire, Jr TJ 1902 Danbury, Conn. Operating Department, Railway Steel Spring Company U 1897 Lake Linden, Mich. Centennial Harry Benedict Engineer, Calumet and Hecla Mining Company Charles William Bennett G 1910 Ithaca, N. Y. Instructor in Chemistry, Cornell University G 1901\* Knoxville, Tenn. Gordon Mansir Bentley State Entomologist, University of Tennessee F 1898\* Ithaca, N. Y. Isaac Madison Bentley Assistant Professor of Psychology, Cornell University U 1898 Wilton Bentley Chicago, Ill. President, Bentley, Snyder Company John Robert Benton Gainesville, Fla. Professor of Physics and Electrical Engineering, University of Florida John Jacob Berger CU 1886 (Deceased 1899) John McWilliams Berry U 1897 Albany, N. Y. Physician and Surgeon, Albany Hospital Maxwell Rufus Berry U 1903 Detroit. Mich. President, Electric Products Company East Orange, N. J. TJ 1904 Morphy Edison Berry Chief Inspector, Western Electric Company Lyman Austin Best U 1888 Brooklyn, N. Y. Educator G 1905\* Cornelius Betten Lake Forest, Ill. Professor of Biology, Lake Forest University New York City Hermann Michael Biggs A 1888\*† Medical Officer, City Department of Health Goldyke, Nev. Wheeler Scott Bishop TI 1905 Metallurgist Frank Edward Bissell Akron, Ohio Chief Engineer, Akron, Canton and Youngstown Railroad East Lansing, Mich. George Welton Bissell U 1888\*† Dean of Engineering, Michigan Agricultural College James Adrian Bizzell G 1903\* Ithaca, N. Y. Assistant Professor of Soil Technology, Cornell University John Alexander Black G 1908 Ithaca, N. Y. Assistant in Chemistry, Cornell University Edwin Mortimer Blake G 1900\* New York City Ernest Blaker G 1899\* Ithaca, N. Y. Assistant Professor of Physics, Cornell University Robert Byron Blakeslee U 1899 Du Bois, Pa. Superintendent

U 1905

Nora Stanton Blatch

(Mrs Lee De Forest)

00		
George Frederick Blessing Professor of E	F 1907 Engineering, Swarthmore C	Swarthmore, Pa.
Julia Norum Blight Instructor	U 1902 in Mathematics, High Scho	Batavia, N. Y.
Bryant Harmon Blood Superinten	U 1889 dent, The Celluloid Compa	Newark, N. J.
Louis Frederick Blume Engineer	G 1909 General Electric Company	Pittsfield, Mass.
Donaldson Bodine Professor	G 1894* of Zoology, Wabash Colle	Crawfordsville, Ind.
Carl Winter Boegehold Mechanical Engin	U 1906 neer, Deane Steam Pump	Holyoke, Mass. Company
Elizabeth May Bolger (Mrs Oswald Milligan)	U 1906	Philadelphia, Pa.
August Bostroem, Jr	U 1906 Inspector, U. S. Navy Ya	New York City
Anna Botsford (Mrs John Henry Comstoc	A 1888*† k) Lecturer in Nature Stud	Ithaca, N. Y. ly, Cornell University
George John Bouyoucos Research Assis	G 1911 tant, Michigan Agricultural	East Lansing, Mich. College
Charles Herbert Boxmeyer	G 1901 Physician	Detroit, Mich.
James Ellsworth Boyd Professor of 1	G 1896* (Ohio CF 1898 Mechanics, Ohio State Uni	) Columbus, Ohio versity
Paul Prentice Boyd Professor of	G 1911 Mathematics, Hanover Col	Hanover, Ind.
Elisabeth Harwood Boynton (Mrs Frederick Vernon Co		Washington, D. C.
Margaret Fursman Boynton (Mrs Phineas Lawrence	U 1895 (Illinois A 1909 Windsor)	Urbana, Ill.
James Chester Bradley Assistant Professor of Enton	U 1906* (California G : nology, College of Agricultu	
John Casper Branner Professor of Geolo	A 1887*† (Stanford CF gy, Leland Stanford Junio	
Percy Lewis Braunworth Farley and B	U 1906 Braunworth, Consulting Eng	Trenton, N. J.
Clarence Edward Breckenrid	ge U 1900 Mechanical Engineer	Flushing, N. Y.
Frank Breed Stu	U 1911 dent, Cornell University	Ithaca, N. Y.
John Cromwell Breedlove Assistant Enginee	U 1902 er, Northern Pacific Railwa	Tacoma, Wash.
Herman George Breitwieser	U 1902 Electrical Engineer	Brooklyn, N. Y.
Charles Edward Brewer Professor of	G 1900* Chemistry, Wake Forest C	Wake Forest, N. C.

ALTH	A CHAITER	07
	1911 Chemistry, Cornell Univer	Ithaca, N. Y.
	1891 , Construction Engineers	Chicago, Ill.
	1899 Ce ory, Storage Batteries, et	dar Rapids, Ia. c.
	1906 Sagua L Ruiz and Taylor, Contracto	a Grande, Cuba rs
	1909 Cornell University	Ithaca, N. Y.
Mortimer Jay Brown G	1911 Niag	ara Falls, N. Y.
	1898 (Ohio CF 1898) Ingineering, University of	Austin, Tex. Texas
	1898* (Indiana F 1906) Bl Chemistry, Indiana Univer	
Arthur Wesley Browne G 1 Professor of Inorganic and An	1903* alytical Chemistry, Cornell	Ithaca, N. Y. University
	1895 s, Wadleigh High School	New York City
	1890 Architect	New York City
Alexander Watson Buchanan U.S. Secretary and General Man	1887 Lo nager, American Conduit C	s Angeles, Cal.
	1904 Farmer	Hysham, Mont.
Albert George Frederick Buehler U. Instructor in Civil Eng	1911 gineering, Cornell Universi	Ithaca, N. Y.
Christian Rudolf August Bües U. Gene	1906 ral Manager	Lima, Peru
	1902 ay Kimball Hospital	Putnam, Conn.
	1906 r, U. S. Custom House	New York City
	1902* Pathology, Cornell Univer	Ithaca, N. Y. sity
	1904 Constan American College for Girl	tinople, Turkey s
Herbert Farwell Burrage (Deceased 1906)	1892	
	1898 I Swazey Company	Cleveland, Ohio
Austin Burt U Engineer and General Superintend	1900 dent, Citizens Gas and Ele	Waterloo, Ia. ectric Company
Physician and Professor of	1903* Physiology, University of	Buffalo, N. Y. Buffalo
	1902 Mid terinarian	ldletown, Conn.

Albert Hotchkiss Chandler

Washington, D. C. U 1905\* Bert S Butler Assistant Geologist, U.S. Geological Survey Los Gatos, Cal. G 1909 Ormond Butler New York City A 1888 Edward Caldwell Treasurer, McGraw-Hill Book Company Columbus, Ohio II 1890\* (Ohio CF 1898) Francis Cary Caldwell Professor of Electrical Engineering, Ohio State University George Chapman Caldwell F 1887† (Deceased 1907) G 1895\*† Washington, D. C. Frank Kenneth Cameron Soil Chemist, Bureau of Soils, U. S. Department of Agriculture U 1906 Milwaukee, Wis. Allan Harry Candee Sales Engineer, H. W. Johns-Manville Company William Cargill Capron U 1908 Ithaca, N. Y. Instructor in Engineering, Cornell University Fred Wallace Card G 1893 (Nebraska CF 1897) Sylvania, Pa. Farm Management TI 1895 Parkersburg, W. Va. Samuel Peaslee Carll Oil Business G 1905\* Frank Carney Granville, Ohio Professor of Geology, Denison University Clinton Arthur Carpenter U 1905 Chicago, Ill. Electrical Engineer, D. H. Burnham and Company Rolla Clinton Carpenter F 1891\*+ Ithaca, N. Y. Professor of Experimental Engineering, Cornell University Leonard Jarvis Carr U 1901 (Deceased 1902) William Massey Carruth U 1901\* Clinton, N. Y. Assistant Professor of Mathematics, Hamilton College Effie Adeline Carter U 1898 Brooklyn, N. Y. Teacher, Girls' High School Walter Buckingham Carver F 1909 Ithaca, N. Y. Assistant Professor of Mathematics, Cornell University Hector Russell Carveth U 1898\* Niagara Falls, N. Y. Works Manager, Niagara Electrochemical Company George Whitman Casey A 1888 Philadelphia, Pa. Architect George Walter Cavanaugh F 1911 Ithaca, N. Y. Professor of Chemistry, Cornell University Frank Wilbut Chamberlain U 1906 Burlington, Vt. Veterinary Ralph Vary Chamberlin G 1903\* Salt Lake City, Utah Professor of Zoology, University of Utah Emile Monnin Chamot U 1891\* Assistant Professor of Sanitary Chemistry and Toxicology, Cornell University

II 1902

Assistant Engineer, Topographical Bureau

New York City

Ames, Ia.

ALPHA CHAPTER 69 F 1907 (Brown G 1906) Horace Edward Chandler Weihsien, China Instructor in Physics, Shantung Christian University Richard Edward Chandler G 1897 Stillwater, Okla. Dean of Engineering, Oklahoma Agricultural and Mechanical College TI 1900 Carlton Thorp Chapman Rochester, N. Y. Treasurer and Engineer, Rochester Structural Steel Company Vera Katharine Charles U 1903 Washington, D. C. Scientific Assistant, U. S. Department of Agriculture Clement Dexter Child G 1894\*† Hamilton, N. Y. Professor of Physics, Colgate University Irving Porter Church Ithaca, N. Y. Professor of Applied Mechanics and Hydraulics, Cornell University William Wilberforce Churchill TI 1889 (Deceased 1910) Ella Maude Cipperly U 1904 Wellesley, Mass. (Mrs Earl McKay Wiegand) Instructor in Botany, Wellesley College Charles Frederick Clark G 1906 Ithaca, N. Y. Assistant Agronomist in Experiment Station, Cornell University Dean Clark U 1899 Syracuse, N. Y. Operative Manager, Smith Premier Typewriter Company Ida Adella Ross Clark U 1900 Rome, N. Y. (Mrs J Edwin Clark) John Powell Clark TI 1906 New York City Assistant Teacher, Stuyvesant High School Judson Freeman Clark G 1899 Vancouver, B. C. Forest Engineer Tracy Earl Clark G 1894 Brooklyn, N. Y. Physician, Professor of Physiology, Brooklyn College of Pharmacy William Alexander Graham Clark U 1900 Washington, D. C. Textile Expert, Tariff Board Edgar Whitney Clarke U 1905 Assistant Superintendent, Mechanical Department Agnes Mary Claypole G 1894\*† Berkeley, Cal. (Mrs Robert Orton Moody) Edith Jane Claypole G 1893\*† Pasadena, Cal. Physician William Weber Coblentz G 1901\* Washington, D. C. Assistant Physicist, Bureau of Standards, U. S. Department of Agriculture G 1906\* Berkeley, Cal. Associate Professor of Pomology, University of California U 1902 Portland. Ore. U 1894 Providence, R. I.

Orln B Coldwell Janet (Sheldon) Collier (Mrs Theodore Frelinghuysen Collier) U 1895 Milwaukee. Wis. Secretary and Superintendent, Sivyer Steel Casting Company

Assistant Professor of Mathematics, Iowa State College

G 1900

Julia Trueman Colpitts

U 1906 Washington, D. C. Robert Coltman, Jr Superintendent of Construction of Washington Cathedral Anna Botsford Comstock A 1889\*† Ithaca, N. Y. (Mrs John Henry Comstock) Lecturer on Nature Study, Cornell University Charles Worthington Comstock F 1895\* State Engineer of Colorado CF 1886\*† Ithaca, N. Y. John Henry Comstock Professor of Entomology, Cornell University A 1887\*† Los Angeles, Cal. Theodore Bryant Comstock Chief Engineer, Board of Public Utilities George Dyer Conlee G 1908 Binghamton, N. Y. General Superintendent, Binghamton Gas Works G 1910 Geneva, N. Y. Harold Joel Conn Associate Bacteriologist, Agricultural Experiment Station John Sayler Coon A 1888\*† Atlanta, Ga. Professor Mechanical Engineering, Georgia School of Technology Ralph Stuart Cooper U 1903 New York City Eastern Sales Manager, Independent Pneumatic Tool Company Clement Austin Copeland U 1896 Oakland, Cal. Consulting Electrical Engineer Charles Lorin Cornell U 1889 New York City Treasurer, Niles Bement Pond Company, Pratt and Whitney Company Eugene Rollin Corson A 1888\*† Savannah, Ga. Physician and Surgeon, Savannah Hospital Grant Adelbert Covell U 1887 Corvallis, Ore. Dean, School of Engineering, Oregon Agricultural College Elisabeth Boynton Coville U 1889 Washington, D. C. (Mrs Frederick Vernon Coville) Frederick Vernon Coville U 1887\*† Washington, D. C. Botanist, U. S. Department of Agriculture Luzerne Coville A 1892\* Ithaca, N. Y. Physician Harriet (Lyndon) Cowell U 1906 Philadelphia, Pa. (Mrs Arthur Westcott Cowell) Mary (Nichols) Cox G 1896 Chappaqua, N. Y. (Mrs John Cox, Jr) Warren Moore Craft G 1894 New York City Engineer, American Telephone and Telegraph Company John Craig F 1901\*† Ithaca, N. Y. Professor of Horticulture, Cornell University James Ray Craighead U 1906 Schenectady, N. Y. General Electric Company John Jay Crain U 1896 Quincy, Mass. Electrical Engineer, Fox River Shipbuilding Company L D Crain G 1902 Fort Collins, Col.

Hardware Merchant

Ithaca, N. Y.

Thomas G Delbridge F 1904 (Union G 1903) Instructor in Chemistry, Cornell University Assistant Professor of Engineering, Carnegie Technical Schools A 1887\*†

Director, Servico Geologico e Mineralogico G 1898

Professor of Experimental Engineering, Cornell University

Civil Engineer, The Cambria Steel Company U 1905

District Manager, Crocker-Wheeler Company

Draftsman and Engineer

F 1892\*† Professor of Inorganic Chemistry, Cornell University

F 1908

U 1897

U 1911

U 1903

Ithaca, N. Y.

Pittsburgh, Pa.

Ithaca, N. Y.

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Cleveland, Ohio

Brooklyn, N. Y.

Rio de Janeiro, Brazil

Louis Munroe Dennis

Orville Adelbert Derby

(Deceased 1898)

Boyd Coe Dennison

Herman Diederichs

Arvin J Dillenbeck

Frank Stillman Dix

Howard Dingle

Max Dercum

Brooklyn, N. Y. De Forest Halstead Dixon U 1896 Contractor G 1896 Poughkeepsie, N. Y. Martha Doan Instructor in Chemistry, Vassar College U 1900 New York City Norman Dodge Lumber Dealer Harold Lukens Doolittle U 1906 Los Angeles, Cal. Assistant Engineer, Southern California Edison Company G 1906\* New York City Herbert Grove Dorsey Research Engineer, Western Electric Company Maxwell Jay Dorsey G 1910 Minneapolis, Minn. Research in Fruit Breeding, University of Minnesota Lynchburg, Va. Gertrude Elisabeth Douglas G 1907 Instructor in Biology, Randolph-Macon Woman's College John Frederick Howard DouglasG 1910 Ithaca, N. Y. Instructor in Electrical Engineering, Cornell University Edmund Miller Dovle San Francisco, Cal. G 1896 Superintendent, Cadillac Motor Car Company William Allen Drake TI 1906 Chicago, Ill. The Brownell Company Mervin Dresbach F 1906\* (Ohio F 1902) Ithaca, N. Y. Assistant Professor of Physiology, Cornell University Elmer Reginald Drew G 1903 (Stanford F 1906) Palo Alto, Cal. Assistant Professor of Physics, Leland Stanford Junior University William Russel Dudley F 1887\*† (Stanford CF 1902) Palo Alto, Cal. Professor of Systematic Botany, Stanford University Edward Allen Duffy G 1904 Chrome, N. J. U. S. Smelting and Refining Company Benjamin Minge Duggar F 1897\*† (Missouri CF 1905) Ithaca, N. Y. Professor of Plant Physiology, Cornell University

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Harry Lee Duncan Patent L	U 1896 awyer, Duncan and Duncan	New York City	
Charles Dunn	U 1893 lechanical Engineer	New York City	
Albert Cyrus Durand	U 1906 Physician	Ithaca, N. Y.	
Elias Judah Durand Assistant Profess	U 1893* (Missouri F 1910) or of Botany, University of Mi	Columbia, Mo. ssouri	
William Frederick Durand F 1892*† (Stanford F 1904) Palo Alto, Cal. Professor of Mechanical Engineering, Leland Stanford Junior University			
Oliver Wesley Dynes G 1911 Agricultural College, N. D. Associate Professor of Agronomy, North Dakota Agricultural College			
Arthur Starr Eakle U 1892*† (California CF 1901) Berkeley, Cal. Assistant Professor of Mineralogy, University of California			
Elmer Gould Eberhardt (Deceased 1908)	U 1904		
Charles David Eckler (Deceased 1904)	U 1899		
Henry Turner Eddy Dean of Gradua	A 1888*† (Minnesota CF 18 te School, University of Minne	96) Minneapolis esota [Minn.	
Walter Smith Edge	U 1903 Civil Engineer	Darlington, Md.	
Claude Wilbur Edgerton Plant Pathologist, Lo	G 1907* uisiana Agrıcultural Experime	Baton Rouge, La. ent Station	
James Harvey Edwards Assistant Chief F	U 1888 Engineer, American Bridge Con	New York City npany	
Emil Alfred Ekern Engineer	G 1904 , Telluride Power Company	Grace, Ida.	
Alfred Henry Eldredge Consulting Engineer,	G 1894 North Packing and Provision	Boston, Mass. Company	
John Earl Elliott	U 1905 Draftsman	Wilmington, Del.	
William James Elser Instructor in Bacterio	F 1907 plogy, Cornell University Medic	New York City cal College	
George Charles Embody Instructor in	G 1909 Agriculture, Cornell Universit	Ithaca, N. Y.	
Louis Warren Emerick Vice-President, Ful	U 1891 ton Light, Heat and Power	Fulton, N. Y. Company	
Albert Hamilton Emery, Jr Eng	U 1898† ineer, Clarks Hill Place	Stamford, Conn.	
Millard Clayton Ernsberger Professor of Mechani	U 1908 cal Engineering, University of	Rochester, N. Y. Rochester	

U 1898 Electrical Engineer

Niagara Falls, N. Y.

Clarence Metz Eshelman

Frank Eurich, Jr	U 1899 Architect	Jersey City, N. J.
Early Cunningham Ewing	G 1909	Aberdeen, Miss.
mit Their m	G 1911 Oregon Agricultural Experi	Corvallis, Ore. ment Station
James Ewing Physician, Professor of Path	F 1904*† hology, Cornell University	New York City Medical College
Herman Le Roy Fairchild Professor of Ge	A 1888*† ology, University of Roche	Rochester, N. Y.
Robert Morris Falkenau En	U 1905 recting Engineer	New York City
George C Farkell Department Superin	U 1891 ntendent, National Tube C	Lorain, Ohio ompany
Ephraim Porter Felt State Ente	G 1894 omologist, State Museum	Albany, N. Y.
Robert Coyner Fenner Manager Chicago Office,	F 1904* Cutler-Hammer Manufactu	Chicago, Ill. ring Company
Jeremiah Sweetser Ferguson Assistant Professor of Hist	F 1907* cology, Cornell University	New York City Medical College
Margaret Clay Ferguson Professor of	U 1899* Botany, Wellesley College	Wellesley, Mass.
Bernhard Eduard Fernow Dean of Fo	F 1899*† restry, Toronto University	Toronto, Canada
Clarence Errol Ferree Associate in Pa	G 1904* sychology, Bryn Mawr Coll	Bryn Mawr, Pa.
Ervin Sidney Ferry Professor of	U 1889*† (Purdue CF 19 Physics, Purdue Universit	
Claud William Leroy Filkins Civil Engineer, Wn	U 1893* n. Wharton, Jr., and Comp	Philadelphia, Pa. any, Inc.
John Charles Lounsbury Fish Professor of Railroad Engin		
Pierre Augustine Fish Professor of Veterin	-U 1890*† nary Physiology, Cornell U	Ithaca, N. Y. Iniversity
Carl Wallace Fisher	U 1901 Veterinarian	San Mateo, Cal.
Henry Wright Fisher Chief Engineer, Sta	U 1888* ndard Underground Cable	Berth Amboy, N. J. Company
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Wager Fisher	U 1899 onsulting Engineer	Philadelphia, Pa.
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	U 1911 gy, New York State Veter	Ithaca, N. Y. rinary College
William Benjamin Fite Professor of Ma	G 1899* (Columbia F 191 athematics, Columbia Univ	11) New York City ersity

	MAINT CHILL THE	10
Warren Beebe Flanders	U 1902 Mechanical Engineer	Wilkinsburg, Pa.
Thomas Fleming, Jr Chester	U 1905 and Fleming, Consulting En	Pittsburgh, Pa.
Philena Belle Fletcher (Mrs William Harrison	U 1904 n Homer, Jr)	Provo, Utah
Charles Frederick Flocker Bacteriolog	n U 1901 gist, U.S. Bureau of Animal	Washington, D. C. Industry
Alan Estis Flowers Assistant Professor o	U 1902* (Missouri F f Electrical Engineering, Un	1905) Columbia, Mo. iiversity of Missouri
Arthur Lee Foley Profess	G 1897* (Indiana CF or of Physics, Indiana Univ	1904) Bloomington, Ind. versity
Frederick Jackson Folk (Deceased 1903)	U 1901	
James Alfred Foord Head of Division of A	G 1902 Agriculture, Massachusetts	Amherst, Mass. Agricultural College
Edward Thaddeus Foote Engineer, Co	U 1906 utler-Hammer Manufacturing	Milwaukee, Wis. g Company
Hannibal Choate Ford Mechanical En	U 1903 ngineer, The Sperry Gyrosco	New York City
Walter Stebbins Ford Assistant Professor	F 1911 of Electrical Engineering, (	Ithaca, N. Y. Cornell University
Alexander Hardie Forma Instruc	n G 1909 tor in Physics, Cornell Univ	Ithaca, N. Y. ersity
Edwin John Fort	U 1893 Civil Engineer	Brooklyn, N. Y.
Henry Hubbard Foster	U 1899 Ottawa University	Ottawa, Canada
Fred William Foxworthy Botanist, Bio	G 1903* ological Laboratory, Bureau	Manila, P. I. of Science
Samuel Fraser Fr	F 1905 ruit Grower and Nurseryman	Geneseo, N. Y.
Henry North Frear Cher	G 1909 nist, General Electric Compa	Harrison, N. J.
Edward Elway Free Physicist, Bureau	U 1906* of Soils, U.S. Department	Washington, D. C. t of Agriculture
Alfred Freeman	U 1898 Architect	New York City
James Benton French	A 1888 Consulting Bridge Engineer	Jamaica, N. Y.
Walter Edward Fritz	U 1911	Buffalo, N. Y.
Howard Brett Frost Assistant, Depa	G 1911 rtment of Horticulture, Cor	Ithaca, N. Y. nell University
John Martin Fry	U 1911	Ephrata, Pa.
Estevan Antonio Fuertes (Deceased 1903)	F 1894†	,

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Louis Agassiz Fuertes Ornith	A 1905*† ologist and Illustrator	Ithaca, N. Y.
Lucius B Fuller General Manage	U 1906 r, Beaver River Power Con	Boise, Ida.
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Henry Phelps Gage Physicis	U 1908 st, Corning Glass Works	Corning, N. Y.
Otis Amsden Gage Assistant Professor	G 1904 (Wisconsin F 190 of Physics, University of V	
Simon Henry Gage Professor Emeritus of His	F 1908*† tology and Embryology, Co	Ithaca, N. Y.
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Victor Raymond Gage Instructor in Experim	G 1910 eental Engineering, Cornell	Ithaca, N. Y. University
Charles Stuart Gager Director, I	G 1901* Brooklyn Botanical Garden	Brooklyn, N. Y.
Frederic Freelinghuyson Gaines Superintendent of Moti	u 1895 ive Power, Central of Geor	Savannah, Ga. gia Railroad
Alexander Sarkis Galajikian Instructor in	U 1909 Physics, Cornell Universit	Ithaca, N. Y.
Halg Galajikian Graduate Student i	U 1911 in Mathematics, Cornell Un	Ithaca, N. Y.
Francis Edward Gallagher Consulting C	U 1906* hemist, Arthur D. Little, I	Boston, Mass.
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Eleanor A McCulloch Gamble Professor of 1	G 1898* Psychology, Wellesley Coll	Wellesley, Mass.
Ray Willard Gannett	U 1905 Veterinarian	Brooklyn, N. Y.
Laura Gano	G 1906 Botanist	West Richmond, Ind.
Arthur Sellars Garrett President, Ame	U 1897 rican Water Softener Com	Philadelphia, Pa.
Ferd Guy Gasche Mechanical En	U 1890 gineer, Illinois Steel Comp	Chicago, Ill.
Robert Harvey Gault Assistant Professor of	U 1902 Psychology, Northwestern	Evanston, Ill. University
Howard Earl Geer	U 1901 er, Raymond Concrete Pile	New York City
Jennie Wither Geer (Deceased 1906)	U 1898	
William Chauncey Geer Chief Chemist	U 1902* , The B. F. Goodrich Comp	Akron, Ohio

Flint, Mich.

# ALPHA CHAPTER

Washington, D. C. U 1906 Ray Stewart Gehr Patent Lawyer Cleveland, Ohio G 1908\* Ludwig Reinhold Geissler Research Psychologist, National Electric Lamp Association Canandaigua, N. Y. Walter Hudson Gelder U 1898 General Manager, Lawton Limestone Company Worcester, N. Y. Lewell T Genung TJ 1897 Physician F 1892 New York City Nelson Howard Genung Vice-President, Coatesville Boiler Works G 1894† Helena, Mont. Martin Hughes Gerry Chief Engineer and General Manager, Missouri River Power Company G 1894 New York City Engineer of Plant, American Telephone and Telegraph Company TT 1898 Harley Stuart Gibbs (Deceased 1899) Ithaca, N. Y. Roswell Clifton Gibbs G 1908 Instructor in Physics, Cornell University Philadelphia, Pa. U 1906 Walter Scott Giele Mechanical Engineer, Harrison Safety Boiler Works G 1908\* Ithaca, N. Y. Arthur Witter Gilbert Professor of Plant Breeding, Cornell University Adam Capen Gill F 1895\*† Ithaca, N. Y. Assistant Professor of Mineralogy and Petrography, Cornell University David Clinton Gillespie F 1909 Ithaca, N. Y. Instructor in Mathematics, Cornell University Horace Wadsworth Gillett Detroit. Mich. TJ 1906 Manager, Research Department, Aluminum Castings Company Gertrude Assheton Gillmore U 1901 Detroit, Mich. Teacher of Nature Study, City Normal School John Washington Gilmore F 1906\*† Honolulu, H. I. President, Agricultural College of Hawaii Ithaca, N. Y. Ralph John Gilmore G 1911 Instructor in Zoology, Cornell University Ward Giltner U 1906 East Lansing, Mich. Instructor in Bacteriology, Michigan Agricultural College Charles Stephen Gladden U 1900 New York City Assistant Engineer, C. O. Lenz Consulting Engineer Frank Conant Gobel TI 1903 Brooklyn, N. Y. Electric Draftsman Otto Louis Goehle U 1905 New York City Physician, St. Mary's Free Hospital Julius Goettsch U 1902 Chicago, Ill.

Sales Engineer, Western Electric Company

U 1902 In charge of Design and Drafting, The Western Mott Company

Clarence Jeremiah Gomph

Kansas City, Mo. U 1899 James Franklin Goodman Secretary, Anson Lumber Company Kingston, Ont. U 1905 George Huntly Gordon Mechanical Engineer Shelton, Conn. William Alexander Gordon U 1896 Superintendent, Birmingham Iron Foundry Jersey City, N. J. G 1909 Margaret Graham Student A 1905\* Cambridge, Mass. Louis Carvl Graton Assistant Professor of Mining Geology, Harvard University U 1900 New York City Assistant Electrical Engineer, J. G. White and Company Pittsburgh, Pa. U 1896 Leslie Jackson Gray Assistant to General Superintendent, American Steel and Wire Company G 1896 Mt. Washington, Los Angeles, Cal. Isabella Moore Green (Mrs Willett Lepley Hardin) William Benjamin Gregory G 1908\* New Orleans, La. Professor of Experimental Engineering, Tulane University Harriet Elizabeth Grotecloss A 1888 Palo Alto, Cal. (Mrs Charles David Marx) Eugene Julius Grow G 1897 Washington, D. C. Surgeon in U. S. Army, Naval Department Omar Ray Gullion F 1906 Eugene, Ore. Physician Walter David Gundelfinger U 1904 (Deceased 1908) Henry Ralph Gundlach U 1911 Back River, Md. Daniel Webster Gunner (Deceased 1887) Edward Charles Hager U 1895 Syracuse, N. Y. Assistant Superintendent, Solvay Process Company Clarence Frederic Hale G 1909 Middletown, Conn. Robert Sever Hale U 1893 Boston, Mass. Special Research, Edison Electric Illuminating Company Elmer Edgar Hall G 1902\* (California F 1902) Berkeley, Cal. Associate Professor of Physics, University of California Thomas Hall G 1893 Ridgway, Pa. Superintendent, Ridgway Dynamo and Engine Company Harry Richmond Halloran U 1906 Sidney, N. S. W Assistant Electrical Engineer Frederick Arthur Halsey A 1888† New York City Associate in Engineering, Columbia University Henry George Hamann U 1892 Swampscott, Mass. Electrical Engineer Alice Julia Hamlin G 1895 Lincoln, Neb.

(Mrs Edgar Lenderson Hinman)

Alfredo Gottlieb Hammar U 1907 Washington, D. C. Bureau of Entomology, Department of Agriculture

Adalbert Harding U 1897 Cambridge, Mass.

Harry Alexis Harding G 1909† Geneva, N. Y. Bacteriologist, N. Y. Agricultural Experiment Station

Isabella Moore Green Hardin G 1896 Mt. Washington, Los Angeles, Cal. (Mrs Willett Lepley Hardin)

Clarence Melvin Haring U 1904 (California F 1905) Berkeley, Cal. Instructor in Veterinary Science and Bacteriology, University of California

Cebern Dodd Harris G 1902 Louisville, Ky. Production Manager, Strater Bros. Tobacco Company

Charles William Harris U 1905 (Washington F 1907) Seattle, Wash. Instructor in Civil Engineering, University of Washington

Franklin Stewart Harris G 1910 Logan, Utah Professor of Agronomy, Utah Agricultural College

Gilbert Dennison Harris A 1887\*† Ithaca, N. Y. Professor of Paleontology and Geology, Cornell University

Lena Harris U 1901 Brooklyn, N. Y.
Teacher of Mathematics, Manual Training High School

Rollin Arthur Harris G 1892\*† Washington, D. C. Mathematician, U. S. Coat and Geodetic Survey

Leon Wilson Hartman G 1899\* Reno, Nev.

Professor of Physics, University of Nevada

Frederick Zeller Hartzell G 1909 Fredonia, N. Y. Entomologist, N. Y. Agricultural Experiment Station

Lelia Jefferson Harvie U 1901 Columbus, Ohio (Mrs Samuel Jackson Barnett)

Philip Bevier Hasbrouck U 1896 North Yakima, Wash. Fruit Raising

Eugene Elwin Haskell F 1907\*† Ithaca, N. Y. Director, College of Civil Engineering, Cornell University

Charles Nelson Haskins F 1905\* (Illinois F 1906) Hanover, N. H. Assistant Professor of Mathematics, Dartmouth College

Erwin Ernest Haslam A 1907 Buffalo, N. Y. Field Engineer, International Waterway Commission

Heinrich Hasselbring U 1899\*† Washington, D. C. Chief Botanist, Bureau of Plant Industry

George Tracy Hastings U 1898 New York City Instructor in Biology, DeWitt Clinton High School

Thomas Wood Hastings F 1907\* New York City Professor of Pathology, Cornell University Medical College

Arthur Stafford Hathaway F 1888 Terre Haute, Ind. Professor of Mathematics, Rose Polytechnic Institute

Joseph Henry Hathaway F 1906 Louisville, Ky. Professor of Anatomy, University of Louisville

Herbert Wade Hibbard

G 1891\*† Lafayette, Ind. William Kendrick Hatt Professor of Civil Engineering, Purdue University U 1906 Philadelphia, Pa. Max Haupt Architect, Anderson and Haupt Madison, Wis. Lee Fred Hawley G 1905 Chemist, Forest Products Laboratory Namazu Shizuoka-Ken, Japan U 1904 Kivonori Hayashi Master Mechanic, Namazu Imperial Government Railway Works U 1902 Rud Bryant Hayes Superintendent of Light, Heat and Power, Cornell University South Hadley, Mass. G 1906\* Samuel Perkins Hayes Professor of Psychology, Mt. Holyoke College Stanley Wolcott Hayes U 1891 Richmond, Ind. President, Hayes Track Appliance Company John Fillmore Hayford F 1897 (Northwestern F 1897) Evanston, Ill. Director of College of Engineering, Northwestern University U 1894 Newark, Del. Director, Delaware College Experiment Station John Kerfoot Haywood TI 1896 Washington, D. C. Chemist, Bureau of Chemistry, U. S. Department of Agriculture Thomas J Headlee G 1906 Manhattan, Kan. Professor of Entomology, State Agricultural College Zillah Heldenheim U 1902 Columbus, Ohio (Mrs Ernest S Jaros) Walter Ferdinand Heise U 1911 Wilmington, Del. Draftsman, American Bridge Company Charles Louis Heisler U 1890 St. Marys, Ohio Engineer, The Heisler Company Edward Heitmann U 1895 St. Catherines. Ont. Chief Engineer, Canadian Crocker Wheeler Company Louise Hempstead U 1900 Meadville, Pa. Newspaper Work Marguerite Hempstead U 1900 Ithaca, N. Y. (Mrs Benjamin Freeman Kingsbury) William Williams Henderson  $G_{1905}$ Ogden, Utah Principal, Weber Academy George Lansing Hendrickson U 1911 Pittsburgh, Pa. Draftsman and Resident Engineer with Chester and Fleming Glenn Washington Herrick U 1896\* Ithaca, N. Y. Assistant Professor of Entomology, Cornell University Howard Drysdale Hess F 1906 Ithaca, N. Y. Professor of Machine Design, Cornell University Charles Elbert Hewitt G 1895 Chatham, N. J. Engineer and Contractor

Professor of Mechanical Engineering, University of Missouri

G 1891\* (Minnesota CF 1896) Columbia, Mo.

Edwin Barker Higby	G 1896 Architect	Rochester, N. Y.	
Seth Morton Higby	U 1897 Chief Draftsman	East Orange, N. J.	
Reuben Paul Higgins Phy	U 1902 vsician and Surgeon	Cortland, N. Y.	
Edward Raymond Hildreth Physicia	U 1908 n, Presbyterian Hos	San Juan, Porto Rico pital	
Agnes Sime Baxter Hill (Mrs Albert Ross Hill)	G 1894	Columbia, Mo.	
$ \begin{array}{c} \textbf{Ernest Rowland Hill} \\ \textbf{Gibbs and} \end{array} $	U 1893 Hill, Electrical Eng	East Orange, N. J.	
George Richard Hill Instructor in A	G 1910 Agriculture, Cornell	Ithaca, N. Y. University	
Ida May Hill (Mrs William Dalton)	U 1890	Schenectady, N. Y.	
Robert Thomas Hill Editor	A 1888*† r, American Geologia	Washington, D. C.	
William Arthur Hillebrand Professor of Electrical H	U 1905* (Stanford Engineering, Oregon		
Meier George Hilpert Assistant Engine	U 1901 eer, Pennsylvania Ste	Steelton Pa.	
William Atwood Hilton U 1899* Minneapolis, Minn. Instructor in Anatomy, University of Minnesota			
Alice (Hamlin) Hinman (Mrs Edgar Lenderson Hin	G 1895 nan)	Lincoln, Neb.	
Clarence Floyd Hirshfeld Professor of Powe	G 1903* (California er Engineering, Corn	a G 1910) Ithaca, N. Y. ell University	
Emmet Francis Hitch Instructor in	G 1911 Chemistry, Cornell	Ithaca, N. Y. University	
William Ricketson Hoag Professor of Civil E	A 1887*† (Minneseingineering, Univers	ota CF 1896) Minneapolis, ity of Minnesota [Minn.	
Stephen Galusha Hobert Co	U 1896 onsulting Engineer	Chicago, Iil.	
Mary (McClure) Hobert (Mrs Charles Boone Hobert)	U 1900	Vera Cruz, Mexico	
Percy Hodge Professor o	G 1908 f Physics, Stevens'	Hoboken, N. J. Institute	
	U 1911 ndent, Harrisburg P	Harrisburg, Pa. ark Commission	
Jessie Allen Holmes (Mrs H I Moody)	U 1898	Brooklyn, N. Y.	
Joseph Austin Holmes Director	A 1888*† r, U. S. Bureau of M	Washington, D. C.	
Major Edward Holmes	G 1910	Kempton, Ind.	
Philena Fletcher Homer (Mrs William Harrison Hom	U 1904 ner, Jr)	Provo, Utah	

New York City U 1905 Bert Raymond Hoobler Physician New York City U 1894 Elon Huntington Hooker President, Hooker Electro-chemical Company opkins G 1894\* (Illinois CF 1903) Professor of Agronomy, University of Illinois Urbana, Ill. Cyril George Hopkins Ithaca, N. Y. F 1891\*† Grant Sherman Hopkins Professor of Veterinary Anatomy, Cornell University U 1903 Los Angeles, Cal. Howard Corwin Hopkins Civil Engineer U 1903 (Illinois CF 1903) Ithaca, N. Y. Herbert Andrew Hopper Farmer Urbana, Ill. John Wesley Hornbeak G 1911 Instructor in Physics, University of Illinois Philadelphia, Pa. F 1891\* Homer James Hotchkiss Professor of Physics, Drexel Institute New York City Charles Edwin Houghton G 1894 Associate Professor of Mechanical Engineering, New York University U 1902\* Newark, Del. Clinton Osborne Houghton Entomologist, Professor of Biology, Delaware College Arthur Earl Houlehan Ithaca, N. Y. Instructor in Chemistry, Cornell University G 1911 Wooster, Ohio John Samuel Houser Assistant Entomologist, Ohio Agricultural Experiment Station William Simmons Hovey U 1897 Three Rivers, Mich. General Superintendent, Sheffield Car Company Anna Townsend Howard U 1903 New York City (Mrs Charles Walter Howard) Charles Walter Howard U 1904\* New York City Entomologist, Rockefeller Institute Leland Ossian Howard Washington, D. C. Chief Entomologist, U. S. Department of Agriculture Anna Mayme Howe Jordan, N. Y. G 1911 Samuel Purdy Howe U 1902 Camden, N. J. President, Camden Forge Company John Eaton Howitt G 1906 Guelph, Ont. Department of Botany, Ontario Agricultural College David Fletcher Hoy Ithaca, N. Y. Registrar, Cornell University Tung Chao Hu U 1905 Canton, China Chief Engineer, Szechuen-Hankow Railroad George David Hubbard G 1905\* (Ohio F 1907) Oberlin, Ohio Professor of Geology, Oberlin College Benjamin S Hubbell U 1903 Cleveland, Ohio Hubbell and Benes, Architects Frederick Bernhard Hufnagel U 1900 Pittsburgh, Pa. Superintendent of Rolling Mills, Jones and Laughlin Steel Company

Eugene Peter Humbert	G 1910	Ithaca, N. Y.
Calvin B Humphrey Vice-President	G 1890 , The White Investing Co	New York City mpany
Clarence John Humphrey Assistant in F	F 1907* (Nebraska G 1 Forestry, University of Wisc	
Oswald D Humphrey City Tra	G 1894 Lining School for Teachers	New York City
Joseph Wynne Hungate Head of B	G 1910 Biology, State Normal Scho	Cheney, Wash.
Andrew Hunter Assistant Profess	F 1909* sor of Chemistry, Cornell U	Ithaca, N. Y.
Albert Henry Huntington Assistant F	U 1902 Principal, Central High Sch	St. Louis, Mo.
Otto Fred Hunziker Professor of D	G 1901 (Purdue F 1908) iary Industry, Purdue Uni	
John Irwin Hutchinson Professor of 1	F 1896* Mathematics, Cornell Unive	Ithaca, N. Y.
Robert Leroy Hutton	U 1903 Physician	Ridgewood, N. J.
Tom Bruce Hyde Instructor in Experi	F 1911 / mental Engineering, Cornel	Ithaca, N. Y. Il University
Francis Pierce Ide	U 1892 Manufacturer	Springfield, III.
James Franklin Illingworth Graduate Student	G 1911 in Entomology, Cornell U	Ithaca, N. Y. Iniversity
Louis Illmer Manager, Gas Engin	F 1906 ne Department, Reading Iro	Reading, Pa. on Company
Helen Isham Associate in (	U 1903* (Illinois F 190 Chemistry, University of Il	
Robert Austin Ives	U 1902 Iechanical Engineer	Ithaca, N. Y.
Dugald Caleb Jackson Professor of Electrical Engir	F 1894*† neering, Massachusetts Ins	Boston, Mass. titute of Technology
Herbert Spencer Jackson Professor of Bo	U 1905 tany, Oregon Agricultural	Corvallis, Ore.
Julius Lilien Jacobs Resident Manager, Ja	U 1904 mes Stewart and Company	Houston, Tex.
Edmund Jacobson Medical St	G 1911 udent, University of Chica	Chicago, Ill. go
Henry Sylvester Jacoby Professor of Brid	F 1893*† lge Engineering, Cornell U	Ithaca, N. Y. niversity
Zillah Heidenheim Jaros (Mrs Ernest S Jaros)	U 1902	Columbus, Ohio
Chester Deacon Jarvis Horticulturist, Sto	G 1906 rrs Agricultural Experimen	Storrs, Conn. nt Station
Henry William Jeffers Manager, Wal	U 1898 ter-Gordon Milk Producing	Plainsboro, N. J. Plant

David John Jenkins

U 1892 Electrical Engineer Milton, Pa.

New York City

Eldred Lewellyn Jenne U 1907\* Washington, D. C. Entomologist, Bureau of Entomology, U. S. Department of Agriculture

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Gerhard Hemming Jensen U 1899 (Chicago G 1902) Evanston, Ill.

Assistant Professor of Botany, Northwestern University

Willis Linn Jepson G 1895\* (California CF 1901) Berkeley, Cal.
Assistant Professor of Botany, University of California

Henry Rose Jessel U 1889 Pittsburgh, Pa. Chief Chemist, William B. Scaife and Sons Company

Harold Frederick Jewett U 1903 Auburndale, Mass. Foreman, M. P. Department, Boston and Albany Railroad

Francis Eugene Yeates Joannes U 1900 Architect

Oskar Augustus Johannsen G 1902\* Orono, Me.
Professor of Entomology, University of Maine

Harold Eddy Johnston U 1902 Cohoes, N. Y.
Manager, The Cohoes Iron Foundry and Machine Company

Manager, The Cohoes Iron Foundry and Machine Company

Oscar Perry Johnston G 1903 (Colorado F 1906) Chicago, Ill
Physician

Clement Ross Jones G 1900\* Morgantown, W. Va. Dean, College of Engineering, West Virginia University

Forrest Robert Jones U 1888† Knoxville, Tenn.

Mechanical and Electrical Engineer

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Krecker G 1906 Professor of Biology, Marietta College Marietta, Ohio

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Sophie Harriet Lyndon

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Winfred Berdell Mack Professor of Veterina	U 1904 . ary Science, University of	Reno, Nev. Nevada
William MacKintosh President, Ma	U 1896 Ok cKintosh Barbour Company	lahoma City, Okla.
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Irwin John Macomber Med	G 1894 Ric chanical Engineer	hmond Hill, N. Y.
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William Henry Magee	G 1893 Anna Teacher	polis Royal, N. S.
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Joseph Plaisted Maider	U 1911	Phoenix, N. Y.
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Eugene Henry Preswick	F 1887 Agriculturist	Ithaca, N. Y.
John Walter Prince Vice-President, Free	U 1899 born Engineering and	Kansas City, Mo. Construction Company
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Martin John Prucha Gradua	G 1911 te Student in Cornell U	Ithaca, N. Y.
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Robert Rankin Assistant M	U 1904 anager, Sao Paulo Elec	Sao Paulo, Brazil tric Company
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Walter Rautenstrauch Professor of Mec	G 1904* hanical Engineering, C	New York City olumbia University
Burton Justice Ray Instructor in Chem	G 1908 istry, North Carolina C	Raleigh, N. C. ollege of Agriculture
Percy Edward Raymond Assistant Profes	U 1902*† sor of Paleontology, H	Cambridge, Mass. arvard University
Effie Alberta Read Microanalyst, Bureau	U 1903 of Chemistry, U. S. De	Washington, D. C. partment of Agriculture
John Moore Reade Professor	G 1897 of Botany, University	Athens, Ga. of Georgia
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G 1907\* Ithaca, N. Y. Donald Reddick Assistant Professor of Plant Pathology, Cornell University Harry Westfall Redfield U 1900\* Ithaca, N. Y. Instructor in Chemistry, Cornell University G 1900\* **Hugh Daniel Reed** Ithaca, N. Y. Assistant Professor of Zoology, Cornell University Raymond Clinton Reed F 1897\* Newark, Del. Professor of Bacteriology, Delaware College G 1904 Ottawa, Canada Leopold Reinecke Assistant, Geological Survey of Canada Berlin, Germany Arthur Eduard Reinke Chief Engineer in Europe, Western Electric Company **Charles Foster Rhodes** U 1903 Glens Falls, N. Y. International Paper Company, Bureau of Tests G 1896\* Arthur Louis Rice Chicago, Ill. Managing Editor, Practical Engineer James Edward Rice U 1890\*† Ithaca, N. Y. Professor of Poultry Husbandry, Cornell University U 1906 Urbana, Ill. John Lyon Rich Instructor in Geology, University of Illinois Francis Alanson Richmond TI 1898\* Elmira, N. Y. Professor of Chemistry and Physics, Elmira College Arthur William Richter G 1899 Manitowoc, Wis. Floyd Karker Richtmyer TI 1904\* Ithaca, N. Y. Assistant Professor of Physics, Cornell University Ross Milton Riegel U 1904 New York City Assistant Engineer, Board of Water Supply Heinrich Ries F 1900\*† Ithaca, N. Y. Professor of Economic Geology, Cornell University William Albert Riley G 1899\*† Ithaca, N. Y. Assistant Professor of Entomology, Cornell University William Hermon Riley CU 1886 Wilmington, Del. Gilbert Powers Ritter U 1897 Washington, D. C. Lawyer Ralph Noyes Robertson F 1906 Denver, Col. Power Engineer, American Smelting and Refining Company Charles Albert Robinson, Jr U 1906 New York City Telephone Engineer, American Telephone and Telegraph Company Floyd Lucien Robinson U 1890 New York City Architect Frank Crowl Robinson U 1904 Philadelphia, Pa. Chemist Ralph Chapman Rodgers G 1909\* Ithaca, N. Y. Instructor in Physics, Cornell University Thomas Jacob Rodhouse G 1905 (Missouri F 1908) Columbia, Mo. Assistant Professor of Engineering, University of Missouri

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Edwin Nash Sanderson

Ezra Dwight Sanderson

Warren Bixby Sanford

Augustus Valentine Saph

Erle Hoxsie Sargent

Shiro Sano

Physician G 1889\*† Clinton, N. Y. Samuel J Saunders Professor of Physics and Astronomy, Hamilton College Paul Louis Saurel G 1891\* New York City Associate Professor of Mathematics, College of City of New York F 1906 Ithaca, N. Y. Will Miller Sawdon Assistant Professor of Experimental Engineering, Cornell University Ezra Frederick Scattergood G 1899 Los Angeles, Cal. Electrical Engineer, Department of Public Service James Walter Schade U 1904 Akron, Ohio Chemist, Goodrich Rubber Company Edward Franklin Schaefer G 1903 (Deceased 1908) Charles Ashmead Schaeffer F 1887 (Deceased 1898) Jacob Parsons Schaeffer G 1908\* (Yale F 1911) New Haven, Conn. Assistant Professor of Anatomy, Yale University Margaret Everitt Schallenberger G 1899 San Jose, Cal. William Henry Schideler G 1910 Ithaca, N. Y. Max Gustav Schlapp F 1907 New York City Lecturer in Pathology, Cornell University Medical College Carl George Schluederberg G 1908 Pittsburgh, Pa. Electrical Engineer Ernest William Schoder G 1902\* Ithaca, N. Y. Assistant Professor of Experimental Hydraulics, Cornell University William Ross Schoemaker G 1892 Manistique, Mich. Baptist Clergyman Daniel Ransom Scholes U 1904 Chicago, Ill. Chief Engineer, Aermotor Company Wandell B Secor U 1899 Trenton, Junction, N. J. Teacher George Daniel Shafer G 1907 (Stanford G 1906) East Lansing, Research Entomologist, Michigan Agricultural College Philip Anderson Shaffer F 1910\* (Washington F 1911) St. Louis, Mo. Professor of Biological Chemistry, Washington University

## ALPHA CHAPTER

Ira Alexander Shaler (Deceased 1902) G 1888

Robert Louis Shape

TJ 1895 Architect

G 1895\*

New York City New York City

Clayton Halsey Sharp Test Officer, Electric Testing Laboratories

Stella Emily Sharp

Seneca Falls, N. Y. G 1898

Francis Robert Sharpe G 1906 Ithaca, N. Y.

Assistant Professor of Mathematics, Cornell University

William Francis Shaw U 1904

Hondo, Tex.

John Sanford Shearer U 1893\*

Ithaca, N. Y.

Professor of Physics, Cornell University

Janet May Sheldon (Mrs Theodore Frelinghuysen Collier)

U 1894

Williamstown, Mass.

Pearl Gertrude Sheldon U 1908 Ithaca, N. Y. Assistant in Paleontology, Cornell University

U 1905\* (Chicago G 1907) Raiph Edward Sheldon Pittsburgh, Pa. Assistant Professor in Anatomy, University of Pittsburgh

G 1889\*† (Minnesota CF 1896) Minneapolis, George Defrees Shepardson Professor of Electrical Engineering, University of Minnesota [Minn.

U 1902\*† Washington, D. C. Ernest Stanley Shepherd Assistant in Geophysical Laboratory, Carnegie Institution

Franklin Sherman, Jr U 1900\* Raleigh, N. C. Entomologist, State Department of Agriculture

Frederick Elias Sherman (Deceased)

U 1907

Frank James Short

G 1907

(Deceased 1909) Richmond Harold Shreve

G 1903

Architect

New York City Calcutta, India

Austin, Tex.

Surendra Nath Sil G 1907

Professor at Bengal College of Agriculture

F 1887\*† Frederick William Simonds

Professor of Geology, University of Texas

Charles Baird Simpson (Deceased 1907)

 $G_{1900}$ 

Howard Sard Simpson U 1896 Chicago, Ill. Vice-President and Treasurer, G. Broes Van Dort Company

Sutherland Simpson F 1909\* Ithaca, N. Y. Professor of Physiology, Cornell University

Charles Herschel Sisam G 1904\* (Illinois F 1906) Urbana, Ill. Assistant Professor of Mathematics, University of Illinois

Mary Florence Wells Slater U 1900 Flushing, L. I., N. Y. Teacher

Mark Vernon Slingerland U 1891\*† (Deceased 1909)

100	SIGMI III	
William Griffith Sloan Chief Engin	U 1899 eer, MacArthur Brot	New York City
Albert William Smith Director of	F 1886*† Sibley College, Corn	Ithaca, N. Y.
Arma Anna Smith	G 1896	West Camden, N. Y.
Charles Edward Smith Assistant Profess	G 1902* or of Geology, Colora	Golden, Col.
Harold Babbitt Smith Professor of Electrical Eng	U 1891*† (Wor ineering, Worchester	cester CF 1908) Worcester, Polytechnic Institute [Mass.
Harold Whitmore Smith	U 1908	Adelaide, South Australia
Harry Ezra Smith Assistant Professor of Med	CU 1886 chanical Engineering	College Station, Tex. g, Texas Agricultural College
Lucy Wright Smith Assistant	G 1911 in Biology, Cornell	Ithaca, N. Y. University
Philip Edward Smith Instructor i	G 1910 n Embryology, Corn	Ithaca, N. Y.
Ruby Green Bell Smith (Mrs Albert William Smi	F 1905 (Stanfor	rd G 1904) Ithaca, N. Y.
Theobald Smith Director, Rocke	A 1887*† efeller Institute for I	Boston, Mass. Medical Research
Earl Miner Sneckenberger Secretary,	U 1905 The Gerharz Enginee	Billings, Mont.
Benjamin Warner Snow Professor of	A 1888* (Wisco Physics, University	nsin CF 1907) Madison, Wis.
Julia Warner Snow Associate P	U 1888* rofessor of Botany,	Northampton, Mass. Smith College
Ralph Cuthbert Snowdon Research Chem	G 1905* ist, Hooker Electroc	Niagara Falls, N. Y. hemical Company
Virgii Snyder Professor	G 1892* of Mathematics, Cor	Ithaca, N. Y.
Albert Alexander Somervill Instructor	ie G 1910 r in Physics, Cornell	University Ithaca, N. Y.
Edward Kirke Soper Instructor in Eco	G 1909 nomic Geology, Univ	Minneapolis, Minn. ersity of Minnesota
Platon Vladimir Soukatscho	ff U 1901 Engineer	Petrovsky, Kharcov, Russia
	G 1911 istant State Entomo	Atlanta, Ga. logist
Carrie Ranson Squire (Mrs William Nelson Squire Principal of Trai	G 1901* nire) ning Department, St	Superior, Wis.
Albert Stamford	G 1900	Norfolk, W. Va.
	nited States Wood P	reserving Company
Numan Reid Stansel Commercial I	G 1902 Engineer, General Ele	Schenectady, N. Y. ectric Company
Eunice Stebbins	U 1897 Teacher, High Scho	Omaha, Neb.

John Moore Stedman U 1888\*† (Missouri CF 1905) Washington, Office of Experiment Stations, U. S. Department of Agriculture [D. C. Henry Freeman Steeker F 1901 State College, Pa. Associate Professor of Mathematics, Pennsylvania, State College, Pa.

Associate Professor of Mathematics, Pennsylvania State College

Henry John Steuber U 1898 East Orange, N. J. Chemist

Herman Campbell Stevens G 1903\* (Washington CF 1907) Seattle, Associate Professor of Psychology, University of Washington [Wash.

Louisa Stone Stevenson G 1911 Wellesley, Mass. Stone Hall, Wellesley College

George Walter Stewart F 1900\*† (Iowa F 1910) Iowa City, Ia.
Professor of Physics, State University of Iowa

John Pogue Stewart G 1911 State College, Pa. Experimental Pomologist, Pennsylvania State College

Oscar Milton Stewart G 1895\*† (Missouri CF 1905) Columbia, Mo. Professor of Physics, University of Missouri

Vern B Stewart G 1911 Ithaca, N. Y.
Investigator, Cornell University

William Alonzo Stocking, Jr F 1908\* Ithaca, N. Y. Professor of Dairy Industry, Cornell University

Bertha Stoneman U 1894 Wellington, Cape Colony Professor of Botany, Huguenot College

Harry Frost Stratton U 1903 Cleveland, Ohio Sales Manager, Electric Controller and Manufacturing Company

Cora Strong U 1903 Greensboro, N. C.
Associate in Mathematics, State Normal College

Anna Clegg Stryke G 1909 Ithaca, N. Y. Artist and Assistant in Entomology, Cornell University

Arnold Valentine Stubenrauch G 1901 Washington, D. C. Field Investigations, Bureau of Plant Industry

Mervin Tubman Sudler F 1903\* (Kansas F 1904) Lawrence, Kan. Associate Dean of Medical School, University of Kansas

Ellen Theresa Sullivan U 1901 La Grange, Ill. Teacher of Botany, Lyons Township High School

Henry Elijah Summers A 1887\*† Ames, Ia. Professor of Zoology and State Entomologist, Iowa State College

James Malcomb Swaine G 1906\* Ottawa, Canada Assistant Entomologist, Division of Entomology

Frank Houston Swift G 1911 Cresswell, Ore.

George Walter Tailby, Jr U 1906 Ithaca, N. Y. Instructor in Animal Husbandry, Cornell University

Jesse Moore Talmadge U 1897 New York City Inspector and Chemist, Quartermaster's Department U. S. Army

John Henry Tanner U 1891\*† Ithaca, N. Y.
Professor of Mathematics, Cornell University

Ralph Stockman Tarr F 1892\*†
(Deceased 1912)

Adelaide, South Australia TI 1909 Robert Wilson Tassie G 1896 New York City Alfred Ernest Taylor Chemist, U. S. Government U 1909 Ithaca, N. Y. Hawley Otis Taylor Instructor in Physics, Cornell University Robert Cromwell Taylor U 1899 Pittsburgh, Pa. Civil Engineer, Carnegie Steel Company U 1906 Albany, N. Y. Walter Jennings Taylor Assistant State Veterinarian U 1899\* New York City John Edgar Teeple Consulting Chemist and Chemical Engineer New York City U 1896 George Louis Terrasse Superintendent, New York Tanning Extract Company Wilmington, Del. Horace Holden Thayer, Jr U 1900 Naval Architect U 1898 Salt Lake City, Utah Alfred Henry Thiessen Section Director, U. S. Weather Bureau G 1903\* Storrs, Conn. Charles Thom Cheese Expert (Mycologist) U. S. Department of Agriculture G 1895\*† (Wisconsin F 1908) Madison, Wis. Carl Clapp Thomas Professor in Steam and Gas Engineering, University of Wisconsin U 1890\* Crawfordsville, Ind. Mason Blanchard Thomas Dean of Faculty and Professor of Botany, Wabash College Melvern Francis Thomas G 1908 Ithaca, N. Y. Instructor in Experimental Engineering, Cornell University George Ellsworth Thompson G 1911 Ithaca, N. Y. Assistant Instructor in Physics, Cornell University Milton Ellsworth Thompson G 1891 Ridgway, Pa. William Robin Thompson G 1911 Washington, D. C. Expert, Bureau of Entomology, U. S. Department of Agriculture U 1900\* William Crooks Thro New York City Assistant Professor of Pathology, Cornell Medical School Robert Henry Thurston F 1887† (Deceased 1903) Arthur Henry Timmerman G 1893 St. Louis. Mo. Chief Engineer, Wagner Electric Manufacturing Company Charles Edward Timmerman G 1893 New York City Teacher of Physics, DeWitt Clinton High School Martin Buel Tinker F 1904 Ithaca, N. Y. Physician Edward Bradford Titchener F 1894\*+ Ithaca, N. Y. Professor of Psychology, Cornell University William Boardman Tobey U 1890 (Deceased 1896) John William Todd U 1906 Pittsburgh. Pa. Assistant Purchasing Agent, Crucible Steel Company of America

Leona Estelle Todd Physician	U 1903 a, Hudson River State	Poughkeepsie, N. Y. Hospital
Ernest Tompkins Salesman, V	U 1898 Vildman Manufacturii	Norristown, Pa. ng Company
Yau Hang Tong	G 1908	Canton, China
William Martin Torrance	A 1907 Consulting Engineer	New York City
Ashton Steven Tourison, Jr Sec	U 1901 dgwick Farms Compa	Mt. Airy, Philadelphia, Pa.
Anna B Townsend (Mrs Charles Walter How	U 1903 /ard)	New York City
William Trelease - Director, Missouri Botanie	A 1887*† cal Gardens, Professo University	St. Louis, Mo. or of Botany, Washington
Charles John Triggerson	G 1910	Toronto, Canada
Alonzo George Trumbull Mechanical Sup	U 1899 perintendent, Erie Rai	Cleveland, Ohio llroad Company
Orin Tugman Engineer	G 1907* (Indiana r, Western Electric C	
Frederick Eugene Turneaure Dean of College of	u 1889*† (Wisco f Engineering, Univer	nsin CF 1907) Madison, Wis. sity of Wisconsin
Ebenezer Tousey Turner Vice-Pres	G 1896 sident, Morse Chain C	Ithaca, N. Y.
John William Turrentine Sc	G 1908* ientist, Bureau of Soi	Washington, D. C.
Dennie Hammond Udall Professor of Vet	U 1901 terinary Medicine, Co	Ithaca, N. Y. rneil University
George Burr Upton Assistant Professor of E	U 1904 Experimental Enginee	Ithaca, N. Y. ring, Cornell University
James M Van Hook Assistant Prof	G 1902 (Indiana essor of Botany, India	F 1906) Bloomington, Ind. na University
Carlos Whitney Van Law General Manager, (	U 1896 Compania de Real de	Pachuca, Hidalgo, Mex. 1 Monte y Pachuca
Ernest Allen Van Vleck	U 1897	New York City
Frank Van Vleck Baltimore Copp	CF 1886 per Smelting and Rol	Baltimore, Md. ling Company
Samuel Matthews Vanclain	U 1902	Rosemont, Pa.
John Arthur Veazey (Deceased 1911)	G 1910	
Lucius Otto Veser	U 1903 Electrical Engineer	Connelisville, Pa.
Thomas McElderry Vickers Manage	U 1890 er, Manufacturing Con	Syracuse, N. Y.
John Albert Vogleson Chief, Bu	U 1900 reau of Health of Phil	Philadelphia, Pa. adelphia

104 U 1908 Ithaca, N. Y. Oscar Diedrich von Engeln Instructor in Physical Geography, Cornell University U 1893\*† Hermann von Schrenk St. Louis, Mo. Consulting Pathologist, Missouri Botanical Garden Joel Edward Wadsworth Yonkers, N. Y. Resident Engineer, American Bridge Company G 1905\* Chauncey William Waggoner Morgantown, W. Va. Professor of Physics, University of West Virginia U 1898 Fort Wayne, Ind. Edward Andrew Wagner Transformer Engineer, Fort Wayne Electric Works G 1911 Seattle, Wash. Walter Calvin Wagner Instructor in Electrical Engineering, University of Washington A 1888† John Cassan Wait. New York City

Lawyer U 1890 Colorado Springs, Col. George Hicks Walbridge General Manager, Central Colorado Power Company

Emory Lafayette Walker U 1902 Berlin, Wis. Eastern Manager, Pacific Coast Condensed Milk Company

U 1897\* Ernest Walker Fayetteville, Ark. Professor of Horticulture, University of Arkansas

G 1901\* (Kansas F 1905) Lawrence, Kan. Perley F Walker Professor of Mechanical Engineering, University of Kansas

G 1909 Washington, D. C. **Errett Wallace** Pathologist, U. S. Bureau of Plant Industry

William Lewis Wallace, Jr G 1907 Manitowoc, Wis. Chief Engineer, Manitowoc Engineering Works Company

Albert Walton U 1902 Dorchester, Mass. Commercial Engineer

G 1902\* Lee Barker Walton Gambier, Ohio Professor of Biology, Kenyon College

Archibald Robinson Ward U 1898\* Manila, P. I. Dean of College of Veterinarian Science, University of the Phillippines

Buffalo, N. Y. Mary Margaretta Wardwell U 1888 Head of Mathematics, Central High School

George Frederick Warren G 1904\* Ithaca, N. Y. Professor of Farm Management, Cornell University

Mary (Whitson) Warren U 1905 Ithaca, N. Y. (Mrs George Frederick Warren)

Frank Sherman Washburn A 1883 Nashville, Tenn. President, American Cyanamid Company

Margaret Floy Washburn F 1902\*† Poughkeepsie, N. Y. Professor of Psychology, Vassar College

Floyd Rowe Watson G 1901\* (Illinois CF 1903) Urbana, Ill. Assistant Professor of Physics, University of Illinois

Thomas Leonard Watson G 1897\*† Charlottesville, Va. Professor of Geology, University of Virginia

ALPHA CHAPTER TI 1907 Howard, Ill. Cassius Way Veterinarian, Borden's Condensed Milk Company Alfred Cleveland Weed U 1905 Washington, D. C. Aid in Biology, U. S. National Museum Milwaukee, Wis. Edgar Calvert Welborn U 1903 Assistant Treasurer, Allis-Chalmers Company Stuart Weller U 1894\*† (Chicago CF 1903) Chicago, Ill. Associate Professor of Geology, University of Chicago Thomas Whitney Benson Welsh G 1909 Ithaca, N. Y. Instructor in Chemistry, Cornell University **Erastus Lovette West** U 1899 Boston, Mass. General Manager, Connecticut River Power Company George Hutton West TJ 1901 Reber, N. Y. Breeder of Holstein Cattle G 1899\* (Iowa CF 1900) John Van Etten Westfall New York City Superintendent of Bureau of Statistics, Equitable Life Assurance Society G 1903\* Herbert Hice Whetzel Ithaca, N. Y. Professor of Plant Pathology, Cornell University F 1900\* Guy Montrose Whipple Ithaca, N. Y. Assistant Professor of Education, Cornell University Ray Hughes Whitbeck U 1901 Madison, Wis. Associate Professor of Physiography and Geography Gershom Franklin White G 1905\* Washington, D. C. Expert Bacteriologist, U. S. Department of Agriculture Gorrell Robert White U 1905 Ithaca, N. Y. Instructor in Chemistry, Cornell University James Gilbert White A 1888† New York City President, J. G. White Construction Company Paul J White G 1907 Pullman, Wash. Professor of Agronomy, State College of Washington Ward Benjamin White G 1908 Ithaca, N. Y. State Chemist, State Department of Agriculture Walter Porter White G 1903\*† Washington, D. C. Physicist, Geophysical Laboratory U 1906 Francis Luther Whitney Akron, Ohio Professor, Buchtel College Mary Whitson U 1905 Ithaca, N. Y. (Mrs George Frederick Warren) Theodore Whittelsey F 1899\* Mishawaka, Ind. Chief Chemist, Rubber Regenerating Company Frances Gertrude Wick G 1906\* Poughkeepsie, N. Y.

Instructor in Physics, Vassar College Maude (Cipperly) Wiegand U 1904 Wellesley, Mass. (Mrs Karl McKay Wiegand) Instructor in Botany, Wellesley College Karl McKay Wiegand U 1894\* Wellesley, Mass.

Associate Professor of Botany, Wellesley College

Fire Insurance U 1897

Manager II 1902

U 1901 Engineer, Pittsburgh, Shawmut and Northern Railway

Electrical Engineer, Rochester Railway and Light Company

G 1911 Graduate Student in Geology, Cornell University U 1897

Ithaca, N. Y.

Chicago, Ill.

Rochester, N. Y.

Rochester, N. Y.

Angelica, N. Y.

David Truxton Wilber

Perley Smith Wilcox

Edward Lyman Wilder

Herbert Sedgwick Wilgus

J Ralph Wilbur

TI 1909 Western Springs. Ill. Stephen Franklin Willard Vaughan's Seed Store Wellesley, Mass. Mary Alice Willcox G 1892† Professor Emeritus of Zoology, Wellesley College TI 1903 Altoona, Pa. Alan Gillespie Williams Engineer F 1901\*† (Michigan F 1903) Ann Arbor, Mich. Gardner Stewart Williams Consulting Engineer New York City Harvey Daniel Williams F 1894 Consulting Engineer CF 1886\*† (Yale CF 1895) Ithaca, N. Y. Henry Shaler Williams Professor of Geology, Cornell University Ithaca, N. Y. Roger Butler Williams, Jr II 1901 Receiver, New York, Auburn and Lansing, and Ithaca Street Railroad F 1897\*† Ithaca, N. Y. Walter Long Williams Professor of Veterinary Surgery, Cornell University Robert Baird Williamson U 1893 Milwaukee, Wis. Electrical Engineer, Allis-Chalmers Company John Gordon Wills U 1906 Albany, N. Y. Chief Veterinarian, N. Y. Department of Agriculture Arthur John Wilson G 1911 Galesburg, Ill. Professor of Chemistry, Lombard College Charles Scoon Wilson G 1905\* Ithaca, N. Y. Professor of Pomology, Cornell University David Wilson U 1905 Amsterdam, N. Y. Physician John Crosier Wilson U 1906 Milwaukee, Wis. Engineer, The Cutler-Hammer Manufacturing Company Margaret Boynton Windsor U 1895 Urbana, Ill. (Mrs Phineas Lawrence Windsor) Charles Benjamin Wing CG 1887\*† (Stanford CF 1902) Palo, Alto, Cal. Professor of Engineering, Leland Stanford Junior University Henry Hiram Wing F 1888\*† Ithaca, N. Y. Professor of Animal Husbandry, Cornell University Florence MacLean Winger G 1901\* Urbana, Ill. (Mrs William Chandler Bagley)

Rhett Youmans Winters G 1911 Ithaca, N. Y. Instructor in Agriculture, Cornell University William Alphonso Withers G 1890\*† Raleigh, N. C. Professor of Chemistry, College of Agriculture and Mechanic Arts Russell Sage Woglum U 1904\* Washington, D. C. Bureau of Entomology, U. S. Department Agriculture Peter Irving Wold G 1908 Peking, China Professor of Physics, Chin Hua College Charles George Lewis Wolf F 1907\*† New York City Assistant Professor in Chemistry, Cornell University Medical College Eugene Harper Wood F 1907 Ithaca, N. Y. Professor of Machine Design, Cornell University Harrison Haskell Wood U 1892 Pittsburgh, Pa. Manager, Broom Sewing Machine Company Herbert Spencer Wood U 1902 Washington, D. C. Accountant, Commission on Economy and Efficiency Samuel Hamilton Woods U 1906 Hoboken, N. J. Instructor, Stevens Institute of Technology Albert Hazen Wright TJ 1904\* Ithaca, N. Y. Instructor in Zoology, Cornell University Floyd Robins Wright G 1899 Ithaca, N. Y. Physician Richard Avery Wright U 1905 Brooklyn, N. Y. Engineer Alanson Phelps Wyman U 1897 Minneapolis, Minn. Landscape Architect Shiro Yamazaki U 1902 Yamato, Japan Consulting Engineer U 1902 Honolulu, H. I. Professor of Engineering, College of Hawaii

John Mason Young

John Wesley Young G 1901\* (Northwestern CF 1906) Hanover. Head of Department of Mathematics, Dartmouth College IN. H.

Carl Abell Zeller G 1909 Pittsburgh, Pa. Instructor in Physics, High School

# BETA CHAPTER

STEVENS INSTITUTE OF TECHNOLOGY, HOBOKEN, NEW JERSEY

Charter Granted May, 1887

Defunct

### HISTORICAL SKETCH

The Chapter was organized with four members of the class of 1884 and one instructor; and only one initiation occurred, one member being elected from the class of 1887. The Chapter existed only during the spring months of the latter year and upon the graduation of this one member, went out of existence.

### CHARTER MEMBERS

William Oliver Barnes William Henry Bristol Benjamin F Hart Charles W Thomas

Benjamin J Tucker

#### MEMBERSHIP ROLL

William Oliver Barnes C 1887 Fitchburg, Mass.

Mechanical Engineer, Ivers-Johnson Arms and Cycle Works

William Henry Bristol C 1887\*† Waterbury, Conn.
President, The Bristol Company

Benjamin F Hart C 1887 New York City
B. F. Hart Jr. and Company

Charles W Thomas C 1887 New York City Mechanical Engineering Department, Columbia University

Burton Morss Tremper U 1887 Kingston, N. Y.

Merchant

Benjamin J Tucker C 1887 New York City

Consulting Mechanical Engineer

# DELTA CHAPTER

RUTGERS COLLEGE, NEW BRUNSWICK, NEW JERSEY

Charter Granted February, 1887

Defunct

### HISTORICAL SKETCH

The exact date of the establishment of the Chapter at Rutgers College is unknown. The five charter members associated with themselves four members of the faculty and four students. The Chapter had a very brief existence and the officers whose names are printed in the earliest record of Sigma Xi seem never to have performed the functions of their positions. Diligent search has brought to light only a manuscript copy of the Constitution and By-Laws of Sigma Xi, filed with material left at the College by departing members of various organizations. Phi Beta Kappa was already firmly established at Rutgers and in the opinion of faculty members the scientific department was too small to support a second organization.

### CHARTER MEMBERS

Thurston Walker Challen D T Marshall Harry Atwater Smith Burton Morss Tremper

Isaac Lewis Winckler

#### **OFFICERS FOR 1887-1888**

President......Francis Cuyler van Dyck Secretary......WILLIAM BISHOP TOMPKINS

#### MEMBERSHIP ROLL

Edward Mooee Alden

U 1887

Millers Falls, Mass.

Peter Townsend Austen (Deceased)

F 1887†

Edward A Bowser

Edward A Bows (Deceased) F 1887†

Thurston Walker Challen

C 1887

(Deceased)

Harry Joseph March

U 1887

C 1887

Buffalo, N. Y.

Aggi

Assistant Engineer, Department of Public Works

Hollis, L. I., N. Y.

D T Marshall

Physician 109

## DELTA CHAPTER

Harry Atwater Smith (Deceased)

C 1887

William Bishop Tompkins (Deceased)

U 1887

Burton Morss Tremper

C 1887 Merchant Kingston, N. Y.

Francis Cuyler Van Dyck F 1887\*† New Brunswick, N. J. Dean, Professor of Physics and Experimental Mechanics, Rutgers College

Cornelius Clarkson Vermuele U 1887† U. S. Geological Survey

Trenton, N. J.

Francis Augustus Welber (Deceased)

F 1887

Isaac Lewis Winckler

C 1887

Cleveland, Ohio

Teacher of Mathematics, Central High School

# RENSSELAER CHAPTER

RENSSELAER POLYTECHNIC INSTITUTE, TROY, NEW YORK

Charter Date Unknown Chapter Installed May 6, 1887

### HISTORICAL SKETCH

The Rensselaer Chapter of the Society of the Sigma Xi, originally designated the Zeta Chapter, was established May 6, 1887, at the Rensselaer Polytechnic Institute, Troy, N. Y. The charter membership consisted of seven undergraduates from the senior and junior classes.

This Chapter having been established only six months after the founding of the Society, the installation undoubtedly lacked the formality and importance which attach to the ceremony of the present day; in fact, the Chapter has no account of the installation exercises. The earliest record now in its possession pertains to a meeting held on June 9, 1887, at which time three members of the faculty were elected to membership.

For fifteen years the Chapter was composed of from eight to ten faculty members and such undergraduate students as were deemed worthy of election. This election, usually occurring in April, did not enable the new members to derive much direct benefit from association with the other members of the Society, but to be numbered among the few selected was considered by the student body an honor earnestly to be sought. As there was but one course of study at the Institute, and that arranged to fit the needs of the civil engineer, the selection of members has been based on the promise given of future success in the investigations which are directly connected with the profession of engineering, and the measure of success attained by the graduate members of the Chapter would indicate that their selection had been wisely made.

The phenomenal growth of the Rensselaer Polytechnic Institute during the past seven years—the student attendance having increased from about two hundred to over six hundred—and the establishment in the year 1908 of the new courses of Mechanical and Electrical Engineering have infused new life into the Chapter; the faculty membership has more than doubled and there has been a somewhat similar increase in the student membership. In consequence of these recent important additions to the courses and the superior facilities for study now offered the student in these departments, we look forward to a marked increase in the activity of our Chapter, a wider field of work, and a larger association of resident and undergraduate students who are interested in the investigations which lead to the practical application of science to the continued development of the country's industries.

E. F. C.

Harold Smith Beers

# OFFICERS FOR 1911-12

President	EDWARD RICHARDS CARY
Vice-President	ALBERT GUSTAVE WALTER
Decording Secretary	CHARLES HENRY ANDROS
Corresponding Secretary	EDWARD FENEMORE CHILLMAN
Transurer	EDWARD FENEMORE CHILLMAN
Councilor	CHARLES WINTHROP CROCKETT

Councilor
MEMBERSHIP ROLL
Walter Russell Abbott U 1909 Waterford, N. Y Leveler, New York State Barge Canal
William Henry Adey U 1895 Albany, N. Y Assistant Engineer, Delaware and Hudson Company
Hugh McVean Anderson F 1898 Irondequoit, N. Y
Charles Henry Andros U 1907 Troy, N. Y Assistant in Descriptive Geometry, Rensselaer Polytechnic Institute
Hiley Newton Armer U 1909 Albany, N. Y Rodman, New York State Highway Commisson
Emil Asseln U 1899 Steelton, Pa Engineer, Pennsylvania Steel Company
Jay Arthur Auringer U 1906 Brooklyn, N. Y Draftsman, Empire Bridge Company
Charles David Babcock U 1909 Troy, N. Y Assistant in Mathematics and Surveying, Rensselaer Polytechnic Institute
Walter Peter Backes U 1911 Memphis, Tenn Engineer in Contracting Department, Virginia Bridge and Iron Company
Edward Christian Henry Bantel U 1897 Austin, Tex Associate Professor of Civil Engineering, University of Texas
Charles Whitney Tillinghast Barker U 1903 Philadelphia, Pa President, Field, Barker and Underwood, Inc., Engineers and Contractors
Frank Edwin Barnes U 1898 New York City Engineer, A. E. Stephens Company
Charles Ridgely Barnett, Jr U 1903 Baltimore, Md Member of Firm, Hopkins-Barnett Company, Contracting Engineers
Charles Abercrombie Dunbar Bayley U 1900 Supervisor, Construction Department, J. G. White and Company
Frederick Armour Beardsley U 1911 New York Cit; Assistant Engineer, Viele, Blackwell and Buch, Engineers
Walter Douglas Beardsley U 1911 New York City Assistant Engineer, Viele, Blackwell and Buch, Engineers
Donald Neil Becker U 1908 Chicago, Ill Designer, Engineering Department, Chicago, Milwaukee and St. Paul Railway
Paul Beer U 1900 Des Moines, Ia Manager, Barber Asphalt Paving Company

Beers U 1907 Niagara Falls, N. Y. Assistant Engineer, Ontario Power Company

RENSSELAER CHAPTER George Alfred Bell, Jr. U 1900 Marion, Ind. James Clark Bell U 1906 Schenectady, N. Y. Assistant Engineer, New York State Barge Canal Franklyn Edward Belmont TI 1907 New York City Structural Draftsman, Public Service Commission William Joseph Bergen U 1897 Cleveland, Ohio First Assistant to Chief Engineer, New York, Chicago and St. Louis Railway James Wartelle Billingsley U 1902 New Orleans, La. Manager, New Orleans Office, The Fred A. Jones Company, Engineers Edward Freyling Black U 1904 Foochow, China Dean, Department of Engineering, Angio-Chinese College Frank Joseph Blair, Jr U 1907 Society Hills, S. C. Resident Manager, The Ferguson Contracting Company Carl Augustus Bostrom U 1901 Washington, D. C. Assistant Civil Engineer, United States Navy Theodore James Bradley TT 1904 Albany, N. Y. Professor of Mathematics, Albany Academy George Chester Britton U 1907 Rochester, N. Y. Draftsman, State Engineer's Department. Harry Baldwin Brown TJ 1911 Wilton, N. Y. Assistant Engineer on Construction, Metropolitan Life Insurance Company Nimrod Washington Long Brown U 1892 Thomasville, Ala. Managing Proprietor, Thomasville Mill and Storage Company Robert King Brown, Jr CU 1887 Salt Lake City, Utah Engineer M. of W., San Pedro, Los Angeles and Salt Lake City Railroad Eimer James Bucknell U 1892 (Deceased 1895) Thomas Edward Butterfield U 1897 Philadelphia, Pa. Chief Engineer, Otto Gas Engine Works Charles Dow Calkins U 1909 Troy, N. Y. Assistant in Mathematics and Surveying, Rensselaer Polytechnic Institute Alejo Augustin Carrèno U 1903 Carrèno, Cuba General Manager, Covadonga Sugar Manufacturing Company Edward Fairbank Carter U 1907 Engineer, Metcalf Engineering Company of Chicago Edward Richards Cary F 1905 Troy, N. Y.

Victoria Harbor, Canada

Professor of Geodesy and Road Engineering, Rensselaer Polytechnic Institute Ramón Ramos Casellas U 1905 Arecibo, Porto Rico

City Engineer

Dan Woleaver Chamberlin U 1907 Syracuse, N. Y. Assistant Engineer, New York State Highway Commission

Frank Taylor Chambers TI 1892 Norfolk, Va. Civil Engineer, United States Navy Yard

Ralph Hamilton Chambers U 1892 New York City With The Foundation Company

Eduardo Justo Chibas U 1888 Santiago de Cuba, Cuba General Engineering Practice.

Associate Professor of Descriptive Geometry, Rensselaer Polytechnic U 1911

Secretary, Rensselaer Union Club

Assistant in Mathematics and Surveying, Rensselaer Polytechnic Institute

Civil Engineer

Troy, N. Y.

Troy, N. Y.

Troy, N. Y.

Troy, N. Y.

Wilmington, Del.

U 1888

U 1904

U 1887

U 1906

Edward Fenemore Chillman

Clarence Lee Clark

Elwyn Maxson Clark

John Andrew Clark

LeRoy Walter Clark

Assistant in Rational and Technical Mechanics, Rensselaer Polytechnic Hays Hutchinson Clemens U 1907 Factory Engineer, Hays Manufacturing Company U 1898 Hoosick Falls, N. Y. Sanford Lockwood Cluett Vice-President and Secretary, W. A. Wood Company Walkerville. Ont. Archie Lyman Colby U 1887 Manager of Construction, Canadian Bridge Company, Ltd. Allan DeWitt Colvin U 1906 Hartford, Conn. Assistant to Manager, Hartford Electric Light Company Charles Irving Colyer U 1899 New York City Superintendent, The Guarantee Construction Company James Monroe Cook, Jr U 1898 Johnstown, Pa. Assistant Superintendent, Mining Department, Cambria Steel Company Burgis Greenacre Coy U 1904 Fort Collins, Col. Resident Engineer, Laramie-Poudre Irrigation Company David Cushman Coyle U 1910 Phoenixville, Pa. Designer, Phoenix Bridge Company Charles Winthrop Crockett F 1889\* Troy, N. Y. Professor of Mathematics and Astronomy, Rensselaer Polytechnic Institute Samuel Brice Curfman U 1893 (Deceased 1909) Oscar Frederick Dalstrom U 1901 Chicago, Ill. Bridge Department, Chicago and Northwestern Railway Reuben Davis U 1903 New York City With The Foundation Company Harry Johnson Deutschbein II 1903 Albany, N. Y. Superintendent of Water Works John William Doty U 1902 Troy, N. Y. Chief Engineer, The Foundation Company Walter Louis DuMoulin TJ 1908 Morenci, Ariz. Superintendent, The Morenci Water Company William Easby, Jr U 1890 (Pennsylvania F 1900) Philadelphia, Pa. Professor of Municipal Engineering, University of Pennsylvania U 1892 Kansas City, Mo. Signal Engineer, Kansas City Terminal Railway William Chester Emigh U 1909 Purling, N. Y. \* Consulting Engineer

Myron Edward Evans (Deceased 1907) U 1895

Elmer Selah Farwell

U 1891 Consulting Engineer Kansas City, Mo.

Charlotte, N. C.

onton TT 1909

Harvey Feldmeier U 1892 Little Falls, N. Y.
Mechanical Engineer, D. H. Burrell and Company

Alan McPherson Ferebee U 1904 New Westminster, B. C. Resident Engineer, Sula Island Bridge

Edwin Stanton Fickes U 1893 Pittsburgh, Pa. Chief Engineer and Purchasing Agent, Aluminum Company of America

Walter George Filer U 1890 Salt Lake City, Utah General Manager, Twin Falls Land and Water Company

Frederick William Firth (Deceased 1905)

U 1902

Joseph Firth U 1901

City Engineer

Burtner Fleeger U 1910 Pittsburgh, Pa. Engineer, Pittsburgh Steel Foundry Company

Ernest Gray Freeman (Deceased 1900)

U 1888

Robert Samuel Furber (Deceased 1911) U 1909

Howard Tompkins Gardenier U 1907 Syracuse, N. Y. Secretary and Treasurer, The B. F. Brown Gas Engine Company

Leslie Holmes Garlinghouse U 1910 Ambridge, Pa.
Draftsman, American Bridge Company

Arthur Leon Giblin (Deceased 1894) U 1891

Arthur Maurice Greene, Jr F 1908† (Pennsylvania F 1900) Troy, N. Y. Professor of Mechanical Engineering, Rensselaer Polytechnic Institute

Vernon Hill Gridley (Deceased 1896) U 1893

George Swetland Groesbeck U 1888 New York City Consulting Engineer, New York, Westchester and Boston Railway

Edward Joseph Gugerty U 1899 Middletown, Conn. Resident Engineer, Lederle and Provost

James Dickey Hailman Retired CU 1887

Pittsburgh, Pa.

Edward Parmelee Hamilton U 1907 Shelburne Falls, Mass.
Assistant Engineer, Power Construction Company

Shortridge Hardesty U 1908 Kansas City, Mo. Drafstman, Waddell and Harrington, Engineers

Norman Gladding Hardy U 1910 Cananea, Sonora, Mex. Testing Engineer, Mechanical Engineering Department, C. C. C. Company

George Albert Harrison U 1910 Wellsboro, Pa.
Civil Engineer

Assistant in Mathematics, Rensselaer Polytechnic Institute

Assistant in Mechanical Engineering, Rensselaer Polytechnic Institute CU 1887

> Consulting Engineer U 1909

Consulting Engineer, Tupfer and Remick

Consulting and Supervising Engineer

Civil Engineer

U 1889

U 1887

F 1909 (Missouri U 1908)

Troy, N. Y.

Troy N. Y.

New York City.

Buffalo, N. Y.

New York City

Richmond, Va.

New York City

U 1904

William Ralston Headden

Fred George Hechler

Philip Walter Henry

Byron Voltaire Herden

Edward Mills Hoadley

Richard Hayden Hood

Abraham Lincoln A Himmelwright CU 1887

Engineer and Contractor (retired) John Smith Hoover U 1906 (Deceased 1907) F 1909\* Matthew Albert Hunter Troy, N. Y. Assistant Professor of Electro-chemistry and Physics, Rensselaer Polytechnic Herbert Armstrong Jaggard U 1889 Elmira, N. Y. Superintendent, Pennsylvania Railroad New York City James Edgar Jenkins U 1904 Engineer, Grant, Smith and Company Edward Crosby Jones F 1910 (Columbia U 1908) Troy, N. Y. Assistant in Electrical Engineering and Physics, Rensselaer Polytechnic Walter Everett Jones U 1901 Chicago, Ill. Manager, Roebling Construction Company Harry Edson Judd U 1902 Keokee, Lee Co., Va. Superintendent, Keokee Coal and Coke Company John Francis Kelly U 1910 Albany, N. Y. Testing Engineer, The Federal Signal Company U 1904 Walter Lockwood Kelly Salt Lake City, Utah General Superintendent, O. and J. McDonald Contracting Company Theodore Ely Knowlton U 1891 New York City Consulting Engineer Frederick Charles Koerner, Jr. U 1906 Waterford, N. Y. Assistant Engineer, New York State Barge Canal Guy Theodore Kuntz U 1911 St. Louis, Mo. With R. Y. Patterson Thomas R Lawson U 1898 Troy, N. Y. Professor of Mechanics, Rensselaer Polytechnic Institute Hugh Case Leibee U 1907 Yankton, S. D. City Engineer Azariah Thomas Lincoln F 1909\*+(Illinois F 1903) Troy, N. Y. Assistant Professor of Chemistry, Rensselaer Polytechnic Institute Antonio Llano New York City U 1889 Director, Spanish Department, International Correspondence Schools

U 1888

New York City

Civil Engineer

Cuyler Warfield Lush U 1905 New York City

Cuyler Warfield Lush U 1905 New York City Engineer, T. M. McLeod Company, Contractors

Jesse Albert Martin U 1900 (Deceased 1901)

Julius Alfred Ludwig

John Lowrey Martin U 1893 Scranton, Pa. Director of Instruction, International Correspondence Schools

William Pitt Mason F 1887\*† Troy, N. Y. Professor of Chemistry, Rensselaer Polytechnic Institute

James McGiffert, Jr U 1891 Troy, N. Y.
Assistant Professor of Mathematics, Rensselaer Polytechnic Institute

Louis Zerega Mearns U 1909 Baltimore, Md.
Assistant Chief Engineer, Baltimore Sewerage Commission

Herbert Eugene Miller U 1909 Brown's Station, N. Y. Inspector, Board of Water Supply for New York City

Howard Guy Millington U 1908 Pullman, Wash. Instructor in Engineering, Washington State College

Liberty Gilbert Montony U 1889 (Deceased 1909)

Lewis Ferry Moody F 1909 (Pennsylvania U 1901) Troy, N. Y. Assistant Professor of Mechanical Engineering, Rensselaer Polytechnic

James Warren Morgan U 1903 Lewiston, N. Y.
Agriculturist

John Hays Myers U 1893 New York City Engineer, Public Service Commission

Frank Lewis Nason F 1887\*† West Haven, Conn. Geologist

Charles Herbert Neel U 1906 Santa Fe, N. M. Territorial Road Engineer

Julio Garzon Nieto U 1893 Bogota, Colombia Chief Engineer, Coast and Geodetic Survey

Kenneth Howard Osborn U 1908 Cleveland, Ohio Concrete Inspector, City Department of Buildings

Grant Knauer Palsgrove U 1911 Troy, N. Y.
Assistant in Mechanical Engineering, Rensselaer Polytechnic Institute

Wainwright Parish CU 1887 New York City

Parish and Schroeder, Architects

John Calvin Peck U 1907 Albany, N. Y. Commercial Engineer's Office, New York Telephone Company

Halsey Beecher Pomeroy U 1887 (Deceased 1897)

William Joseph Popp U 1909 New York City With Shanley-Morrisey, Inc.

Frank Donald Porter U 1906 Albany, N. Y.
Assistant Engineer, State Conservation Commission.

SIGMA XI 118 U 1890 New York City Winfield Scott Potter Vice-President, Manganese Steel Rail Company CII 1887 Cincinnati, Ohio Victor Taylor Price District Manager, Buckeye Engine Company U 1909 Troy, N. Y. Louis Blackmer Puffer Instructor in Mathematics, Rensselaer Polytechnic Institute Francisco Pujals Y Claret U 1909 Havana, Cuba Civil Engineer, T. L. Huston Contracting Company, Engineers and Architects U 1900 Chicago, Ill. Walther Raster Office Manager, E. C. and R. M. Shankland, Civil Engineers F 1895\*† (Iowa F 1905) William Galt Raymond Iowa City, Ia. Dean of College of Applied Science, State University of Iowa Paul Lyon Reed U 1893 Washington, D. C. Civil Engineer, U. S. Navy, Bureau of Yards and Docks Octavio Mario Reyes U 1895 Bogota, Colombia Merchant Winfred Everett Reynolds U 1903 New York City Assistant Engineer, John H. Gray Company U 1911 Troy, N. Y. Assistant, Electrical Engineering and Physics, Rensselaer Polytechnic U 1895 Edward Dunbar Rich Ann Arbor, Mich. Assistant Professor of Civil Engineering, University of Michigan. Palmer Chamberlain Ricketts CF 1887\*+ Troy, N. Y. President, Rensselaer Polytechnic Institute James Walter Rickey U 1894 Massena, N. Y. Chief Engineer, Long Sault Development Co. and St. Lawrence Power Co., Ltd. George Newton Riker U 1908 New York City With James Stewart and Company F 1905\* William Lispenard Robb Troy, N. Y. Professor of Electrical Engineering and Physics, Rensselaer Polytechnic Arthur Wirt Robinson II 1897 Sales Manager, Locomobile Company of America James Vincent Rockwell U 1898 Charleston, S. C. Civil Engineer, United States Navy

Bridgeport, Conn.

Charles Edwin Rogers U 1896 Hartford, Conn. Professor of Civil Engineering, Trinity College

Alston Orange Rose U 1911 Walton, N. Y.

Harry Harwood Rousseau U 1891+ Culebra, C. Z. Civil Engineer, Isthmian Canal Commission

William White Rousseau, Jr. U 1895 Troy, N. Y. Assistant in Geodesy, Rensselaer Polytechnic Institute

Edward Irvine Rudd U 1905 Boston, Mass. Assistant Engineer, Boston and Albany Railroad

Edgar Kingsbury Ruth U 1909 Cincinnati, Ohio Assistant Engineer, Kaps-Brehm Company

Frederick Augustus Sabbaton U 1892 Grand Mere, Ont. Assistant Manager, Laurentide Company Charles George Schade U 1892 Canonsburg, Pa. Bridge Engineer, Fort Pitt Bridge Company Carl William Schedler U 1910 Shepardstown, W. Va. Construction Engineer Edward Delavan Nelson Schulte F 1908 Troy, N. Y. Associate Professor of Engineering, Rensselaer Polytechnic Institute Gerd Hayen Schulte U 1908 Manila, P. I. District Engineer, Bureau of Public Works Carl Julius Schumann U 1902 Brooklyn, N. Y. Secretary, Moller and Schumann, Varnish Manufacturers U 1905 George Corliss See Albany, N. Y. Assistant Engineer, New York State Highway Commission Robert Erwin Sheal TJ 1893 Cleveland, Ohio With The Wellman-Seaver-Morgan Company Ralph Harrison Sherry F 1908 (Stanford G 1905) Buffalo, N. Y. Metallurgist, Pierce Arrow Motor Car Company Harry Shoemaker U 1904 Mechanicsville, N. Y. Assistant Engineer, New York State Barge Canal Alfred Gale Slatcher U 1908 Troy, N. Y. With T. L. Huston Contracting Company Harrison Smith U 1905 New Orleans, La. Superintendent, Wells Brothers Company of New York Pemberton Smith U 1888 Buenos Aires, Argentina General Representative, United States Steel Products Export Company Arthur Porter Smyth U 1910 Helena. Mont. Junior Engineer, United States Reclamation Service Earl Eugene Sperry U 1904 Syracuse, N. Y. Assistant Civil Engineer, Solvay Process Company U 1909 David Brier Taylor Troy, N. Y. Assistant Superintendent, Electrical Department, Troy Gas Company Samuel Richards Thomas U 1891 Hokendauqua, Pa. Superintendent, Ironton Railroad Alfred Whittecar Thompson U 1907 Erie, Pa. Architectural Engineer, General Electric Company Clark Wallace Thompson U 1887 Cascade Locks, Ore. Vice-President and General Manager, Wind River Lumber Company Dwinel Burt Thompson U 1907 Troy, N. Y. Graduate Student, Rensselaer Polytechnic Institute Dwinel French Thompson F 1905 † Troy, N. Y. Professor of Descriptive Geometry, Rensselaer Polytechnic Institute Gordon Saxton Thompson Troy, N. Y. U 1905 Assistant in Mechanics, Rensselaer Polytechnic Institute

Harold Grant Thompson U 1898 Albany, N. Y. Principal Assistant Engineer, Federal Signal Company Mackay James Thompson St. Paul, Minn.

Farm Land Securities

John Edmund Ton	aelier	U 1911	Wernersville, Pa.
Walter James Tow Engi	ne neer, Chicago	U 1895 and Northwestern	Chicago, Ill.
Benjamin Mitchell	Turner laster Mechai	U 1888 nic, Burden Iron Co	Troy, N. Y.
Daniel Lawrence 7 Chief of Bure		U 1891 nspection, Public Se	New York City ervice Commission
James Foster Tuth		U 1898 . White and Compar	New York City
James Foster Tuth Resident En		U 1898 No. 2, Power Const	Shelburne Falls, Mass. truction Company
Wilmer Charles Von Chief Eng		U 1907 Trange and Ampere	East Orange, N. J. Land Company
Paul Adolf Volcker		U 1911 York State Barge	Lyons, N. Y.
Henry Belin Voorb General Superinte		U 1896 Insportation, Baltim	Baltimore, Md. ore and Ohio Railroad
Richard George W		U 1887 isconsin Sugar Com	Milwaukee, Wis.
Albert Gustave Wa		U 1911 Florida and Alabama	Pensacola, Fla. a Railway
Frederick Joseph V		U 1910 Easton, Civil Engin	Aberdeen, S. D.
George Merritt Wa President an		U 1907 nager, George M. W	New York City ard Company, Inc.
Webster Earle Wa Highway		U 1910 w York State Highw	Albany, N. Y.
Clarence Bingham	Watkins	U 1903 Contractor	Pittsburgh, Pa.
Frank Roderic We		U 1909 ne Lorain Steel Com	Johnstown, Pa.
John Leroy Weber Assistant in El		U 1910 neering, Rensselaer	Troy, N. Y. Polytechnic Institute
William Earl Whit Joint		U 1896 Vest Side Structura	Troy, N. Y.
Eugene B Wilhelm En		U 1908 Lawn Cemetery As	Detroit, Mich. sociation
William MacIlhenr Wi		U 1910 Casby, Constructing	Philadelphia, Pa. Engineer
Wyant James Will Instructor in Ele		U 1905 eering and Physics,	Troy, N. Y. Rensselaer Polytechnic
Frank J. Willson Assistant in Me	echanical Eng	U 1911 ineering, Rensselaer	Troy, N. Y. Polytechnic Institute
Joseph Franklin V Hyd		U 1887 nitary Engineer, Ch	Buffalo, N. Y.
Albert William Za Estir		U 1908 onley Manufacturing	Pittsburgh, Pa.
Carolus Hermann		U 1897 Civil Engineer	Fort Worth, Tex.

# THETA CHAPTER

Union College, Schenectady, New York
Charter Dated 1887 Chapter Installed 1887

### HISTORICAL SKETCH

Theta Chapter was organized and received its charter in 1887. The establishment of the Chapter was due largely to the efforts of Professor Charles Carroll Brown, who was then Professor of Civil Engineering at Union College, and it has since enjoyed a prosperous career. Several meetings have been held each year for the transaction of regular business, the presentation of papers and the discussion of scientific subjects. Unfortunately the proceedings have never been published.

The Chapter has always been conservative in the election of new members. For this reason selection for membership to Sigma Xi is

highly appreciatel by our students.

Through the efforts of our president, Doctor James H. Stoller, a directory of Theta Chapter was published in 1907. This directory gives a brief history of each member, his membership in learned societies, and his contributions and publications on scientific subjects.

J. H. C.

### PUBLICATIONS

Catalogue of Theta Chapter of the Society of the Sigma Xi of Union College. Schenectady, N. Y., 1907. 32 pp.

### OFFICERS FOR 1911-12

President	EDWARD ELLERY
Vice-President	OLIN JEROME FERGUSON
Recording Secretary	Morland King
Corresponding Secretary	JAMES HANNA CUNNINGHAM
Treasurer	HOWARD OPDYKE
Councilor	OLIN HENRY LANDRETH

#### MEMBERSHIP ROLL

Frank William Allen	G 1893	White Plains, N. Y.
Engineer with	McMullen and McDermott,	Contractors

William Allen	A 1910	New York City
	Lawver	

Andrew Ordell Aver	ry G	1907	Chicago	o, Ill.
1	Engineer Wes	tern Electric	Company	

Miles	Ayrault		G 1895			Tonawanda, N. Y.
	Vice-President	and	Treasurer.	National	Roofing	Company

E Brown Bak	er	A 1892			Herkimer, N. Y.
Mana	ger, Acme	Engineering	and	Contracting	Company

U 1911 Oneida, N. Y. Harold Wallace Baker Civil Engineer, Coleman DuPont Road Tonawanda, N. Y. Thomas Webster Barrally CG 1887 Resident Engineer, New York State Barge Canal Roland Miller Bartlett G 1910 Oak Hill, Ill. Teacher, School of Jubilee Walter J Becker G 1910 Schenectady, N. Y. Engineer, General Electric Company Nathan Beckwith G 1894 New York City Assistant Auditor, State Insurance Department Raymond S Bennet G 1910 Schenevus, N. Y. Engineer Hinckley, N. Y. Louis Ray Bennett U 1911 Engineer, New York State Barge Canal G 1902 Enosburg Falls, Vt. Everett J Best Principal, City Schools Howard Elmer Bishop G 1907 Sayre, Pa. Coal Dealer Edward Emanuel Bocian G 1908 Chicago, Ill. Electrical Engineer Lewis Boss F 1903\*+ Albany, N. Y. Director, Dudley Observatory John Hammond Bovier G 1910 Elmira, N. Y. Civil Engineer, State Barge Canal F 1898\* Byron Briggs Brackett Brookings, S. D. Professor of Electrical Engineering, South Dakota State College Henry Ward Briggs G 1890 Wilmington, Del. Physician Charles Carroll Brown CF 1887\*+ Indianapolis, Ind. Consulting Engineer, Editor of Municipal Engineering Edgar Brown G 1895 Washington, D. C. Botanist, U. S. Department of Agriculture Robert Leonard Brunnett G 1909 Schenectady, N. Y. Engineer, General Electric Company George D Buel CG 1887 (Deceased 1892) John Albert Charlton Callan F 1910 Schenectady, N. Y. Instructor in Engineering Drawing, Union College Edward Madison Cameron CG 1887 Albany, N. Y. Lumber Dealer Melvin David Casler G 1906 New York City Assistant Engineer, Board of Water Supply William Spencer Cassedy G 1891 Gloversville, N. Y. Lawyer Arnold Goodwin Chapman G 1906 Albany, N. Y. Secretary to New York State Engineer

Rodolphus Philip Clark G 1909 Schenectady, N. Y. Engineer, General Electric Company G 1896 Brooklyn, N. Y. Charles Cleaver Engineer, Brooklyn Rapid Transit Company H Burdett Cleveland G 1902 Albany, N. Y. Assistant Engineer, New York State Health Department Edward Bernard Coburn G 1888 New York City Physician, New Amsterdam Eye and Ear Hospital F 1903 Clarence Taliman Coley New York City Electrical Engineer Archie Randall Conover G 1888 Amsterdam, N. Y. Lawyer Frank Cooper G 1893 Schenectady, N. Y. Corporation Counsel of Schenectady Eimer Elsworth Farmer Creighton F 1905 Schenectady, N. Y. Electrical Engineer, General Electric Company G 1897\*† (Indiana CF 1904) Bloomington, Ind. Edgar Roscoe Cumings Professor and Head of Department of Geology, Indiana University Homer P Cumings F 1892 Painesville, Ohio City Engineer G 1905 Schenectady, N. Y. James Hannah Cunningham Instructor in Electrical Engineering, Union College F 1903\* Urbana, Ili. Richard Sydney Curtiss Assistant Professor of Chemistry, University of Illinois G 1906 Toronto, Canada Clarence Raymond Darby Electrical Engineer Arthur Edgar Davies G 1908 Schenectady, N. Y. Lawyer Cassius Miles Davis G 1909 Schenectady, N. Y. Consulting Engineer, General Electric Company Hugh Garnett Davis G 1907 New York City Engineer, J. G. White and Company Thomas G Delbridge G 1903 (Cornell F 1904) Ithaca, N. Y. Instructor in Chemistry, Cornell University Archibald Stewart Derby G 1896 Hudson Falls, N. Y. Lawyer Edward Wilkins Dewey CG 1887 Bradys Bend, Pa. President, Allegheny River Improvement Association William Jay Dickinson G 1903 Pittsfield, Mass. With General Electric Company Lindsay Duncan F 1901 Boulder, Col. Professor of Civil Engineering, University of Colorado G 1895 Albany, N. Y. Frederick Marshall Eames Assistant Civil Engineer, New York State Barge Canal Cincinnati, Ohio Horace Taylor Eddy F 1900 Treasurer, Machinery Sales Company

Eric Ture King

F 1902 Troy, N. Y. Frederick Edwards Civil Engineer Schenectady, N. Y. F 1905 Edward Ellery Professor of Chemistry, Union College G 1905 Wales, England Tringad Knight Evans Instructor in Electrical Engineering F 1905 (Nebraska G 1903) Schenectady, N. Y. Olin Jerome Ferguson Associate Professor of Electrical Engineering, Union College G 1909 Raymond J Finch Schenectady, N. Y. Engineer, American Locomotive Company G 1898 William Lewis Fisher Philadelphia, Pa. Assistant Curator, Philadelphia Museum G 1892 Cohoes, N. Y. George H Furbeck Physician Charles Frederick Flemming Garis F 1908 Schenectady, N. Y. Professor of Mathematics, Union College Wilbert A Garrison F 1910 Schenectady, N. Y. Assistant Professor of Mathematics, Union College A 1902\*+ Franklin Henry Giddings New York City Professor of Sociology, Columbia University Fred Girvin G 1907 Schenectady, N. Y. Chemist, General Electric Company Harland Haviland Grover G 1910 Schenectady, N.Y. Engineer, General Electric Company Loren C Guernsey G 1895 (Deceased 1901) Thomas Edward Hannigan G 1908 Schenectady, N. Y. Journalist James Herring G 1896 Philadelphia, Pa. With The Schofield Company Leland Silas Hoffman G 1908 Worcester, Mass. Instructor in Mathematics, Bancroft School Francis Edward Holleran G 1895 Washington, D. C. Chief Draftsman, Engineering Department, Panama Canal Adam John Horn G 1910 St. Johnsville, N. Y. Cost Clerk, Union Mills John Wilbur Hughes F 1907 Erie, Pa. Civil Engineer, General Electric Company, Erie Works Daniel Ferguson Imrie G 1906 Lake George, N. Y. Lawyer Leland Wesley Irish U 1904 Evanston, Ill. Civil Engineer Edgar Boyd Kay F 1897 Tuscaloosa, Ala. Dean, College of Engineering, University of Alabama

G 1905

Assistant Engineer, New York City Board of Water Supply

Cornwall-on-Hudson, N. Y.

G 1905 Schenectady, N. Y. Morland King Instructor in Electrical Engineering, Union College Warner King G 1906 Brooklyn, N. Y. Assistant Engineer, New York City Board of Water Supply Walter Gill Kirkpatrick F 1894 Jackson, Miss. Kirkpatrick and Johnson, Civil and Mechanical Engineers Frederick Klein G 1895 New York City Lawyer August H Kruesi G 1906 Schenectady, N. Y. Designing Engineer, General Electric Company F 1894\*+ Olin Henry Landreth Schenectady, N. Y. Professor of Engineering, Union College William Baker Landreth A 1911 Schenectady, N. Y. Consulting Engineer Arthur Hamilton Lawton G 1900 New York City With New York Edison Company Walter Lewman Lawton G 1894 Oswego, N. Y. Civil Engineer Andrew Wright Lent G 1904 Highland, N. Y. A. D. and A. W. Lent, Attorneys Arthur Maurice Lewald G 1893 Chicago, Ill. Lawyer Leon Roy Lewis G 1906 Hudson Falls, N. Y. Lawyer Beekman Cox Little G 1891 Rochester, N. Y. Superintendent, Rochester Water Works Livingston J Little F 1890 (Deceased 1909) Sidney J Lockner A 1891 Copenhagen, N. Y. Principal, High School Frank Ira Losee G 1905 Newark, N. J. Instructor in History, Barringer High School Edward Patrick McKeefe G 1898 Albany, N. Y. Chemist, New York State Department of Agriculture G 1908 Schenectady, N. Y. Electrical Engineer, General Electric Company Arthur Lyman Maxon U 1911 Corning, N. Y. Teacher, Corning Free Academy John Crap Merchant G 1898 Pine Plains, N. Y. Physician Edward Waite Miller CG 1887 Albany, N. Y. Clergyman Howard Townsend Mosher F 1895 Rochester, N.Y. Lawyer

G 1897

Principal of Union and High School

Cooperstown, N. Y.

Monte Josiah Multer

Milwaukee, Wis. G 1907 Alexander Joseph Nicht, Jr Electrical Engineer, Allis-Chalmers Company F 1895 Schenectady, N. Y. Howard Opdyke Professor of Physics, Union College G 1907 Victor, N. Y. David Henry Osborne Schenectady, N. Y. Glowacki Redfield Parker G 1903 Commercial Engineer, General Electric Company Arthur Adams Patterson U 1911 Glens Falls, N. Y. Engineer, New York State Barge Canal F 1895\*+ Philadelphia, Pa. James Lawson Patterson Headmaster, Chestnut Hill Academy William Edward Paul Schenectady, N. Y. Engineer, General Electric Company G 1906 Leighton H Peebles New York City Engineer for J. G. White and Company, Inc. Edward Penrose, Jr G 1908 Cohoes, N. Y. Employed on New York State Barge Canal Albert Hartwell Pepper CG 1887 Schenectady, N. Y. W. T. Hanson Company Maurice Perkins CF 1887+ (Deceased 1901) Alfred Edward Phillips CG 1887 Chicago, Ill. Head of Department of Civil Engineering, Armour Institute of Technology Edward Ferguson Pickford G 1889 Washington, D. C. Lecturer on Hygiene, National University George Edward Pollock G 1896 (Deceased 1904) Horatio Milo Pollock G 1895 Albany, N. Y. Statistician and Editor, State Lunacy Commission Henry Wray Preston G 1891 Elmira Heights, N. Y. Engineer, Elmira Plant, Empire Bridge Company Charles Smith Prosser F 1895\*† (Ohio F 1900) Columbus, Ohio Professor of Geology, Ohio State University Thomas Henry Reddish G 1892 Owego, N. Y. Cashier, Owego National Bank Lloyd Nash Robinson U 1911 Schenectady, N. Y. Engineer, General Electric Company Richard Burton Rowe G 1896 (Deceased 1902) Arthur Jay Roy G 1893\* Albany, N. Y. First Assistant, Dudley Observatory Elbert Theodore Rulison G 1904 New York City Student, Roosevelt Hospital Howard Emmet Sands G 1902 East Walpole, Mass. With F. W. Bird and Son Herbert Davis Schutt G 1909 Calgary, Alberta Civil Engineer

127 Edson Mason Scofield CG 1888 Philadelphia, Pa. President, The Scofield Engineering Company Glenn Mason Scofield Philadelphia, Pa. Vice-President, The Scofield Engineering Company Lynn M Scofield G 1897 San Francisco, Cal. President, L. M. Scofield Company David Joseph Shaw G 1902 (Deceased 1910) Philip Foster Shutler G 1910 Fulton, N. Y. Assistant City Engineer G 1897† Stephen Elmer Slocum Cincinnati, Ohio Professor of Applied Mathematics, University of Cincinnati F 1888† (Case F 1907) Cleveland, Ohio Professor of Political Economy, Case School of Applied Science Charles Proteus Steinmetz F 1903+ Schenectady, N. Y. Professor of Electrical Engineering, Union College Franklin Rand Stevens G 1908 Rutland, Vt. Civil Engineer, Rutland Railway George C Stewart G 1889 Amsterdam, N. Y. Lawyer James Hough Stoller F 1889\* Schenectady, N. Y. Professor of Biology and Geology, Union College S Vernon Travis U 1911 Schenectady, N. Y. Engineer, General Electric Company James Reagles Truax CF 1887 Schenectady, N. Y. Journalist Charles W Trumbull G 1892 Schenectady, N. Y. City Engineer Willis Gaylord Tucker CF 1887\*+ Albany, N. Y. Professor of Chemistry and Toxicology, Albany Medical College Ansel Augustus Tyler F1898\*† Bellevue, Neb. Professor of Biology, Bellevue College H A Van Alstyne A 1909 Schenectady, N. Y. Lawyer Richard Van Busekum G 1894 (Deceased) Wayne Avril Vandergrift G 1908 Schenectady, N. Y. Electrical Engineer, General Electric Company

Gardner Lewis Van Dusen G 1896 New York City Assistant Engineer in Topographic Bureau, Borough of Queens

Wellington Eugene Van Wormer G 1901 Middleburgh, N. Y. District Superintendent of Schools

Carl Otto von Dannenberg G 1906 New York City Electrical Engineer, J. G. White and Company

Dow Vroman North Tonawanda, N. Y. President, Board of Education

Clarence Abiathar Waldo F 1890\*† (Purdue CF 1909) St. Louis, Mo. Professor of Mathematics, Washington University

Elton David Walker F 1895 State College, Pa.
Professor of Engineering, Pennsylvania State College

Otto Jean Walrath G 1909 Ossining, N. Y. Teacher, Mount Pleasant Academy

Robert Hoosick Washburne G 1889 Benson, Vt.
Methodist Minister

Harrison E Webster F 1888

(Deceased 1906)

William Earl Weller G 1907 Schenectady, N. Y.
Deputy City Engineer

William Wells CF 1887

(Deceased 1908)

Karl Frederick West G 1905 Cornwall-on-Hudson, N. Y. Engineer, New York City Board of Water Supply

Edwin Bennett Wheeler F 1902 New York City
Assistant in Physics, Columbia University

Edward Jonathan Wheeler G 1894 Albany, N. Y.
Chief Chemist, State Department of Agriculture

Peter J Whitmore G 1910 Schenectady, N. Y. Engineer, General Electric Company

Frank Blair Williams F 1901 Worcester, Mass Professor of Mathematics, Clark University

Robert Neil Williams F 1903 Berlin, Germany Manager, Deutsche Hollerith Machine Company, Ltd.

Harry P Willis G 1903 Waterford, N. Y.

Engineer

Edwin Henry Winans F 1898 Rochester, N. Y. Lawyer

Dann Leonard Wood G 1897 Schenectady, N. Y.
Patent Attorney, General Electric Company

Thomas Wallace Wright CF 1887 (Deceased 1908)

William Howard Wright A 1898 Schenectady, N. Y.

Manufacturer

Daniel Albert Young F 1908 Schenectady, N. Y.
Assistant Engineer, State Highway Department

## IOTA CHAPTER

University of Kansas, Lawrence, Kansas

Charter Granted December 4, 1889

No Formal Installation

#### HISTORICAL SKETCH

As far as can be learned the Kansas Chapter of Sigma Xi has never had a charter, nor was it installed. This is due to the fact that it was

one of the early chapters formed.

In the records of the first meeting, held April 21, 1890, the following statements occur: "The chairman reported that permission had been received from the President of the parent chapter of Sigma Xi at Cornell University to establish a chapter of Sigma Xi at the University of Kansas upon the adoption of the constitution of the society. It was voted that a Chapter be organized at the University of Kansas with Professors Bailey, Blake, Marvin, Miller and Snow, heads of the scientific departments, as charter members." In the minutes of the sixth meeting held June 1, 1892, in reporting the adoption of the revised constitution, the name Iota Chapter first occurs.

Sixteen meetings were held up to June, 1896, and in the autumn of that year "frequent meetings" of a combined scientific, business and social nature, began. Since 1899 such meetings are regularly held on the third Thursday of each month of the school year. At these meetings a semi-popular paper or lecture is given, showing recent advances in a special field of science, or results of investigations carried on by the writer or speaker. These frequent meetings, together with the great interest and enthusiasm shown by the early members, have given the Chapter the standing and influence it has today. All the charter members are still active members. The faithfulness of the early members is well exemplified by the first president, Professor F. O. Marvin, who served as president for ten years and who attended twenty-six out of the first twenty-eight meetings held during the first eight years of his incumbency.

Since 1900 the Chapter has alternated with Phi Beta Kappa in furnishing a prominent speaker for the Annual Convocation Week. Aside from this, the Chapter brings at its own expense one or two prominent speakers to the University for popular public lectures. For the last two years one of these has been the Missouri-Iowa-Nebraska-

Kansas "circuit" speaker.

Locally, the Chapter was largely responsible for the co-ördination of the work in the high schools of the state, and the University; also, in raising the amount of the required science work. Since 1906 the April meeting is given over wholly to a social program. A banquet is followed by burlesques and "take-offs" on the doings of science and scientists

locally as well as nationally. This is a revival of a custom of the old Science Club, "The It," which was in a way the predecessor of the Iota Chapter in this University. A glance at the list following will show a considerable number of names of persons who have attained eminence in some line of work.

Members of T B II who are members of the faculty are allowed to

affiliate and enjoy all privileges except that of voting.

W. J. B.

## PUBLICATIONS

Sigma Xi, the Honorary Scientific Society of American Colleges, 1890.

Membership of the Iota Chapter of the Society of Sigma Xi, 1899. Catalog of the Members of the Iota Chapter of the Society of Sigma Xi. January 1, 1903.

Supplementary List of the Members of the Iota Chapter of the So-

ciety of Sigma Xi. June 1, 1905.

Higher Education in Kansas. (An address given before the Kansas University Chapter by Professor S. W. Williston, President of Sigma Xi). June 1902. pp. 16.

## OFFICERS FOR 1911-12

President	Lucius Elmer Sayre
Vice-President	PERLEY F. WALKER
Recording Secretary	CLINTON MASON YOUNG
Corresponding Secretary	WILLIAM JACOB BAUMGARTNER
Treasurer	
Councilor	EDGAR HENRY SUMMERFIELD BAILEY

## MEMBERSHIP ROLL

Arthur Lincoln Adams A 1896† San Francisco, Cal. Hydraulic Engineer

Charles Frederick Adams G 1902\* (Chicago G 1903) Fayetteville, Ark.

Dean of College of Agriculture, University of Arkansas

George Irving Adams A 1900\*† Manila, P. I.

Mining Geologist, U. S. Geological Survey

Ira James Adams U 1906 Cleveland, Ohio
Patent Attorney, National Carbon Company

Frank Ulysses Grant Agrelius U 1907 Emporia, Kan.
Assistant in Biology, State Normal School

George Rockwell Albers U 1896 Los Angeles, Cal.

Dealer in Poultry Supplies

John Martin Aldrich A 1902\*† Moscow, Ida.

Professor of Biology, University of Idaho

Herman Camp Allen G 1906 Lawrence, Kan. Assistant Professor of Chemistry, University of Kansas

Charles Hamilton Ashton F 1904\* Lawrence, Kan. Associate Professor of Mathematics, University of Kansas

Rupert Frederick Aspinall U 1910 Mining Engineer Eureka, Nev.

Edgar Henry Summerfield Bailey CF 1890\*† Lawrence, Kan. Professor of Chemistry, University of Kansas

George Clyde Baldwin U 1905 Bolse, Ida District Engineer, Water Resources Branch, U. S. Geological Survey

Carl Milton Ball U 1909 Kennett, Cal.
Chemist, Mammoth Copper Mining Company

Marshall Albert Barber U 1891\* Lawrence, Kan. Professor of Bacteriology and Pathology, University of Kansas

Ernest Henry Barkmann U 1903 Leavenworth, Kan. Engineer, Missouri Valley Bridge and Iron Company

John Firmen Barnhill U 1910 Paola, Kan. Superintendent of City Schools

Edmond Montgomery Bartholow U 1908 Blue Rapids, Kan. Principal of High School

Edward Bartow F 1898\*† (Illinois F 1908) Urbana, Ill.
Director of State Water Survey, University of Illinois

Edwin Abraham Baumgartner U 1910 Madison, Wis. Instructor in Anatomy, University of Wisconsin

William Jacob Baumgartner G 1900\* (Chicago G 1903) Lawrence, Kan. Assistant Professor of Zoology, University of Kansas

Joshua William Beede G 1897\*† (Indiana CF 1904) Bloomington, Ind. Associate Professor of Geology, University of Indiana

John Dinsmore Bigger G 1909 Kangkai, Korea Director, Presbyterian Hospital

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Chief Engineer, Submarine Signal Company

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Professor of Electrical Engineering, University of Oklahoma

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Professor of Geology, University of Missouri [Columbus, Mo.

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Frank Peterson Brock U 1906 Lawrence, Kan. Fellow in Industrial Research

Harry Peter Broderson U 1908 Schenectady, N. Y.
Assistant Foreman, General Electric Company

Orville Harry Brown G 1901\* (Chicago G 1903) St. Louis, Mo. Assistant Professor of Medicine, St. Louis University

William Harvey Brown A 1890 Salisbury, Rhodesia
Author and Ranchman

Everett Copley

Alberta Corv

(Deceased 1911) Charles Ives Corp

Frank Morgan Cortelyou

(Mrs F E Matthews)

U 1910 Boston, Mass. Ivan Roy Burket Fellow in Physiology, Harvard Medical School Montrose Thomas Burrows U 1905 New York City Associate Professor of Anatomy, Cornell University F 1906\* Francis William Bushong Lawrence, Kan. Associate Professor of Chemistry, University of Kansas Mable Rowena (Davis) Byerley U 1906 Humboldt, Kan. (Mrs W A Byerley) U 1897\* Lawrence, Kan. Hamilton Perkins Cady Professor of Chemistry, University of Kansas Eugene Wilson Caldwell U 1901\*+ New York City Visiting Physician, Presbyterian Hospital uther Candy A 1894\*† (Nebraska CF 1897) Lincoln, Neb. Professor of Pure Mathematics, University of Nebraska Albert Luther Candy Estella Eleanor Carothers U 1911 Lawrence, Kan. Fellow in Zoology, University of Kansas U 1894 Richard William Carter Marathon, Fla. Bridge Engineer, Florida East Coast Railway U 1893\* (Michigan F 1903) Ann Arbor, Mich. Ermine Cowles Case Professor of Geology and Paleontology, University of Michigan Charles Walter Chapin U 1907 Madeline, Cal. Superintendent, Madeline Meadows Land and Irrigation Company George Robert Chapin U 1902 (Deceased 1909) Charles Herbert Chapman U 1911 Schenectady, N. Y. Engineer Testing Department, General Electric Company Earl Finley Clark U 1907 Piqua, Kan. Physician Herbert Anthony Clark U 1897 (Syracuse CF 1906) Syracuse, N. Y. Associate Professor of Physics, Syracuse University A 1910 Lawrence, Kan. Instructor in Correspondence Department, University of Kansas Clarence LeRoy Cole A 1908 Ft. Logan, Col. Captain, Medical Corps, United States Army Harry Shipp Coleman U 1909 New York City Engineer, Jacobs-Shupert, U. S. Firebox Company Ward Hance Cook U 1909 Boston, Mass.

Student, Harvard Medical School

Associate Professor of Mechanical Engineering, University of Kansas

Resident Engineer for Waddell and Harrington Construction Company

Lawrence, Kan.

Van Buren, Ark.

New York City

U 1908

F 1909

U 1907

U 1900

Walter Richard Crane U 1895\* State College, Pa. Dean, School of Mines, Pennsylvania State College

Charles Corwin Crew U 1896 Alexandria, La.
Manager, A. Wyckoff and Son

Roy Cross U 1905 Kansas City, Mo. Secretary and Engineer, Kansas City Testing Laboratory

Gertrude Anna Crotty U 1892\* Cold Spring Harbor, L. I., N. Y. (Mrs C B Davenport)

Samuel Ebb Crumb U 1908 Washington, D. C. Investigator, U. S. Bureau of Entomology

John Edward Curry U 1893 Winchester, Kan. Farmer

Robert William Curtis G 1904\* (Yale F 1904) New York City Instructor in Chemistry, University of City of New York

Frank Burnett Dains F 1894\*† Lawrence, Kan. Associate Professor of Chemistry, University of Kansas

B J Dalton F 1909 Lawrence, Kan. Associate Professor of Railway Engineering, University of Kansas

Gertrude Anna (Crotty) Davenport G 1892\* Cold Spring Harbor, L. I., N. Y. (Mrs C B) Instructor in Microscopical Methods, Biological Labortory

Mable Rowena Davis U 1906 Humboldt, Kan. (Mrs W A Byerley)

Roger Dean U 1904 Fresno, Cal.
With Santa Fe Railway

Hugo Diemer F 1903\* State College, Pa. Professor of Industrial Engineering, Pennsylvania State College

Robert Kennedy Duncan F 1907\*† Lawrence, Kan.
Director of Industrial Research, University of Kansas

Elijah Herbert Dunmire U 1905 Lawrence, Kan. City Engineer

Arthur St. Clair Dunstan F 1896\* Auburn, Ala. Professor of Electrical Engineering, Alabama Polytechnic Institute

Lewis Lindsay Dyche. F 1890\*† Lawrence, Kan. State Fish and Game Warden, University of Kansas

Arnold Emch F1895\* (Colorado CF 1905; Illinois F 1911)
Assistant Professor of Mathematics, University of Illinois [Urbana, Ill.

Herbert William Emerson F 1904\* Lawrence, Kan.
Assistant Professor of Pharmacy, University of Kansas

Samuel Charles Emley F 1905\* Kansas City, Mo. Associate Professor of Rhmolaryngology, University of Kansas

Daniel Edward Esterly U 1890 Topeka, Kan.
Ophthalmologist

Warren Fred Faragher U 1904 Boston, Mass. Chemist, Alden Speare's Sons Company

Paul Vance Faragher U 1908 Boston, Mass. Graduate Student, Massachusetts Institute of Technology

Kansas City, Mo.

Rosedale, Kan.

U 1910

U 1910

Hattie Fenner

Guy Finney

(Mrs Robert L Rinker)

Bessie Eleanor Growe

Charles Merl Gruber

Carl Frederic Gustafson

(Mrs Frank Marion Morrison)

Student, University of Kansas Medical School U 1900 Haviland, Kan. Effie (Pyle) Fisher Wife of Methodist Missionary (Mrs Jesse Fisher) Anna Louise (McKinnon) Fitch A 1894 Clinton, N. Y. (Mrs Edward Fitch) Thomas Bartlett Ford U 1904 Washington, D. C. Chemist, Bureau of Standards, U. S. Department of Agriculture A 1884 Bremerton, Wash. Richard Foster Physician Vernon S Foster U 1909 Boston, Mass. Assistant in Engineering, Massachusetts Institute of Technology Edward Curtis Franklin F 1890\*† (Stanford F 1903) Washington, D. C. Chemist in Hygienic Laboratory William Suddards Franklin F 1890\*† South Bethlehem, Pa. Professor of Physics and Electrical Engineering, Lehigh University John M Freeman G 1899 (Deceased 1911) Bert Charles Frichot U 1909 Independence, Kan. Chemist, Petroleum Products Company Arthur Bowes Frizell F 1910\* McPherson, Kan. Professor of Mathematics, McPherson College George F Gaumer A 1890 Izanah, Yucatan, Mex. Physician Daniel Edwin Gelwix U 1907 Washington, D. C. United States Reclamation Service G 1908 Edward Thomas Gibson Rosedale, Kan. Student, University of Kansas Medical School Ray Edwin Gilman U 1911 Manhattan, Kan. Instructor in Mathematics, State Agricultural College F 1908\* (Illinois F 1911) Pressley Adams Glenn Chief Horticultural Inspector for State Entomologist Ralph Curtis Gowell U 1896 (Deceased 1897) Wyman Reed Green U 1911 Wichita, Kan. Science Teacher, High School Marie Anna Greene U 1904 Kansas City, Kan.

Physician

Fellow in Physiology, University of Kansas

Teacher in Chemistry, Manual Training High School

U 1911

G 1902

U 1897 (Washington CG 1907) Seattle, Wash.

Lawrence, Kan.

Kansas City, Mo.

IOTA CHAPTER U 1908 Thomas Hambleton Schenectady, N. Y. With General Electric Company Kansas City, Mo. John Lyle Harrington U 1895+ Consulting Engineer, Waddell and Harrington TJ 1900\* James Arthur Harris Cold Spring Harbor, L. I., N. Y. Research Worker, Station for Experimental Evolution F 1909\* George Wilbur Hartwell St. Paul, Minn. Professor of Mathematics, Hamline University TJ 1908 John King Harvey Salina, Kan. Physician F 1902\* L D Havenhill Lawrence, Kan. Professor of Pharmaceutical Chemistry, University of Kansas Erasmus Haworth A 1891\*+ Lawrence, Kan. Professor of Geology and Mineralogy, University of Kansas Henrietta Henderson U 1900 Pocatello, Ida. (Mrs Harry Ashton Roberts) Chester Henry Heuser U 1908 Boston, Mass. Austin Teaching Fellow, Harvard Medical School Burritt Howell Hill U 1894 Neodesha, Kan. Assistant Cashier, First National Bank Edmund John Hirschler U 1901 Bluffton, Ohio Instructor in Mathematics and Physics, Central Mennonite College Francis Marion Hoad U 1902 (Deceased 1909) William Christian Hoad U 1898 Lawrence, Kan. Professor of Civil Engineering, University of Kansas U 1894 Robert Lee Hoff Lincoln, Neb. Director of Science, Cotner University U 1909 Pittsburgh, Pa. Charles Hoffman Fellow in Industrial Research, University of Pittsburgh George Jussen Hood U 1902 Lawrence, Kan. Associate Professor of Mechanical Drawing, University of Kansas Charles Warren Hooper TI 1911 Balitmore, Md. Medical Student, Johns Hopkins University U 1899 Ross Hopkins St. Louis, Mo. Physician Roy Hoskins U 1905 Columbus, Ohio Professor of Physiology, Starling Medical School F 1904\* George Howard Hoxie Kansas City, Mo. Physician Albert Kemp Hubbard F 1901 (Yale G 1901) Alva, Okla, City Engineer

Samuel John Hunter F 1900\*+ Lawrence, Kan. Professor of Entomology, University of Kansas F 1899\* Lawrence, Kan. Ida Henrietta Hyde Professor of Physiology, University of Kansas

Lawrence, Kan.

F 1910\*

Henry Louis Jackson

Assistant Professor of Chemistry, University of Kansas Philip Charles Jeans U 1904 Hillsboro, Ohio Physician F 1909 (Nebraska U 1906) Lawrence, Kan. Clarence Anthony Johnson Instructor in Electrical Engineering, University of Kansas Wilbur Howden Judy U 1910 Ottawa, Kan. Mechanical Engineer U 1908 Kansas City. Mo. Walter John Kackley Draftsman, Kansas City Terminal Railway Company Paul Hugo Isador Kahl F 1896 Pittsburgh, Pa. Curator of Entomology, Carnegie Museum F 1904\* (Iowa F 1908; Chicago G 1903) George Frederick Kay Professor of Geology, University of Iowa [Iowa City, Ia. Lyman Kellogg G 1890\*† (Stanford CF 1902) Palo Alto, Cal. Professor of Entomology, Leland Stanford Junior University Vernon Lyman Kellogg G 1908 Leslie Alva Kenoyer Toledo, Ia. Professor of Biology, Leander Clark College Frederick Edward Kester F 1909\* (Cornell G 1899; Ohio F 1899) Professor of Physics, University of Kansas [Lawrence, Kan. U 1902 Theron James Kinnear Springfield, Ill. Physician **U 1908** Henry Adolph Kohman Pittsburgh, Pa. Fellow in Industrial Research, University of Pittsburgh U 1896\* Charles August Kraus Boston, Mass. Research Associate in Chemistry, Massachusetts Institute of Technology Oscar M Kuchs U 1905 Tooele, Utah Metallurgist, Anaconda Copper Company William John Lank U 1908 Clovis, N. M. Engineer, Atchison Topeka and Santa Fe Railway Company Albert Preisach Learned U 1910 Lawrence, Kan.

Transit-man for Cherryvale, Oklahoma and Texas Railway
Victor Elmer Lednicky II 1911 La Paz, Honduras

Victor Elmer Lednicky U 1911 La Paz, Honduras Mining Engineer, Clanton Mines Company

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Henry Richardson Linville U 1893\* Jamaica, L. I., N. Y.
Teacher of Biology, High School

William Newton Logan A 1902\* Agricultural College, Miss.
Professor of Geology, Agricultural and Mechanical College

John Harper Long A 1890\*† (Northwestern CF 1906) Chicago, Professor of Chemistry, Northwestern University Medical School [Ill.

Verne Vere Long U 1910 Kansas City, Mo. Draftsman, Worley and Black, Engineers

Cleveland Scott Loper U 1910 Topeka, Kan.
Instructor of Engineering, Washburn College

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John Dice MacLaren A 1890\* Portland, Ore.
Professor of Physiology, Medical School, University of Oregon

Frank Olin Marvin GF 1890\*† Lawrence, Kan. Dean, School of Engineering, University of Kansas

Alberta Cory Matthews U 1900 New York City (Mrs Fred E Matthews)

Virgil McCarty U 1910 Rosedale, Kan. Interne, Eleanor Taylor Bell Memorial Hospital

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Burton McCollum U 1902 Washington, D. C. Physicist, United States Bureau of Standards

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Associate Professor of Agricultural Chemistry, University of Wisconsin

David Charles McConoughuy U 1906 Manila, P. I.
Civil Engineer, United States Government

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United States Geological Survey.

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Ephraim Miller CF 1890\*† Pasadena, Cal. Emeritus Professor of Mathematics, University of Kansas

(Deceased 1907)

U 1905\* Lawrence, Kan. Roy Lee Moodie Assistant Professor of Zoology, University of Kansas U 1911 Chicago, Ill. Virgil Holland Moon Medical Student, Rush Medical College Bessie Eleanor (Growe) Morrison U 1897 (Washington CG 1907) Seattle. [Wash. (Mrs Frank Marion Morrison) G 1901 Lawrence, Kan. Lawrence Norton Morscher Inventor Eleanor Morse U 1905 (Deceased 1910) F 1890\* Berkeley, Cal Edward Charles Murphy Hydraulic Engineer, United States Geological Survey Savannah, Ga. George Alfred Neal, Jr U 1910 Engineer, Savannah Gas Company **II 1909** New Haven, Conn. Ben Harry Nicolet Graduate Student, Yale University U 1903 Nadine Nowlin Lawrence, Kan. Instructor in Zoology, University of Kansas Edward Newton Noyes U 1906 Dallas, Tex. Bridge Engineer, Dallas-Oak Cliff Viaduct Ellis Bradford Noves A 1894 Portsmouth, Va. Chief Draftsman, Department of Public Works, United States Navy Yard Floyd Price Ogden U 1911 Kansas City, Mo. In Engineering Department, Missouri and Kansas Telephone Company Fred Williams Owens U 1901 (Cornell F 1908) Ithaca, N. Y. Instructor in Mathematics, Cornell University Helen Barten (Brewster) Owens G 1902 Ithaca, N. Y. (Mrs Fred William Owens) Walter Kiefer Palmer F 1897 Kansas City, Mo. Consulting Engineer Paul Ross Parmelee U 1909 Pittsburgh, Pa. Fellow, University of Pittsburgh Percival John Parrott U 1897\* Geneva, N. Y. Entomologist, New York Experiment Station Frank Dewey Phillips Schenectady, N. Y. U 1907 Designing Engineer, Testing Department, General Electric Company Edith Pinney G 1910 Bryn Mawr, Pa. Travelling Fellow in Zoology, Bryn Mawr College Arthur Dunn Pitcher U 1905 Hanover, N. H. Assistant Professor of Mathematics, Dartmouth College Robert Spencer Pond G 1910 Athens. Ga. Instructor in Mathematics, University of Georgia Fred Baker Porter U 1902\* Atlanta, Ga. Chemist, Swift Fertilizer Works Roland E Porter U 1904

U 1910 Roy Albert Porterfield Baldwin, Kan. Instructor in Engineering, Baker University Fred Cecil Powell U 1909 Macksville, Kan. Physician. Leonard Pulliam **II 1909** Lyons, Kan. In Business Effle Pyle U 1900 Haviland, Kan. (Mrs Jesse Fisher) Wife of Methodist Missionary Lawrence Vincent Redman G 1910 Lawrence, Kan. Fellow in Industrial Research, University of Kansas Martin Everett Rice G 1892\* Lawrence, Kan. Associate Professor of Physics and Engineering, University of Kansas Hugh Tudor Richards A 1896 Los Angeles, Cal. Civil Engineer, Rio Colorado Railway and Navigation Company Arthur Osborne Ridgway U 1892 Denver, Col. Assistant Chief Engineer, Denver and Rio Grande Railway A 1890 Albert Stanley Riffle (Deceased 1908) A 1890 Frank Riffle San Francisco, Cal. Manager Iron and Pipe Department, Dunham, Corrigan and Hayden Elmer Samuel Riggs G 1896 (Chicago G 1903) Chicago, Ill. Assistant Curator, Field Museum of Natural History Henry Earle Riggs A 1899\* Ann Arbor, Mich. Consulting Engineer, Riggs and Sherman Frank Ringer St. Louis. Mo. Assistant Chief Engineer, Missouri, Kansas and Texas Railway Hattie (Fenner) Rinker U 1910 Kansas City, Mo. (Mrs Robert L Rinker) Herbert Fuller Roberts A 1901\* Manhattan, Kan. Professor of Botany, Kansas State Agricultural College Henrietta (Henderson) Roberts U 1900 Pocatello, Ida. (Mrs Harry Ashton Roberts) William Rees Robertson G 1907 Cambridge, Mass. Austin Feliow, Harvard University Austin Flint Rogers TJ 1898\* Palo Alto, Cal. Associate Professor of Mineralogy, Leland Stanford Junior University U 1900 John Henry Ronnebaum (Deceased 1907) Rial Catlin Rose TI 1906 Torreon, Mex. Biologist, Continental Rubber Company Irvin R Rothrock U 1894

Baltimore, Md. Chemist, Armour Packing Company Frank Finch Rupert **TJ 1906** Lawrence, Kan.

Instructor in Chemistry, University of Kansas

Abraham John Ruth U 1900 Cananea, Sonora, Mex. Assistant Engineer, Cananea Consolidated Copper Company

G 1904 Stillwater, Okla. Charles Emerson Sanborn State Entomologist, Agricultural and Mechanical College F 1896+ Lucius Elmer Sayre Lawrence, Kan. Dean, School of Pharmacy, University of Kansas Richard Everingham Scammon U 1906\* Minneapolis, Minn. Assistant Professor of Anatomy, University of Minnesota Theopilus H Scheffer U 1895 Washington, D. C. Scientific Expert, Biological Survey Washington, D. C. Walter Red Schreiner U 1911 Junior Topographer, United States Geological Survey U 1890\*+ Elias Howard Sellards Tallahassee, Fla. State Geologist Andrew Watson Sellards U 1902 Baltimore, Md. Assistant Resident Physician, Johns Hopkins Hospital F 1910 Lawrence, Kan. George Carl Shaad Professor of Electrical Engineering, University of Kansas Millard King Shaler A 1910\* Kinshasa, Congo Belge, Africa Mining Engineer for Société Internationale Forestière et Minière du Congo Alwin W Shepard F 1893 Buffalo, N. Y. Teacher of Science, Buffalo Public Schools James Abraham Garfield Shirk G 1905\* Ottawa, Kan. Professor of Physics, Ottawa University Ralph Clement Shuey U 1907 Pittsburgh, Pa. Fellow in Industrial Research, University of Pittsburgh Edwin Emery Slosson U 1890\*+ New York City Literary Editor, The Independent Delbert O Smith U 1911 Rosedale, Kan. Medical Student, University of Kansas Frank Edwin Smith U 1910 St. Louis, Mo. Designer, Buebel and Wells. Engineers Roy Kenneth Smith G 1909 Sua Mot Kol Seoal, Korea Physician to Hospital Francis Huntington Snow CF 1890\*+ (Deceased 1908) William Appelton Snow

U 1891

(Deceased 1899) Orin Fletcher Stafford U 1899\* Eugene, Ore. Professor of Chemistry, University of Oregon

William Alfred Starin U 1906 Columbus, Ohio Assistant Professor of Bacteriology, Ohio State University

Amel E Stegeman U 1910 Bakersfield, Cal. Engineer, The Associated Oil Company

Charles Morgan Sterling F 1908 Lawrence, Kan. Assistant Professor of Pharmacognacy, University of Kansas

William Chase Stevens F 1903\*+ Lawrence, Kan, Professor of Botany, University of Kansas

Alban Stewart G 1898\* Madison, Wis.
Instructor in Botany, University of Wisconsin

Bennett Merriman Stigall U 1901 Warrensburg, Mo. Professor of Biology and Nature Study, State Normal School

Howard Stough G 1909 Clay Center, Kan.
Teacher of Science, High School

Mervin Tubman Sudler F 1904\* (Cornell F 1903) Lawrence, Kan. Associate Dean of Medical School, University of Kansas

Walter Stanborough Sutton U 1899 (Columbia CF 1902) Rosedale, Kan. Associate Professor of Surgery, University of Kansas Medical School

Edgar Lemuel Tague G 1910 Topeka, Kan. Professor of Chemistry, Washburn College, Topeka, Kan

Martha Alice Thompson U 1892 Kansas City, Kan.
Instructor in Latin, High School

Joel Rex Thorpe U 1907 Milwaukee, Wis.
Draftsman, Steam Turbine Design Department, Allis-Chalmers Company

Ernest Roy Tibbetts U 1910 Lawrence, Kan.
Senior Student, University of Kansas

Edwin Ward Tillotson F 1910\* (Yale U 1906) Lawrence, Kan. Fellow in Industrial Research, University of Kansas

James Edward Todd F 1907\*† Lawrence, Kan.
Assistant Professor of Geology, University of Kansas

Alanson Niles Topping U 1894 Lafayette, Ind.
Associate Professor of Electrical Engineering, Purdue University

William Henry Twenhofel F 1910 (Yale U 1908) Lawrence, Kan. Assistant Professor of Geology, University of Kansas

John Nicholas Van der Vries F1902\* Lawrence, Kan. Associate Professor of Mathematics, University of Kansas

Will Elbert Vawter U 1911 Lawrence, Kan. Fellow in Industrial Research, University of Kansas

George Wagner U 1899\* (Wisconsin CF 1907) Madison, Wis. Assistant Professor of Zoology, University of Wisconsin

Perley Walker F 1905 (Cornell G 1901) Lawrence, Kan. Professor of Mechanical Engineering, University of Kansas

Lalia Viola Walling G 1907 Lawrence, Kan.
Instructor in Physiology, University of Kansas

Peter John Wedel U 1895 Newton, Kan.
Professor of Science, Bethel College

Ernest Edward Weibel U 1911 Washington, D. C. Laboratory Assistant, U. S. Bureau of Standards.

George Francis Weida A 1891\* Gambier, Ohio Professor of Chemistry, Kenyon College

Edward Roy Weidlein U 1909 Lawrence, Kan. Stubbs-Grenfell Fellow in Chemistry, University of Kansas

Archie James Weith U 1908 Lawrence, Kan. Fellow in Industrial Research, University of Kansas

David Henry Wenrich U 1911 Lawrence, Kan Fellow in Zoology, University of Kansas

August Ludwig Paul Wernicke F 1909\* Cincinnati, O.
Investigator and Author

Wilfred Forest Wheeler U 1908 (Deceased 1909)

Edward Ambrose White A 1909 Kansas City, Kan. City Chemist, Teacher in High School

Edward Albert White U 1908 Lawrence, Kan.
Instructor in Mechanical Engineering, University of Kansas

Marion Ballantyne White F 1910 (Chicago G 1909) Lawrence, Kan. Assistant Professor of Mathematics, University of Kansas

Bruce Williams U 1906 Webb City, Mo. Chemist, The Waring Laboratories

Francis Xavier Williams F 1909 (Stanford G 1908) Lawrence, Kan. Assistant Curator in Entomology, University of Kansas

Kersey George Williams U 1907 Little Rock, Ark. Resident Engineer, Rock Island Railway

Samuel Wendell Williston F 1893\*† (Chicago CF 1903) Chicago, Ill.
Professor of Paleontology, University of Chicago

Josie Wilson U 1893 Sioux Falls, S. D. Teacher, High School

John Stephen Worley U 1903 Kansas City, Mo. Engineer, The J. S. Worley Company

Alexander Ririe Young U 1905 Topeka, Kan. City Engineer

Clifford Caudy Young U 1910 Lawrence, Kan. Chemist for State Water Survey, University of Kansas

Clinton Mason Young F 1907\* Lawrence, Kan.
Associate Professor of Mining, University of Kansas

John Wesley Young F 1910\* (Cornell G 1901) Hanover, N. H. Head of Department of Mathematics, Dartmouth College

Adolph Ziefle F 1909 Fargo, N. D.
Professor of Pharmacy, State Agricultural College

# YALE CHAPTER

YALE UNIVERSITY, NEW HAVEN, CONNECTICUT

Charter Dated March 8, 1895

Chapter Installed March 29, 1895

#### HISTORICAL SKETCH

The Yale Chapter, organized in 1895, was a direct result of a movement on the part of the senior class (1895) of the Sheffield Scientific School for a society which should stand for high scholarship in science. The matter had been discussed annually for several years during which many plans were considered, when finally the above class with the approval of the faculty, voted to establish a chapter of Sigma Xi. Professor Henry S. Williams of the Yale Chapter, formerly of Cornell, and one of the founders of the parent chapter, deserves special mention for his valuable advice and help to the organizers. The Academic Department, the Medical School, and the Forest School, share with the Sheffield Scientific School in the election of members and the management of

the Chapter.

In its development at Yale, the society has not held meetings for the reading of strictly technical papers. These are left to the various research clubs, such as the Physical, Chemical, Biological, Mathematical, and Engineers' clubs. The field of Sigma Xi here is to encourage scientific work, not to do it. It accomplishes this by papers and lectures of general scientific interest, by discussion of matters common to all investigators, and by social intercourse of its members. As a fraternity of scientific workers and as an honorary scholarship society, a real want of the university life is supplied. The part played by the undergraduates is necessarily limited: elected near the end of their college course, attending a few meetings, becoming a little better acquainted with their instructors, wearing the society emblem, they enter upon their life work stimulated in some degree at least by the traditions and aims of Sigma Xi.

#### PUBLICATIONS

The Yale Chapter of the Society of the Sigma Xi. (From the address of the president, Professor John C. Tracy, at the initiation of new members, February 21, 1903.) Reprinted from the Yale Scientific Monthly of April, 1903. pp. 4.

Yale Chapter of the Society of the Sigma Xi. Founded 1895. By-Laws, List of Officers and Members, Titles of Papers read at Meetings; Published at Tenth Anniversary of the Founding of the Chapter. New

Haven, 1905. pp. 46.

John Alexander Baker

John Mayhew Baldwin

Seth Weaver Baldwin

OFFICERS FOR 1911-12 President.....Joseph Barrell Vice-President......YANDELL HENDERSON Recording Secretary. FREDERICK SHAND GOUCHER
Corresponding Secretary. JOSEPH WICKHAM ROE
Treasurer. HERBERT LEE SEWARD Councilor.....John Clayton Tracy MEMBERSHIP ROLL Pueblo, Col. U 1896 Alva Blanchard Adams Lawyer Ernest Kempton Adams U 1896 (Deceased 1904) Providence, R. I. Harry Louis Abramson U 1911 Interne, Rhode Island Hospital Williamstown, Mass. Harry Leslie Agard F 1911 Instructor in Mathematics, Williams College Hubert Hillary Sufferin Aimes G 1898 West Haven, Conn. Financier U 1895 Kenwood, Oneida, N. Y. Grosvenor Noyes Allen First Vice-President, Oneida Community, Limited F 1908† New Haven, Conn. Arthur Nathaniel Alling Clinical Professor of Ophthalmology, Yale University New Haven, Conn. TI 1910 Joseph Alfred Ambler Assistant in Chemistry, Sheffield Scientific School G 1906 Portland, Ore. Fred Elijah Ames U. S. Assistant District Forester F 1902 New Haven, Conn. William Gilbert Anderson Director Yale Gymnasium, Yale University U 1903 Orange, Conn. Irving Atwater Andrew In Business F 1907 New Haven, Conn. Roswell Parker Angier Assistant Professor of Psychology, Yale University F 1911 New Haven, Conn. Harry Sears Arnold Instructor in Pathology, Yale University U 1903 William Travis Ayer Dover, N. J. Superintendent, McKiernan-Terry Drill Company U 1903 Arthur Whittemore Bacon New Britain, Conn. Hall and Bacon, Civil and Consulting Engineers Edward Monroe Bailey, Jr G 1910 New Haven, Conn. Chemist, Connecticut Agricultural Experiment Station George Alfred Baitsell G 1911 New Haven, Conn. Graduate Assistant in Biology, Yale University

U 1907

U 1909

Tank Gauging Engineer, The Texas Company

Claim Attorney, New York, New Haven and Hartford Railroad Company

Todmorden Hall, Wallingford, Pa.

Houston, Tex.

New Haven, Conn.

Washington, D. C.

U 1911 New Haven, Conn. Stanley Critenden Ball Assistant in Biology, Yale University Montreal, Canada Joseph Austen Bancroft U 1904 Assistant Professor of Geology, McGill University Winter Park, Fla. Ida Barney G 1911 Acting Professor of Mathematics, Rollins College Samuel Eben Barney CF 1895 New Haven, Conn. Assistant Professor of Civil Engineering, Yale University Charles Gardiner Barnum G 1910 New York City Interne, Roosevelt Hospital F 1900\* Joseph Barrell New Haven, Conn. Professor of Structural Geology, Yale University Walter Ransom Barrows G 1911 New Haven, Conn. Department of Geology U 1909 William Raymond Barss New Haven, Conn. Graduate Student in Physics, Yale College Charles Joseph Bartlett F 1897\* New Haven, Conn. Professor of Pathology, Yale Medical School Clifford Whitman Bates U 1905 New Haven, Conn. Instructor in Electricity, Yale University Frederick Elliah Beach CF 1895\* New Haven, Conn. Assistant Professor of Physics, Yale University U 1905 Charles Thomas Beach Hartford. Conn. Physician Harold Kenney Beach U 1904 Hastings-on-Hudson, N. Y. Engineer, National Conduit and Cable Company George Elbert Beck G 1907 New York City Educational Director, Young Men's Christian Association Fredrik Ferdinand Woods Beckman G 1909 Finspong, Sweden Government Forester Silas Palmer Beebe G 1903\* New York City Professor of Therapeutics, Cornell University Medical College Charles Emerson Beecher F 1897† (Deceased 1904) FW Beinecke U 1909 New York City Civil Engineer Paul Beck Belin U 1895 Scranton, Pa. General Manager, Scranton Lace Curtain Company Horace Doolittle Bellis G 1907 Trenton, N. J. Physician Stanley Rossiter Benedict. G 1907 New York City Assistant Professor of Chemical Pathology, Cornell University Medical School John Bentley, Jr G 1906 Ithaca, N. Y.

Forester

TI 1895

Research Associate, Carnegie Institution

Harry Van der Veer Bergen

U 1904 Joseph Bernstein Boston, Mass. Special Track Work Engineer, Boston Electric Railway Company North Troy, N. Y. Anson Gardner Betts Chemist and Metallurgist **U 1908** Forrest B Beyer Manila, P. I. Chemist, Bureau of Science Earl Gordon Bill F 1908 Lafavette, Ind. Instructor in Mathematics, Purdue University Harold Crusius Bird U 1908 Chester, Pa. Assistant Professor of Engineering, Pennsylvania Military College New Haven, Conn. Avard Longley Bishop F 1906 Assistant Professor of Geography and Commerce, Yale University U 1903 New Haven, Conn. Carlton Thomas Bishop Instructor in Civil Engineering, Sheffield Scientific School TI 1909 New Haven, Conn. Oliver F Bishop Government Forest Assistant Arthur Douglas Bissell, Jr U 1906 Buffalo, N. Y. Salesman, Rogers Brown and Company Leslie Dayton Bissell Munich, Germany G 1896 Principal, The Coit School for Boys U 1904 Frank Laughton Black New Haven, Conn. Resident Engineer, New York, New Haven and Hartford Railroad Clarence Moore Blair G 1904 New Haven, Conn. Consulting Engineer Eugene Maurice Blake F 1906 New Haven, Conn. Clinical Instructor in Ophthalmology, Yale University John Charles Blake G 1903\* College Station, Tex. Teacher Alice Frances Blood G 1910 Boston, Mass.

Assistant Professor of Chemistry, Simmons College

Rufus Frank Blount U 1911 Holyoke, Mass.

Chemist, Hampden Glazed Paper and Card Company

George Blumer F 1906 New Haven, Conn.
Dean of Yale Medical School

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Sydney Cecil Borg U 1895 New York City
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Isaiah Bowman F 1906 New Haven, Conn.
Assistant Professor of Geography, Yale College

Frederic Quintard Boyer U 1908 New Haven, Conn. Instructor in Mechanical Engineering, Sheffield Scientific School

Harold Cornelius Bradley F 1903 (Wisconsin CF 1907) Madison, Wis. Assistant Professor of Physical Chemistry, University of Wisconsin

Madison, Wis.

U 1910 Salt Lake City, Utah Henry Franklin Bradley Metallurgist Walter Minor Bradley G 1898 New Haven, Conn. Instructor in Mineralogy, Yale University U 1897 New York City Edward Arthur Bredt Engineer, American Telephone and Telegraph Company Zenas Marston Briggs U 1898 New York City Engineer, Lehigh Valley Railway Howard Stanley Bristol U 1902 Madison. Wis. Assistant Director, Forest Products Laboratory F 1902\* Wilton Everett Britton New Haven, Conn. State Entomologist, Agricultural Experiment Station Howard Logan Bronson U 1900 Halifax, N. S. Professor of Physics, Dalhousie University Chester Kingsley Brooks U 1906 Cleveland, Ohio Engineer, National Malleable Castings Company Albert Turney Brown Fairfield, Conn. U 1902 Sanitary Engineering, Whitehall Plumbing Company, New York Charles Barto Brown CF 1895 Orono, Me. Professor of Railroad Engineering, University of Maine Earle Wayne Brown G 1903 Lorain, Ohio Assistant Superintendent, National Tube Company Ernest William Brown F 1908\*† New Haven, Conn. Professor of Mathematics, Yale University James Brown F 1905 Jacksonville, Ill. Professor of Chemistry, Illinois College Raymond Lester Brown U 1908 Philadelphia, Pa. Sales Engineer, General Electric Company Theodore Henry Brown U 1910 New Haven, Conn. Graduate Student, Yale University Edward Earle Brownell U 1895 San Francisco, Cal. Agriculture Philip Embury Browning F 1895\*† New Haven, Conn. Assistant Professor of Chemistry, Yale University Donald Bruce U 1906 Coeur d'Alene, Ida. Forest Assistant, U. S. Forest Service Kirk Bryan G 1911 Albuquerque, N. M. Ralph Clement Bryant F 1908 New Haven, Conn. Professor of Lumbering, Yale Forest School Henry Andrews Bumstead CF 1895\*† New Haven, Conn. Professor of Physics, Director of Sloane Physical Laboratory, Yale Henry Edward Burgess U 1904 New Haven, Conn. With W. T. Fields Company Investment Securities

F 1908

G 1904

Instructor in Mathematics, University of Wisconsin

Horace Thomas Burgess

(Deceased 1904)

Rollin Hillary Burr

G 1909 Jacques Louis Buttner New Haven, Conn. Physician, Clinical Instructor, Yale University **Edward Herbert Cameron** G 1905 · New Haven, Conn. Assistant Professor of Psychology, Yale University G 1898 Southampton, L. I., N. Y. Walter Scott Cameron U 1910 Youngstown, Ohio Louis J Campbell Secretary to the President, Youngstown Sheet and Tube Company U 1902 William Joseph Canada Denver. Col. Engineer, Rocky Mountain Fire Underwriters Association U 1900 Frederic James Carnell (Deceased 1902) Samuel Winthrop Case U 1911 New Haven, Conn. Graduate Student, Yale University William Emanuel Cederberg TI 1902 Rock Island, Ill. Professor of Mathematics, Augustana College Aimes Reading Chamberlain U 1901 Maplewood, N. J. Physician U 1905 Guy Louis Chamberlin Chicago, Ill. Engineer G 1901 Robert Morse Chamberlin (Deceased 1901) Franklin Jerome Champlin U 1911 Schenectady, N. Y. Student Engineer, General Electric Company Perley Bickfad Chandler G 1908 (Deceased 1908) Tatsung Chang U 1909 Koshing, Chekiang, China Herman Haupt Chapman F 1908 New Haven, Conn. Professor of Forestry, Yale University Arsen Nishan Charbajian U 1911 New Haven, Conn. Graduate Student in Physics, Yale University Chase F 1896\*† Assistant Astronomer, Yale University Frederick Lincoln Chase New Haven, Conn. Alfred Knight Chittenden U 1900 Washington, D. C. Forester, Indian Service, Department of the Interior Samuel Hopkins Clapp G 1905 Pawtucket, R. I. Mercantile Business Eliot Round Clark U 1903 Baltimore, Md. Instructor in Anatomy, Johns Hopkins Medical School Herdman Fitzgerald Cleland G 1900\* Williamstown, Mass. Professor of Geology and Mineralogy, Williams College Harry Trumbull Clifton U 1895 Pasadena, Cal. Instructor in Physics, High School Charles Francis Clise U 1911 Seattle, Wash. Insurance Agent, E. A. Short and Company Ralph Oakley Clock TI 1901 New York City

Physician, Instructor in Obstetrics, New York Post-Graduate Medical School

Globe, Ariz.

New York City

YALE CHAPTER Oliver Eugene Closson G 1905 Detroit, Mich. Research Pharmacologist, Parke Davis and Company Frederick Sears Coe U 1899 Newark, N. J. Engineer, James A. Coe and Company F 1898\*†
Professor of Biology, Yale University New Haven, Conn. Wesley Roswell Coe G 1909 Weaverville, Cal. John Daniel Coffman Deputy Forester, U. S. Forest Service Augustus Coit G 1898 (Deceased 1909) Leon Jacob Cole F 1908 Madison, Wis. Associate Professor of Experimental Breeding, University of Wisconsin Clarence Lyman Collens U 1896 Cleveland, Ohio President, Reliance Electric and Engineering Company John Edward Collins U 1900 Weirton, Hancock Co., W. Va. Chief Engineer, Phillips Sheet and Tin Plate Company Roger Baldwin Colton U 1908 Fort Barrancas, Fla. Second Lieutenant, U. S. Army, Coast Artillery Corps Charles William Comfort, Jr U 1907 New Haven, Conn. Student, Yale Medical School William James Comstock F 1897\* New Haven, Conn. Instructor in Organic Chemistry, Yale University Joseph Warren Cone U 1905 Greenwich, Conn. Civil Engineer G 1903 Henry H Conover Baltimore, Md. Retired F 1910 George Macfeely Conwell New Haven, Conn. Instructor in Mathematics, Sheffield Scientific School Charles Montague Cooke, Jr G 1899 Honolulu, H. I. Curator, Bernice Bishop Museum Charles Osmond Cooke G 1905 Providence, R. I. Physician Charlton Dows Cooksey F 1908 New Haven, Conn. Instructor in Physics, Yale University Frank Lawrence Cooper F 1909 New Haven, Conn. Instructor in Physics, Sheffield Scientific School Darrah Corbet U 1905 Seattle, Wash. Salesman, Charles C. Moore and Company U 1900 (Columbia U 1903) William Wakefield Corbet Brookville, Pa. Engineering Salesman, Charles C. Moore and Company Donald John Cowling G 1906 Northfield, Minn. President, Carleton College

U 1902

Chemist, Old Dominion Copper Company

Instructor in Chemistry, College of the City of New York

F 1904\* (Kansas G 1904)

William Bronson Cramer

Robert William Curtis

150 ond Curtiss G 1905 (Northwestern CF 1906) Evanston, Professor of Mathematics, Northwestern University [Ill. David Raymond Curtiss [III. Middletown, Conn. TJ 1905 Paul Curts Instructor in German, Wesleyan University U 1899 Augusta, Ga. William Dick Cutter Physician, Instructor in Physiology, University of Georgia Haroutune Mugurditch Dadourian U 1903 New Haven, Conn. Instructor in Physics, Yale University Washington, D. C. Samuel Trask Dana G 1906 Assistant Chief of Silvics, U. S. Forest Service Archibald Lamant Daniels, Jr New Haven, Conn. G 1911 Assistant in Mathematics, Sheffield Scientific School U 1897\* New York City William Darrach Instructor in Surgery, Columbia University John Staige Davis U 1895 Baltimore, Md. Instructor in Surgery, Johns Hopkins Medical School Vahram Edward Davoud G 1903 Provo. Utah E. E. Telluride Power Company Arthur Louis Day F 1896\*† Washington, D. C. Director, Geophysical Laboratory, Carnegie Institution Arthur Lyman Dean F 1902\* New Haven, Conn. Assistant Professor of Industrial Chemistry, Sheffield Scientific School Willard Parker Dean U 1902 (Deceased 1906) U 1903 Willard Joseph Denno New York City Physician, Department of Health Allen Ross Diefendorf G 1904\*† New Haven, Conn. Lecturer in Psychiatry, Yale Medical School Charles F Dike, Jr U 1904 Crystal Lake, Ill. Engineer Edward Lewis Dodd G 1904\* (Iowa F 1905) Austin, Tex. Instructor in Mathematics, University of Texas Frederick F Dodd U 1905 New York City Instructor in History, Ethical Culture School G 1908 (Pennsylvania U 1904) Arthur Wayland Dox Ames, Ia. Chemist, Iowa Agricultural Experiment Station, Iowa State College Walter Remy Dray U 1908 Chicago, Ill. Salesman, Fairbanks Morse and Company Arthur H Driske U 1910 Roxbury, Mass. J Andrew Drushel U 1905 St. Louis, Mo. Professor of Geology, Harris Teachers' College

U 1905

G 1911

U 1900

Instructor in Chemistry, Yale College

Assistant Geologist, Canadian Geological Survey

Assistant Chief Engineer, Westinghouse Air Brake Company

New Haven, Conn.

Ottawa, Canada

Wilmerding, Pa.

William Allen Drushel

Charles Wales Drysdale

Samuel William Dudley

YALE CHAPTER William Waddell Duke G 1904 Kansas City, Mo. Physician U 1907 New Britain, Conn. Edward Lee Dummer With American Hosiery Company U 1902 William Wheeler Duncan Watertown, Mass. Head Chemist, Hard Rubber Company Wesley Earl Dunkle U 1908 La Touche, Alaska Engineer, Beatson Copper Company Herbert William Eales U 1904 St. Louis, Mo. Engineer, St. Louis Office, General Electric Company F 1898\* George Francis Eaton New Haven, Conn. Curator in Osteology, Peabody Museum, Yale University Ernest Arthur Eddy U 1908 St. Louis, Mo. Manufacturing Graham Edgar G 1909 Charlotteville, Va. Adjunct Professor of Chemistry, University of Virginia George Joseph Nelson Edmondson U 1901 Rochester, N. Y. Engineer, New York Central and Hudson River Railway Gaston Holcombe Edwards G 1902 Orlando, Fla. Physician and Surgeon Augustus Hull Elliott U 1904 Philadelphia, Pa. Sales Agent, American Brake Shoe and Foundry Company Wilson Barton Emery U 1911 New Haven, Conn. Student, Yale University U 1906 Harry Crawford English Martinsville, N. J. Farming U 1905 Charles Rhein Essick Baltimore, Md. Instructor in Anatomy, Johns Hopkins Medical School Allan Chotard Eustis U 1898 Abbeville, La. Physician Alexander William Evans F 1895\* New Haven, Conn. Professor of Botany, Yale University Philip Saffery Evans, Jr U 1895 Nanking, China Professor of Pathology, East China Union Medical College Arthur Woolsey Ewell U 1898\* (Worcester CF 1908) Worcester. Professor of Physics, Worcester Polytechnic Institute John Henry Fahrenbach G 1911 Washington, D. C. Assistant, U. S. Forest Service F 1907 Charles Sherman Farnham New Haven, Conn. Assistant Professor of Civil Engineering, Yale University Charles Everett Farr G 1902 New York City

Physician James Linwood Fawley U 1906 Wissahickon, Philadelphia, Pa. . Engineer, F. M. Andrews and Company, Architects

Robert Ferguson G 1902 Bisbee, Ariz. Physician, with Copper Queen Consolidated Mining Company

152 SIGMA XI William Hastings Ferguson TJ 1901 Civil Engineer U 1898 Fred Gilbert Ferrey Providence, R. I. Engineer, Rhode Island Company F 1897\* Harry Burr Ferris New Haven, Conn. Professor of Anatomy, Yale Medical School Frank Richard Finch U 1904 (Michigan U 1904) Ann Arbor, Mich. Instructor in Geometry, University of Michigan G 1911 Morris S Fine New York City Instructor, Post-Graduate Medical School U 1904 Henry Baldwin Fischer New York City Lawyer Irving Fisher CF 1895\*† New Haven, Conn. Professor of Political Economy, Yale University U 1911 Joel Ellis Fisher, Jr New York City **Emanuel Charles Fleischner** U 1904 San Francisco, Cal. Physician William Ruthven Flint G 1909 Pasadena, Cal. Professor of Chemistry, Throop Polytechnic Institute Charles Paxson Flora TJ 1902 Watertown, Mass. Assistant Superintendent, State Rubber Company U 1895\* Harry Ward Foote New Haven, Conn. Assistant Professor of Chemistry, Yale University William Ebenezer Ford, Jr U 1899\* New Haven, Conn. Assistant Professor of Mineralogy, Yale University Frank Nugent Freeman Chicago, Ill. Instructor in Education and Psychology, University of Chicago U 1895 Lewis Fox Frissell New York City Physician, St. Luke's Hospital John Marshall Gaines G 1897 New York City Treasurer, Remington Arms and Ammunition Company Arthur Sullivan Gale TJ 1899\* Rochester, N. Y. Professor of Mathematics, University of Rochester Edson Fessenden Gallaudet G 1898 Norwich, Conu. President, Gallaudet Engineering Company G 1907 Russell Tyner Gard Indianapolis, Ind. Attorney William Smith Garnsey, Jr TJ 1902 Billings, Mont. Manager, Billings Sugar Company William Van Nest Garretson G 1904 Ann Arbor, Mich. Instructor in Mathematics, University of Michigan Albert Henry Garvin U 1903 Ray Brook, N. Y. Superintendent, New York State Hospital for Incurable Tuberculosis

U 1909

G 1899

Medical Student, Johns Hopkins University

Baltimore, Md.

Frederick Lamont Gates

Harry Courtland Gause

(Deceased 1899)

YALE CHAPTER Isaac Wheeler Geer C 1895 Logansport, Ind. Superintendent, Logansport Division, Pennsylvania Lines U 1903 Fort McDowell, Cal. Herbert Charles Gibner Captain, Medical Corps, U. S. Army Robert Banks Gibson U 1902\* (Missouri F 1907) Assistant Professor of Chemistry, University of Missouri G 1896\* (Columbia CF 1903) New York City William John Gies Professor of Biological Chemistry, Columbia University Harry Van Vleck Gifford U 1900 Los Angeles, Cal. In Business Josiah Allen Gilbert CF 1895 Portland. Ore. Physician Henderson Gilbert G 1901 Harrisburg, Pa. Henry Gilbert and Son, Hardware G 1903 Ralph Davis Gilbert Boston, Mass. With American Agricultural Chemical Company U 1910 St. Louis, Mo. Charles M Gill Department of Geography and History, Teachers' College U 1909 Maurice Hope Givens Ithaca, N. Y. Instructor in Biochemistry, Cornell Medical College Samuel Goldschmidt U 1911 New Haven, Conn. Graduate Student Assistant, Yale University Ralph Edward Goodwin U 1908 East Hartford, Conn. Transitman, New York Central and Hudson River Railway Lemuel Whittington Gorham U 1906 Baltimore, Md. Medical House Officer, Johns Hopkins Hospital Frederick Shand Goucher G 1911 New Haven, Conn. Student, Graduate School, Yale University Clarence Flack Graham U 1909 Baltimore, Md. Medical Student, Johns Hopkins Medical School Justin Frank Grant U 1898 Atlanta, Ga. Professor of Anatomy, College of Physicians and Surgeons Richard Frank Grant U 1899 Cleveland, Ohio General Counsel, M. A. Hanna and Company William Anthony Granville F 1895\* Gettysburg, Pa. President, Pennsylvania College

Arthur Harmount Graves New Haven, Conn. U 1900 Assistant Professor of Botany, Sheffield Scientific School

Henry Solon Graves F 1901\*+ Washington, D. C. Chief Forester, U. S. Forest Service

Carl Emil Green U 1907 Washington Depot, Conn. Civil Engineer

Herbert Ernest Gregory F 1908\*† New Haven, Conn. Professor of Geology, Yale University

Herbert Hartley Guest U 1908 New Haven, Conn. Assistant in Chemistry, Sheffield Scientific School

George Frederick Gundelfinger U 1906 New Haven, Conn. Instructor in Mathematics, Sheffield Scientific School

Frank Eugene Hale  $$\rm G\,1902^*$$  New York City Chemist in Charge, Mt. Prospect Laboratory

Allan Everett Hall U 1895 Milwaukee, Wis. Sales Engineer, Allis-Chalmers Company

Francis Jenks Hall U 1899 Peking, China Professor of Practice of Medicine, North China Union Medical College

Robert William Hall U 1895\* South Bethlehem, Pa.
Professor of Biology, Lehigh University

William S H Hamilton U 1910 Schenectady, N. Y. With General Electric Company

George Arthur Hanford U 1898\* (Syracuse F 1906) Syracuse, N. Y. Chemist, G. C. Hanford Manufacturing Company

Robert Whitney Hanington U 1896 Denver, Col.
Mechanical Engineer, Hendric and Bolthoff Company

Isaac Faust Harris G 1905 Yonkers, N. Y.
Consulting Chemist, Arlington Chemical Company

Frederick Brown Harrison U 1899 Port Deposit, Md.
Teacher, Jacob Tome Institute

Ross Granville Harrison F 1908\*† New Haven, Conn. Professor of Comparative Anatomy, Yale University

John Bryant Hartwell U 1900 Boston, Mass.
Physician

Samuel Clark Harvey G 1910 New Haven, Conn. Fellow in Pathology, Yale Medical School

Herbert Hastings G 1898 Rochester, N. Y.
Designer, German-American Button Company

Franke Stuart Havens U 1896 Philadelphia, Pa.
Assistant to President, Harrison Brothers Company, Incorporated

Herbert Edwin Hawkes F 1898\*† New York City Professor of Mathematics, Columbia University

Ralph Chipman Hawley F 1908 New Haven, Conn.
Assistant Professor of Forestry, Yale University

William Patrick Healey U 1896 New York City Physician

Fred Harvey Heath G 1909 (Case F 1910) Middletown, Conn. Instructor in Chemistry, Wesleyan University

Earle Raymond Hedrick G 1902\* (Missouri CF 1905) Columbia, Mo. Professor of Mathematics, University of Missouri

Angelo Heilprin F 1907\*†
(Deceased 1907)

Yandell Henderson F 1899\* New Haven, Conn.
Professor of Physiology, Yale Medical School

Herbert Thacker Herr U 1899 East Pittsburgh, Pa. Vice-President and General Manager, Westinghouse Machine Company

Berlin, Germany

William Worthington Herrick U 1902 New York City Instructor in Medicine, Columbia University Medical School Nathaniel Herz U 1908 Lead, S. D. Chemist, Homestake Mining Company Lawrence Ilsley Hewes F 1901\* Washington, D. C. Senior Highway Engineer, Office of Public Roads Donnel Foster Hewett G 1911 Washington, D. C. Metallurgical Engineer, U. S. Geological Survey Frederick William Hevl U 1904 Laramie, Wyo. Assistant Professor of Chemistry, University of Wyoming Warren Witherell Hilditch G 1909 (Syracuse F 1909) New York City Chief Chemist, Dr. E. E. Smith Laboratory Albert Hileman U 1903 (Deceased 1908) Arthur Joseph Hill U 1910 New Haven, Conn. Assistant in Chemistry, Sheffield Scientific School Charles Grovt Hilliard G 1902 Redlands, Cal. Physician **Bedford Forrest Hines** U 1902 Decherd, Tenn. Engineering Edgar Clarkson Hirst G 1909 Concord, N. H. State Forester of New Hampshire Henry Steadman Hitchcock G 1895 Woodbury, Conn. Hardware Business, F. F. Hitchcock James Ladd Hitchcock G 1898 Depew, N. Y. Assistant Engineer, Construction Department, New York Central Railroad Edson Allen Hoffman G 1897 Frankfort, Ky. Assistant Manager, W. A. Gaines and Company Frederick Stearns Hollis G 1903\* Indianapolis, Ind. Assistant Professor of Organic Chemistry, Indiana University Medical School Davenport Hooker New Haven. Conn. U 1908 Instructor in Anatomy, Medical Department, Yale University Lemuel Robert Hopton G 1896 Plainfield, N. J. Superintendent, The Enos Company George Merriam Howard U 1895 Philadelphia, Pa. Chief Chemist, Electric Storage Battery Company James Leland Howard U 1897 Hartford, Conn. Assistant Secretary, Travelers Insurance Company Harry Arthur Stevens Howarth U 1899 South Bethlehem, Pa. Assistant Professor of Mechanical Engineering, Lehigh University Ernest Howe TT 1898\* Newport, R. I. Consulting Geologist William Thomas Hildrup Howe CF 1895 Cincinnati, Ohio With American Book Company

G 1907

Chinese Legation

Yuen-li Hsia

SIGMA XI 156 U 1910 Yao-Chang H Hsin G 1901 (Kansas U 1901) Alva, Okla. Albert Kemp Hubbard City Engineer James Lanman Hubbard U 1907 Norwich, Conn. Secretary, A. H. Hubbard Company Frederick George Hughes G 1900 Bristol, Conn. Chief Engineer, New Departure Manufacturing Company Albert Wallace Huli G 1909 Worcester, Mass. Instructor in Physics, Worcester Polytechnic Institute John Irving Hull U 1909 Schenectady, N. Y. With General Electric Company IJ 1897 **Edward Hicks Hume** Changsha, China Medical Missionary, Yale Mission Frederick Brewster HumphreysU 1899 New York City Instructor in Pathology, Columbia University George Hoppin Humphreys, Jr U 1898 New York City Physician, St. Luke's Hospital John Wilson Hunt U 1904 Seattle, Wash. Physician Louis Doremus Huntoon F 1905\* New York City Consulting Mining Engineer TJ 1899 George Pelton Hutchins Lamontville, N. Y. Agriculture Lewis Orrin Hutchinson U 1910 Port Deposit, Md. Instructor in Mathematics and Science, Tome School for Boys Washington, D. C. William Albert Hyde U 1901 Electrical Expert, Bureau of Ordnance, Navy Department Charles Anthony Ingersoll CF 1895 New Haven, Conn. Mechanical Engineer, Winchester Repeating Arms Company William Lorne Irvine U 1903 Newport, R. I. Assistant Surgeon, U.S. Navy David Duryea Irwin U 1908 New York City Mining Engineer, W. Rowland Cox and Staff Holmes Condict Jackson U 1896\*† New York City Professor of Physiology, University and Bellevue Hospital Medical College Reginald Jackson G 1903 Chicago, Ill. Superintendent of Construction, The Foundation Company George Samuel Jamieson U 1901 New Haven, Conn. Assistant Professor of Analytical Chemistry, Yale University Nejib H Jebejian U 1909 New York City

Engineering

Assistant Professor of Chemistry, Yale University

Chief Engineer, Department of Bridges

New Haven, Conn.

New York City

G 1905

TI 1895

Carl Oscar Johns

Alexander Johnson

Frank Elmer Johnson G 1910 Providence, R. I. Physician, Rhode Island Hospital Treat Baldwin Johnson G 1898\* New Haven, Conn. Assistant Professor of Organic Chemistry, Sheffield Scientific School Louis Cleveland Jones Syracuse, N. Y. Laboratory Manager, Solvay Process Company F 1904\*† Charles Hubbard Judd Chicago, Ill. Head of Department of Education, University of Chicago Charles Sheldon Judd G 1906 Honolulu, H. I. Commissioner of Public Lands, U. S. Forest Service Albert Galloway Keller F 1903† New Haven, Conn. Professor of Science of Society, Yale University Willett Harold Kellogg, Jr U 1906 New Haven, Conn. Secretary, Girvan-Kellogg Company U 1900 Trumbull Kelly (Deceased 1900) Cyrus Hamilton Kendall U 1903 (Deceased 1904) Herbert Leopold Kennedy U 1906 Yonkers, N. Y. Nose and Throat Specialist Valentine Odell Ketcham U 1908 Keokuk, Ia. Civil Engineer, Hydraulic Engineering Company of Maine Skunkichi Kimura G 1896 Nagawa, Yokosuka, Japan Wireless Engineer, Naval Ordnance Department Richard Shelton Kirby U 1896 Gettysburg, Pa. Professor of Civil Engineering, Pennsylvania College William Barri Kirkham G 1906 New Haven, Conn. Instructor in Biology, Yale University Charles Louis Kirschner A 1903 New Haven, Conn. Principal, High School Israel Simon Kleiner U 1906 New York City Assistant in Physiology and Pharmacology, The Rockefeller Institute Simon Bretzfelder Kleiner U 1911 New Haven, Conn. Student, Yale Medical School David Albert Kreider F 1897\* New Haven, Conn. Assistant Professor of Physics, Yale University Joseph Lehn Kreider Annville, Pa. Instructor in Chemistry, Lebanon Valley College Richard Krementz U 1898 Newark, N. J. Superintendent of Krementz Company, Manufacturing Jewelers Beverly Waugh Kunkel U 1901 New Haven, Conn. Instructor in Biology, Yale University Charles Scott Landers U 1900 New York City Consulting Civil Engineer

 $G_{1903}$ 

Physician

North Yakima, Wash.

John Edward Lane

Stanley Robinson MacLane

G 1910 New Haven, Conn. Ralph Walker Langley Chemist, Acme Wire Company Robert Carr Lanphier G 1897 Springfield, Ill. Manager, Sangamo Electric Company G 1905 Granville, Ohio Ellis Earle Lawton Department of Physics, Denison University Willis Sargent Leggett, Jr U 1906 New York City Salesman, General Electric Company F 1911 New Haven, Conn. David Deitch Leib Instructor in Mathematics, Yale University Carl Starker Leopold U 1911 Burlington, Ia. F 1903 (Colorado F 1907) Oliver Clarence Lester Boulder, Col. Professor of Physics, University of Colorado TI 1909 Chicago, Ill. Frederick B Lewis With Pennsylvania Railroad Company Howard Bishop Lewis U 1908 New Haven, Conn. Assistant in Physiological Chemistry, Sheffield Scientific School Charles Davenport Lockwood **II 1900** Stamford, Conn. Lawyer, Judge of Probate Court, District of Stamford Edwin Hoyt Lockwood CF 1895\* New Haven, Conn. Assistant Professor of Mechanical Engineering, Yale University William Harding Longley G 1907 Baltimore, Md. Associate Professor of Botany, Goucher College F 1907 (Chicago G 1905) New Haven, Conn. William Raymond Longley Assistant Professor of Mathematics, Yale University Gerald Francis Loughlin G 1905 Boston, Mass. Instructor in Geology, Massachusetts Institute of Technology Albert Shelev Low New Haven, Conn. Graduate Student Sanitary Engineering, Yale University Abbot Lawson Lowe U 1906 (Deceased 1908) Herbert Lucker U 1901 (Deceased 1902) Richard Swann Lull F 1907 New Haven, Conn. Professor of Vertebrate Paleontology, Yale University Graham Lusk G 1897\*† New York City Professor of Physiology, Cornell University Medical College John Franklin Lyman G 1908 Columbus, Ohio Associate Professor of Agricultural Chemistry, Ohio State University New Haven, Conn. Charles Tyler Lyon U 1906 Civil Engineering, New York, New Haven and Hartford Railroad Company George Grant MacCurdy F 1899\*† New Haven, Conn. Assistant Professor of Archaeology, Yale University Kenneth Gerald MacKenzie G 1907 Bayonne, N. J. Chemist, The Texas Company

U 1906

Mechanical Engineer, B. F. Sturtevant Company

Boston, Mass.

Ralph Julian Marsh U 1907 Wallingford, Conn. Chief Chemist, R. Wallace and Sons Manufacturing Company

William Crosby Marshall F 1896\* New Haven, Conn. Assistant Professor of Drawing, Sheffield Scientific School

James Smith Martin G 1905 Watertown, Conn. Physician

Carlton Howard Maryott U 1911 Dallas, Tex.
Professor of Chemistry, Baylor Medical College

Max Mason F 1905\* Madison, Wis.

Professor of Mathematical Physics, University of Wisconsin

Champion Herbert Mathewson U 1902 New Haven, Conn.
Assistant Professor of Metallurgy, Sheffield Scientific School

Matataro Matsumoto G 1899 Kyoto, Japan Professor of Psychology, Imperial University

Ralph Nelson Maxson G 1904 Lexington, Ky.
Professor of Inorganic Chemistry, Kentucky State University

Hatsuji Mayessawa U 1905 Tokyo, Japan With Takata and Company, Marunowchi

Cloyd North McAllister F 1901\* Warrensburg, Mo. Professor of Psychology, State Normal School

Selim Walker McArthur U 1908 Chicago, Ill. Student, Rush Medical School

Burtis Barton McCarn U 1909 Chicago, Ill. Structural Engineering with J. T. Ryerson and Son

James Farley McClelland F 1910 New Haven, Conn.
Professor of Mining Engineering, Yale University

Albert Steele McCullough U 1905 Coleraine, Minn. Manager, Iron Range Coal and Ice Company

John Stokes McCune U 1907 Columbus, Ohio Assistant Chemist, Water Purification Works

Henry Edwin McDermott U 1896 (Deceased 1898)

Boynton Wells McFarland A 1896 New Haven, Conn. Instructor in Chemistry, High School

David Ford McFarland F 1909 (Kansas U 1899; Illinois F 1910)
Assistant Professor of Chemistry, University of Illinois [Urbana, Ill.

Lawrence Riley McWeeney G 1907 Port Chester, N. Y. Accountant, Russell, Burdsall and Ward Bolt and Nut Company

Herbert Edwin Medway G 1904 Daleville, Pa.
Teaching

Ralph Hill Melcer U 1903 New London, Conn.

Raiph Hill Melcer U 1903 New London, Conn. Superintendent, Palmer Brothers Company

Lafayette Benedict Mendel CF 1895\*† New Haven, Conn. Professor of Physiological Chemistry, Sheffield Scientific School

Anthony Joseph Mendillo G 1907 New Haven, Conn. Physician and Surgeon

Andrew Burton Mygatt

G 1903 Washington, D. C. George Albert Menge Technical Assistant in Pharmacology, Public Health Service Henry Franklin Merriam G 1900 Summit, N. J. Research Specialist, General Chemical Company, New York Ishiro Mijake G 1901 Okayama, Japan Professor of Education, Sixth National College G 1904 David Henry Miller Georgetown, Conn. Assistant Superintendent, Gilbert and Bennett Manufacturing Company Edwin Cyrus Miller U 1907 Manhattan, Kan. Instructor in Botany, Kansas State Agricultural College Hiram Miller U 1901 La Paz, Bolivia Civil Engineer, Bolivia Railway Company John Milton Miller TJ 1904 Washington, D. C. Assistant Physicist, Bureau of Standards Clark Godell Mitchell U 1909 (Columbia U 1911) Britannia Beach. Engineer, Britannia Mining and Smelting Company Philip Henry Mitchell U 1904 (Brown F 1904) Providence, R. I. Assistant Professor of Physiology, Brown University Walter Louis Mitchell G 1895 New York City With Tiffany and Company George Webber Mixter G 1896 Moline, Ill. Vice-President, Deere and Company Seth Enoch Moody G 1906 (Wisconsin CF 1906) St. Louis, Mo. Assistant City Chemist Benjamin Moore G 1899 New York City Sydney Luard Moore G 1905 Denver, Col. District Forester, U. S. Forest Service Edward Eugene Moran TJ 1904 Yochow, China Government Service James Caddall Morehead G 1905 Evanston, Ill. Instructor in Education, Northwestern University William Conger Morgan U 1896\*† (California CF 1901) Berkeley, Cal. Assistant Professor of Chemistry, University of California Frederick Hitchcock Morley U 1899 Denver, Col. Mining Engineer Guy Burl Morrison U 1904 Wilmette, Ill. Salesman, D. Appleton and Company Lawrence Stillman Morrison U 1911 Redlands, Cal. Louis Sutliffe Murphy G 1907 Washington, D. C. Examiner, U. S. Forest Service Ralph E Myers U 1909 Battle Creek, Mich. Chemist at Battle Creek Sanitarium Victor Carvl Myers G 1909 Albany, N. Y. Lecturer in Chemistry, New York Post-Graduate Medical School

Engineering, Southern Pacific Company

San Francisco, Cal.

Houghton, Mich.

Washington, D. C.

Davenport, Ia. Arthur Theodore Nabstedt U 1910 Civil Engineer, Panama Canal Rokuro Nakaseko G 1900 Kyoto, Japan Professor of Physiological Chemistry, Doshisha College U 1909 New Haven, Conn. Homer Chidsey Neal Graduate Student, Yale University F 1896 Concord, N. H. Theophilus Nelson Instructor in Mathematics, St. Paul's School CU 1895 Andover, Mass. Frederick Edwin Newton Instructor in Mathematics, Phillips Academy G 1908 Storrs, Conn. Howard Douglas Newton Professor of Chemistry, Connecticut Agricultural College George Elwood Nichols G 1906 New Haven, Conn. Instructor in Botany, Yale University Washington, D. C. Henry James Nichols G 1901 Captain, Medical Corps, U. S. Army Medical School F 1895 New York City William Wallace Nichols Vice-President and Secretary, Allis-Chalmers Company Levi Fatzinger Noble TJ 1907 Washington, D. C. Junior Geologist, U. S. Geological Survey Henry Archibald North G 1899 Chicago, Ill. Chemist, Barrett Manufacturing Company Herbert Brinkerhoff North G 1907 New Haven, Conn. Assistant Professor of Drawing, Yale University John Pease Norton F 1900† New Haven, Conn. Writer John Treadwell Norton, Jr U 1898 Philadelphia, Pa. Member of Booth, Garrett and Blair, Chemists Thomas Augustine O'Brien U 1899 New Haven, Conn. Clinical Assistant, Yale University Louis Albert Oldershaw U 1907 New Britain, Conn. Civil Engineer, Oldershaw and McKernan Herbert James Ord U 1904 Yonkers, N. Y. Assistant Engineer, Board of Water Supply, City of New York Raymond William Osborne U 1906 Chicago, Ill. Teacher of Physical Sciences, Francis W. Parker School Charles Leonard Overlander U 1901 Boston, Mass. Physician Brace Whitman Paddock U 1900 Pittsfield, Mass. Physician and Surgeon Leigh Page U 1904 New Haven, Conn. Assistant in Physics, Sheffield Scientific School

U 1910

U 1910

Instructor, Mining Geology, Michigan College of Mines

Chemist, Bureau of Chemistry

Francis Ward Paine

Samuel Palkin

New Brunswick, N. J.

G 1906

Erik Schjoth Palmer

Instructor in Mathematics, Rutgers College Howard Earle Palmer U 1907 Gloucester City, N. J. Chemist, The Welsbach Light Company Charles Joel Parker U 1900 Coventryville, N. Y. Lumber Business John Emilius Parker G 1905 East Orange, N. J. Physician G 1898\* William Huntington Parker Boston, Mass. Government Chemist, Custom House Lewis Abraham Parsons U 1908 Grand Rapids, Mich. Mining Engineer Martin Kellogg Pasco, Jr II 1905 New Britain, Conn. Superintendent American Hosiery Company Robert Alexander Patterson U 1911 New Haven, Conn. Graduate Student, Yale University Silas Beach Patterson G 1897 New York City Chief Draftsman, Bridge Department, New York Central and Hudson River Harley T Peck U 1909 New Haven, Conn. Chemist, Winchester Repeating Arms Company Henry Waterman Peck U 1897 Rochester, N. Y. Assistant Manager, Rochester Railway and Light Company Henry Augustus Perkins G 1901\*† Hartford, Conn. Professor of Physics, Trinity College

Clarence Curtiss Perry G 1905 New Haven, Conn.
Instructor in Physics, Sheffield Scientific School
Charles Adams Peters G 1900 Amherst, Mass.

Assistant Professor of Soil Chemistry, Massachusetts Agricultural College
Isaac King Phelos F 1896\* Washington, D. C.

Isaac King Phelps F 1896\* Washington, D. C.
Assistant Organic Chemist, U. S. Bureau of Chemistry

Wyllys Irvin Phelps U 1902 Pittsburgh, Pa. Assistant Engineer, Pennsylvania Lines West of Pittsburgh

James Pierpont F 1896\* New Haven, Conn. Professor of Mathematics, Yale University

William Kinney Pike U 1897 Danielson, Conn. Surveyor and Civil Engineer

Louis Valentine Pirsson CF 1895\*† New Haven, Conn. Professor of Physical Geology, Yale University

Frank Wesley Pitman U 1904 New Haven, Conn.
Instructor in History, Yale University

Washington Platt U 1911 Baltimore, Md. Student, Johns Hopkins Medical School

Samuel James Plimpton U 1905 New Haven, Conn.
Assistant in Physics, Yale University

Joseph Ezekiel Pogue, Jr G 1909\* Washington, D. C. Assistant Curator, U. S. National Museum

Westfield, Mass.

New York City

YALE CHAPTER 163
Lawrence A Pomeroy U 1905 Cleveland, Ohio Physician
Raymond Ashley Pond U 1909 Utica, N. Y. Inspector, New York Central and Hudson River Railroad
Charles Talbot Porter 2nd U 1907 Cleveland, Ohio Instructor in English
John Henry Porter U 1897 Denver, Col. With Boetcher, Porter and Company, Brokers
Milton Brockett Porter G 1901* Austin, Tex. Professor of Mathematics, University of Texas
Joseph Hyde Pratt U 1896*† Chapel Hill, N. C. State Geologist of North Carolina and Consulting Engineer
Nathan Tolles Pratt G 1902 Bridgeport, Conn. Physician
Edward Hamilton Prior U 1903 Chicago, Ill. Engineer and Salesman, John Baker, Jr.
Oscar Stoddard Pulman G 1902 Cleveland, Ohio Assistant Superintendent, National Carbon Company
David Lindsey Randall G 1906 Baldwin, Kan. Professor of Chemistry, Baker University
Joseph Chappell Rayworth U 1906 (Washington F 1911) St. Louis, Mo. Instructor of Mathematics, Washington University
Arthur Bernhard Recknagel G 1906 Albuquerque, N. M. Assistant District Forester, U. S. Forest Service
Henry Lewis Read U 1909 New York City Student, Columbia University
Frederick Carl Reckert U 1911 Terre Haute, Ind. Assistant Manager, Ehrmann Manufacturing Company
Chester Albert Reeds G 1907 Bryn Mawr, Pa. Associate in Geology, Bryn Mawr College
George Harold Reid U 1901 Schenectady, N. Y. With General Electric Company
Leo Frederick Rettger F 1902* New Haven, Conn. Assistant Professor of Bacteriology, Yale University
Alfred Newton Richards G 1898* (Columbia G 1903) Philadelphia, Pa Professor of Pharmacology, University of Pennsylvania
Roland George Dwight Richardson F 1904 (Brown F 1904) Providence, R. I. Assistant Professor of Mathematics, Brown University
Philip Franklin Ripley U 1897 Lawrence, Mass. Chemist, Wood Worsted Mills
Allan Douglas Risteen G 1901* Hartford, Conn. Expert Engineer, Travelers' Insurance Company

U 1908

U 1902

With Crane Brothers

Attorney at Law

Laurence Ballard Robbins

Charles Asaph Roberts

Edward Ellis Pierpont Roberts U 1904 (Deceased 1904)

Edwin Jay Roberts U 1911 Waterville, Me. Instructor in Chemistry, Colby College

Colin Charles Robertson G 1906 Bloomfonteine, Orange Free State Assistant Conservator, Forest Department, University of South Africa

Heaton Ridgeway Robertson U 1906 New Haven, Conn. Assistant Engineer, New York, New Haven and Hartford Railroad Company

Hartford, Conn.

Ithaca, N. Y.

Marion, Ky.

Easton, Pa.

Henry Hollister Robinson F 1902 Geologist

Joseph Wickham Roe CU 1895 New Haven, Conn. Assistant Professor of Mechanical Engineering, Sheffield Scientific School

William Cumming Rose G 1909 Philadelphia, Pa. Instructor in Chemistry, University of Pennsylvania Medical School

Joseph Rosenbaum U 1907
Graduate Student, Cornell University

Eustis Thacher Rowland U 1911 New Haven, Conn.
Post-Graduate Student, Yale University

Henry Camp Russ U 1902 Hartford, Conn.
Physician, Charter Oak Private Hospital

Ely Morgan Talcott Ryder U 1896 New York City Engineer, Third Avenue Railway Company

Tadasu Saiki G 1907 Kitayamasaki, Iyo, Japan Physiological Chemist

Walter Murray Sanders U 1899
Mining

James Cox Sanderson U 1907 New Haven, Conn. Graduate Student in Physics, Yale University

Arthur Sandiford U 1904 Norwalk, Conn.
Instructor in Harstrom School

U 1906

Charalambos George Savidis (Deceased 1909)

Louis Saxon U 1895 Engineering

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Instructor in Pharmacology, Yale Medical School

Jacob Parsons Schaeffer F 1911 New Haven, Conn. Assistant Professor of Anatomy, Yale University

Orville Hickok Schell U 1900 New Rochelle, N. Y. Physician

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Samuel Ray Scholes G 1911 Pittsburgh, Pa. Fellow in Industrial Research, University of Pittsburgh

Charles Schuchert F 1906\*† New Haven, Conn.
Professor of Paleontology, Yale University

Flat River, Mo.

St. Albans, W. Va.

G 1895\*† New York City Edward Wheeler Scripture Associate in Psychiatry, Columbia University Lawrence Selling TI 1904 Portland, Ore. Physician CF 1895\*† (California CF 1901) Berkeley, Cal. William Albert Setchell Professor of Botany, University of California Herbert Lee Seward U 1906 New Haven, Conn. Instructor in Mechanical Engineering, Sheffield Scientific School Howard Francis Shattuck U 1911 Columbus, Ohio Ernest Wilson Sheldon U 1907 Strathcona, Alberta Assistant Professor of Mathematics, University of Alberta Norman Arthur Shepard U 1910 New Haven, Conn. Instructor in Chemistry, Sheffield Scientific School William Kent Shepard U 1897\* New Haven, Conn. Instructor in Mechanics, Yale University Edward James Sherwood U 1898 Mitchell, S. D. Manager, Mitchell Power Company Frederick Augustus Sherwood U 1901 Ottawa, Ill. Engineering Zenas Harrison Sikes G 1898 Yonkers, N. Y. Engineer, New York Central and Hudson River Railroad Max Silverman U 1901 Philadelphia, Pa. Chemist, The Berg Company Max Ruskin Smirnow F 1910 New Haven, Conn. Instructor in Pathology, Yale Medical School Burke Smith G 1902\* Chicago, Ill. Special Investigator, Chicago Telephone Company Henry DeWitt Smith G 1908 New London, Conn. Mining Geologist, with Spurr and Cox, Inc. Philip Augustus Smith U 1910 New Haven, Conn. Manufacturing Percey Franklyn Smith F 1897\*† New Haven, Conn. Professor of Mathematics, Yale University Ernest William Sniffen U 1896 Hampton, Va. Draftsman, Newport News Shipbuilding Company Jesse Wheat Speidel U 1900 Wheeling, W. Va. General Manager, City and Elm Grove Railroad Company Leavenworth Porter Sperry G 1902 Waterbury, Conn. Manager, Scoville Manufacturing Company Roger Sherman Sperry U 1910 New Haven, Conn. Graduate Student, Mining Engineer, Sheffield Scientific School

U 1905

U 1908

Milling Superintendent, Federal Lead Company

Treasurer, American Column and Lumber Company

Earl Tappan Stannard

Medary Wilson Stark

James William Toumey

George Pratt Starkweather F 1896 (Deceased 1901) Douglas Boyard Sterrett G 1904 Washington, D. C. Assistant Geologist, U.S. Geological Survey George Albert Stetson U 1910 New Haven, Conn. Graduate Student, Yale University John Minor Stetson U 1909 Burlington, Vt. Instructor in Mathematics, University of Vermont **Neil Everett Stevens** G 1911 Manhattan, Kan. Instructor in Botany, Kansas Agricultural College Henry Daniells Stowe TJ 1900 Perryville, Md. Engineer G 1903\* Carl Eben Stromquist Laramie, Wyo. Professor of Mathematics. University of Wyoming Wendell Melville Strong G 1897\* New York City Associate Actuary, Mutual Life Insurance Company Jeremiah Barrett Sullivan G 1906 New Haven, Conn. Physician TJ 1911 Roscoe Henry Suttie New Haven, Conn. Assistant Instructor, Sheffield Scientific School U 1900 Charles Christian Swartz South Norwalk, Conn. Mining Engineer Leonard Merrill Tarr F 1902 New Haven, Conn. Forecaster, U. S. Weather Bureau Charles Frederick Taylor TI 1906 Hartford, Conn. Assistant Engineer, Ford, Buck and Sheldon, Inc. Edwy Lycurgus Taylor U 1901 New York City Assistant Engineer, Electrical Division, New York Central and Hudson River Horace Van Sands Taylor U 1908 Pittsburgh, Pa. Engineer, Westinghouse Electric and Manufacturing Company Thomas Smith Taylor G 1909 Urbana, Ill. Instructor in Physics, University of Illinois Henry Clarke Thacher U 1902 New York City Physician, Assistant in Medicine, Columbia University Clarence Proctor Thomas U 1911 New York City Student, College of Physicians and Surgeons John Hastings Thomas U 1904 Altoona, Pa. Norman Campbell Thorne U 1902 Portland, Ore. Instructor in Physics and Chemistry, Portland Academy Wilder Tileston F 1911 New Haven, Conn. Assistant Professor of Medicine, Yale University Edwin Ward Tillotson G 1906 Lawrence, Kan. Assistant Professor of Industrial Research, University of Kansas **Burton Isaac Tolles** U 1901 Ansonia, Conn. Physician

F 1901\*†

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New Haven, Conn.

John Clayton Tracy F 1897† New Haven, Conn.
Assistant Professor of Structural Engineering, Yale University

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Assistant Chief Engineer, Electric Storage Battery Company

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Elisha Walker U 1900 New York City

With Salomon and Company

William Walker U 1899 (Deceased 1903)

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Production Engineer, W. H. McElwain Company

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Levi Wilcox U 1897 Waterbury, Conn. Secretary, Apothecaries Hall Company

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Arthur Baldwin Williams, Jr U 1898 Cleveland, Ohio General Agent, Cleveland Humane Society

Arthur Collins Williams U 1900 New York City Special Agent, Mutual Life Insurance Company Henry Shaler Williams CF 1895\*† (Cornell F 1886) Ithaca, N. Y. Professor of Geology, Cornell University

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Wallace Alvin Wilson F 1911 New Haven, Conn. Instructor in Mathematics, Yale University

Elihu Smith Wing U 1911 New Haven, Conn. Student, Medical College, Yale University

Andrew Lincoln Winton G 1900† Chicago, Ill. Chief, Chicago Food Laboratory, U. S. Department of Agriculture

Robert P Winton U 1909 New Haven, Conn.

George Paul Wisdom U 1898

Cooper Wood U 1898 Detroit, Mich.
In Business

Edward Seymour Woodruff G 1906 (Deceased 1909)

Lorande Loss Woodruff F 1905 (Columbia G 1903) New Haven, Conn. Assistant Professor of Biology, Sheffield Scientific School

John L Wortman G 1902 Long Pine, Neb.
Mining Engineer

Alfred Parks Wright U 1901

(Deceased 1901)

William Josiah Wright U 1908 New Haven, Conn.

Graduate Student, Yale University

Foh-Chung Yen G 1908 Changsha, China Physician, Yale Mission College, Changsha

Bayard Daniel York U 1907 Hartford, Conn.

Teacher, High School

George Albert Young G 1904 Ottawa, Canada Geological Survey

## MINNESOTA CHAPTER

University of Minnesota, Minneapolis, Minnesota Charter Dated April 23, 1896 Chapter Installed May 13, 1896

### HISTORICAL SKETCH

The charter for a chapter at the University of Minnesota was granted April 23, 1896. Professor H. E. Smith, a member of the Alpha Chapter, presented the charter to the petitioners, who were installed as charter members at a meeting held May 13, 1896. A temporary organization was effected and arrangements were made for a permanent organization, and on May 14 the constitution and by-laws were provisionally adopted. The regular officers were elected and installed on May 15, and at the same meeting committees were appointed and the permanent organization was effected. The committee on extension reported May 18 and new members were elected from the faculty and graduate school. At a meeting held May 25, the constitution was adopted and new members were elected from the senior class. The first initiation was held with a banquet, June 2, 1896, since which time the annual banquet with the initiation has become an important event in the yearly calendar and is well attended by the alumni members. In response to an invitation from the Chapter, Doctor Henry T. Eddy gave the first Sigma Xi Commencement oration in the University Chapel June 3, 1896.

In February, 1898, a joint committee of Phi Beta Kappa and Sigma Xi entered into an agreement to provide for an oration at each Commencement, the societies to alternate in supplying a speaker. The agree-

ment was ratified by both societies.

During the season of 1899 the Chapter had a representative at the

Marine Biological Laboratory at Woods Hole.

In addition to the biennial Commencement oration many lectures have been given before the Society by distinguished scientists. One or two meetings a year have been devoted to a study of new apparatus, and an examination of new installations in the laboratories. Besides these meetings, the Society has had each year at least one social meeting.

W. H. K.

### PUBLICATIONS

Society of the Sigma Xi, Minnesota Chapter, University of Minnesota, Minneapolis, 1908. pp. 39.

#### OFFICERS FOR 1911-12

President	.FREDERIC EDWARD CLEMENTS
Vice-President	JOHN BLACK JOHNSTON
Recording Secretary	WILLIAM HENRY BUSSEY
Corresponding Secretary	DAVID FERDINAND SWENSON
Treasurer	ANTHONY LISPENARD UNDERHILL
Councilor	HENRY TURNER EDDY

## MEMBERSHIP ROLL

William Edward Acomb U 1902 Donora, Pa. Assistant Superintendent Donora Works, American Steel and Wire Company

George Gooding Ainslie U 1908\* Nashville, Tenn. Assistant, U. S. Bureau of Entomology, Station B

George Moritz Albrecht U 1906 Washington, D. C. Assistant Examiner, U. S. Patent Office

David Arthur Allee U 1902 Schenectady, N. Y. Civil Engineer, General Electric Company

Harry Winslow Allen G 1896 Minneapolis, Minn.
Physician and Surgeon

Deborah M Anderson U 1905 Minneapolis, Minn.
Instructor in Botany, West High School

John G Anderson U 1897 Minneapolis, Minn. Assistant Engineer, Minneapolis and St. Louis Railway

Martin E Anderson U 1901 Washington, D. C.
Assistant Examiner of Patents

Walter Edmund Anderson U 1910 Princeton, N. J. Graduate Student, Princeton University

Claribel Angle U 1897 (Deceased 1903)

William Remsen Appleby CF 1896\*† Minneapolis, Minn.
Dean of School of Mines, University of Minnesota

Emmanuel Arthur Arzt U 1899 Pipestone, Minn. Electrical Engineer

Clarence Elliott Austin U 1903 Moose Jaw, Saskatchewan Treasurer and Manager, Saskatchewan Flour Mills Company, Ltd.

Walter L Badger F 1909 Washington, D. C.
Assistant Chemist, U. S. Bureau of Standards

Acel Conrad Baker U 1897 · Fergus Falls, Minn.

Physician and Surgeon

Frank Morris Ball U 1906 Minneapolis, Minn.

The Tribune

Frederic Herbert Bass F 1902 Minneapolis, Minn. Professor of Municipal and Sanitary Engineering, University of Minnesota

William Carroll Bass U 1899 Featherville, Idaho Manager Gold Belt Mining Company

Albert Henry Bates U 1905 Muskegon, Mich.

Electrical Engineer

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Annabel Beach U 1898 New York City (Mrs Bertram G Knight)

Richard Laurence Beaulieu U 1902 Seattle, Wash.
Resident Engineer, Great Northern Railway

George Becker U 1897 Minneapolis, Minn.
Assayer

Walter Clarence Beckjord U 1909 St. Paul, Minn. Engineer, St. Paul Gas Light Company U 1900 Chicago, Ill. Fred William Bedford Chemist and Superintendent, Sprague-Warner Company CF 1896 Charles John Bell (Deceased 1903) U 1898 Minneapolis, Minn. Cora Bennett. Bookkeeper Ella Gustavia Berger G 1909 St. Paul. Minn. Teacher of Mathematics, Mechanic Arts High School U 1909 Hutchinson, Minn. Nanda M. Berger Teacher, Hutchinson High School F 1906\* (Columbia G 1904) New York City Charles Peter Berkey Assistant Professor of Geology, Columbia University Adam Carl Beyer U 1896 (Deceased 1901) Theodore Alexander Beyer U 1903 Salt Lake City. Utah Vice-President, Jas. J. Burke and Company Lewis Scoville Billau U 1905 Baltimore, Md. Assistant Engineer, Electrical Department, Baltimore and Ohio Railway James D Bilsborrow U 1910 Crookston, Minn. Instructor in Agronomy, University of Minnesota Experiment Station Elmer Bisbee U 1905 Denver. Col. Contracting Engineer, Minneapolis Steel and Machinery Company Oscar Bernard Biorge U 1907 Duluth, Minn. Engineer, Draftsman, Clyde Iron Works F 1901\* (Chicago F 1903) Gilbert Ames Bliss Chicago, Ill. Associate Professor of Mathematics, University of Chicago **Edward Bates Block** U 1898 Atlanta, Ga. Physician and Surgeon Nathan Herschel Bogue U 1904 Washtucua, Wash. Engineer, Portland and Seattle Railway Ole Martin Bolme

Ole Martin Bolme

U 1910

Draftsman, American Bridge Company

Chicago, Ill.

Oliver Bowles F 1911 Minneapolis, Minn.
Instructor in Geology, University of Minnesota

Robert Russell Boyd U 1905 Globe, Ariz.
Mining Engineer, Old Dominion Copper and Smelting Company

Henry Martyn Bracken F 1904\*† St. Paul, Minn. Executive Officer, State Board of Health

Charles John Brand U 1902\* Washington, D. C. Physiologist, U. S. Department of Agriculture

Benjamin Francis Parlett Brenton F 1910 Minneapolis, Minn. Instructor in Chemistry, University of Minnesota

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Teacher of Science, High School

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William Ellsworth Brooke F 1902\*† Minneapolis, Minn. Professor of Mathematics, University of Minnesota

Edgar Dewight Brown F 1907\* Minneapolis, Minn.
Professor of Pharmacology, University of Minnesota

John C Brown F 1902 Minneapolis, Minn.
Assistant Professor of Biology, University of Minnesota

Rosamond (Thompson) Bruce U 1901 Minneapolis, Minn. (Mrs Charles A Bruce)

Frederick William Buck U 1909 Duluth, Minn.
Oxy-Acetylene Welding and Cutting

Max Whitney Buell U 1902 Takoma Park, D. C. Farmer

Coates Preston Bull F 1905\* St. Anthony Park, St. Paul, Minn.
Associate Professor of Agriculture, University of Minnesota

Ellen Adelia (Lamoreaux) Burger U 1901 Miles City, Wash. (Mrs J Archie Burger)

Kelvin Burns G 1908 Lick Observatory, Cal.
Astronomer

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William Henry Bussey F 1908\* (Chicago G 1903) Minneapolis, Minn.
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Charlotte Deming Cahoon U 1897 Butte, Mont.
Teacher, High School

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Physician and Surgeon

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Physician and Surgeon

George de S Canavarro U 1908 New Haven, Conn.

Graduate Student, Yale University

Jessie F Caplin U 1897 Minneapolis, Minn.

Teacher of Chemistry, West High School

Henry Benjamin Carey U 1900 (California F 1906) San Francisco, Physician and Surgeon [Cal.

George Albertus Casseday U 1896 (Deceased)

Charles Henry Chalmers U 1896 Minneapolis, Minn. (Retired)

Edward Joseph Cheney U 1904 Schenectady, N. Y. Designing Engineer, General Electric Company

Edward Gheen Cheyney U 1907 St. Anthony Park, St. Paul, Minn.
Director of College of Forestry, University of Minnesota

Milwaukee, Wis. U 1901 Alice May Child Science Teacher, Milwaukee High School F 1896 Minneapolis, Minn. Peter Christianson Professor of Metallurgy, University of Minnesota F 1899 Thomas Alfred Clark (Deceased 1901) St. Maries, Ida. Charles Patrick Clarke U 1908 Engineer, Chicago, Milwaukee and Puget Sound Railway Frederic Edward Clements F 1908\*† (Nebraska F 1901) Minneapolis, Professor of Botany, University of Minnesota [Minn. **TJ 1900** Minneapolis, Minn. Lillian Cohen Instructor in Chemistry, University of Minnesota U 1906 New York City Nathan Cohen Patent Attorney Mariorie H Cole TJ 1904 Minneapolis, Minn. (Mrs Clarence A Paulson) U 1902 Minneapolis, Minn. Ruth Fitch Cole Graduate Student, Columbia University U 1910 St. Paul, Minn. Wallace Cole Physician and Surgeon Frank Henry Constant **CF 1896** Minneapolis, Minn. Professor of Structural Engineering, University of Minnesota TI 1903 Robertson Cook Brookings, S. D. Professor of Engineering, South Dakota State College Louis Joseph Cooke F 1898 Minneapolis, Minn. Director of Gymnasium, University of Minnesota Thomas Poe Cooper U 1908 Minneapolis, Minn. Assistant in Agriculture, University of Minnesota J Frank Corbett F 1909 Minneapolis, Minn. City Bacteriologist Martin Cornelius U 1906 Pittsburgh, Pa. Engineer, Westinghouse Electric and Manufacturing Company Ellen (Dobie) Cornish U 1898 Berkeley, Cal. (Mrs Frank V Cornish) Richard Ferguson Cox U 1908 Graceville, Minn. Mechanical Engineer Robert Craig U 1897 Minneapolis, Minn. General Manager, Power Equipment Company Wallace T Crawford U 1906 Faribault, Minn. Crawford Garage Charles Royal Cressy TI 1908 South Bethlehem, Pa. Instructor in Chemistry, Lehigh University LR Critchfield U 1909 Hunter, N. D. Physician and Surgeon Neil Currie, Jr Pittsfield, Mass.

Engineer, General Electric Company

Alvin Sayles Cutler U 1905 Minneapolis, Minn.
Assistant Professor of Railway Engineering, University of Minnesota

Christen Frederick Dahl U 1908 St. Hilaire, Minn.
Mining Engineer

Mining Enginee

Hans F M Dahl U 1898 (Deceased 1903)

Arnold Victor Dahlberg U 1905 Spreckels, Cal.

Sugar Chemist

Hans H Dalaker U 1902\* Minneapolis, Minn.
Assistant Professor of Mathematics, University of Minnesota

Farrington Daniels G 1911 Cambridge, Mass. Graduate Student and Assistant in Chemistry, Harvard University

Jake Danner U 1901 La Grange, Iil.
Telephone Engineer

Perley Alton Davis U 1898 Minneapolis, Minn.
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Reuben Noble Day U 1896 New Orleans, La.

Day Brothers Lumber Company

Frederick W Denton CF 1896 Houghton, Mich.
Mining Engineer

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Neil Stanley Dungay U 1904 Northfield, Minn. Acting Professor of Biology, Carleton College

SIGMA XI 176 Grandview, Wash. U 1900 Harriet E Dunton (Mrs N H Thompson) Michael Higgins Ebert U 1907 Webster, S. D. Principal High School CF 1896\*† (Cornell A 1888) Minneapolis. Henry Turner Eddy Dean of the Graduate School, Professor of Mathematics, University of Minnesota [Minn. Cincinnati, Ohio Horace Taylor Eddy G 1896 Automobile Dealer F 1897 Minneapolis, Minn. Ruth Elizabeth Eddy (Mrs Chas F Keyes) Austin Southwick Edwards G 1910 Ithaca, N. Y. Graduate Student, Cornell University Halsten Olson Eggen U 1899 Santa Ana, Cal. Instructor in Physics, High School son U 1905 (California F 1906) I Instructor in Astronomy, University of California Berkeley, Cal. Sturla Einarsson U 1896\* Arthur Hugo Elftman Tonopah, Nev. Mining Engineer Byron Todd Emerson U 1903 Minneapolis, Minn. Teacher of Chemistry, Central High School Henry Anton Erikson U 1896\* Minneapolis, Minn. Assistant Professor of Physics, University of Minnesota Harvey Cole Estep U 1908 Chicago, Ill. Associate Editor, Iron Trade Review, and The Foundry Nevada Sutherland Evans U 1910 Minneapolis. Minn. Seed Inspector, Northrup King and Company U 1909 Minneapolis, Minn. Edwin Walter Ewy Assistant in Botany, University of Minnesota Mary Gilmore Fanning U 1899 St. Paul, Minn. Teacher, Humboldt High School St. Joseph, Mo. Ellen (Pendergast) Farnum U 1903 (Mrs A W Farnum) Roy Yalding Ferner G 1893 Washington, D. C. Assistant Physicist, U. S. Bureau of Standards Edward Fidlar F 1909 Minneapolis, Minn. Instructor in Pathology, University of Minnesota Peter Field G 1897\* (Michigan F 1903) Ann Arbor, Mich. Assistant Professor of Mathematics, University of Michigan Merlin Chamberlin Findlay U 1903 Parkville, Mo.

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G 1908 Douglas, N. D. Henry Oswald Grangaard

Physician

R C Grant TI 1909 Hollis, Alaska Mining Engineer

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Charles Frederick Grass U 1901 Fergus Falls, Minn. Bookkeeper, Fergus Shirt Factory

Samuel Bowdlear Green (Deceased 1910)

F 1907\*†

Lawrence Edmonds Griffin Manila, P. I. G 1896\* Dean College of Liberal Arts, University of the Philippines

Emmogene (Lilley) Griffiths TJ 1902 (Mrs David Griffiths) (Deceased 1909)

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Massena, N. Y. Consulting Engineer

U 1904\* Frank Fitch Grout

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Joseph Edward Guthrie G 1901 Ames, Ia. Assistant Professor of Zoology, Iowa State College

U 1904 Detroit, Mich. Edward Jacob Gutsche Chief Chemist, Detroit Copper and Brass Rolling Mills

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TI 1909

U 1901

U 1907

Structural Engineer, James Stuart and Company

Telephone Engineer, Western Electric Company

Engineer and Geologist, Santa Rosa Mining Company

Chicago, Ill.

Chicago, Ill.

Sonora, Mexico

Simon Ingberg

Roy Rowell Ireland

Charles Freeman Jackson

U 1905 Earle Daniel Jackson St. Paul. Minn. Consulting Engineer **Emily Florence Janney** TI 1904 Medford, Ore. Teacher, High School U 1907 Albert Lea, Minn. Agnes Jaquess Science Teacher, High School Albert Ernest Jenks A 1910 Minneapolis, Minn. Professor of Anthropology, University of Minnesota Dagmar Christence Jensen U 1904 Los Angeles, Cal. Teacher of Mathematics, Manual Arts High School John Arthur Jensen TJ 1905 Minneapolis, Minn. Civil Engineer, Water Works Department Estelle Louise Jensen U 1909 Minneapolis, Minn. Assisting Scholar at University of Minnesota Jes Peter Frederick Jensen U 1903 Ithaca, N. Y. Graduate Student, Cornell University Carter Coleman Jett F 1902 Midland, Pa. Draftsman, Pittsburgh Crucible Steel Company Anna Josephine Johnson U 1908 Gaylord, Minn. Teacher, High School Arthur Monrad Johnson U 1904 Colfax, Wash. Deputy County Treasurer A Walford Johnson G 1909 Minneapolis, Minn. Charles Eugene Johnson U 1906 Minneapolis, Minn. Instructor in Animal Biology, University of Minnesota Edward Carl Johnson U 1906 Washington, D. C. Pathologist, Cereal Diseases, U. S. Department of Agriculture Frank Edward Johnson U 1900 (Washington CF 1907) Seattle, Wash. Instructor in Electrical Engineering, University of Washington Ruth Johnson U 1908 Birmingham, Ala. Teacher Iver F Johnsrud U 1903 St. Cloud. Minn. Professor of Physics and Geometry, State Normal School John Black Johnston F 1907\*† Minneapolis, Minn. Professor of Comparative Neurology, University of Minnesota Frederick Scheetz Jones CF 1896\*† New Haven, Conn. Dean of Yale University William Harrison Kavanaugh F 1902 Minneapolis, Minn. Professor of Experimental Engineering, University of Minnesota Frank H Keller TJ 1898 Omak, Wash. Metallurgist Earl Wallace Kelly U 1907 Duluth, Minn. Engineer, City Water and Light Department Charles Hanford Kendall G 1896 Manila, P. I. Railroad Engineer, Bureau of Engineering William Walker Kennedy St. Paul. Minn. Chief Chemist, Griggs Cooper and Company

Ben Hur Kepner U 1911 Port Colborne, Ont. Chief Chemist, Maple Leaf Milling Company

Ruth (Eddy) Keyes U 1897 Minneapolis, Minn. (Mrs Chas F Keyes)

Roy Stevenson King F 1904 Dayton, Ohio General Superintendent, Hall-Cronan Company

William Leonard Kinsell U 1900 East Pittsburgh, Pa. Superintendent Production Department, Westinghouse Machine Company

Frank J Kircher U 1909 Minneapolis, Minn.
Instructor in Mechanical Engineering, University of Minnesota

William Herman Kirchner CF 1896 Minneapolis, Minn. Professor of Drawing and Descriptive Geometry, University of Minnesota

Ingram Gerhard Kjosness U 1903 Spokane, Wash. Manager, Madison Lumber and Mill Company

Bertram Giover Knight U 1898 Pleasantville, N. Y.
Artist

Annabel (Beach) Knight U 1898 Pleasantville, N. Y. (Mrs Bertram G Knight)

Alois Francis Kovářik U 1904\* Minneapolis, Minn. Instructor in Physics, University of Minnesota

William Frederick Kunze U 1897 Minneapolis, Minn. Secretary, Smith System Heating Company

Ellen Adelia Lamoreaux U 1901 Miles City, Wash. (Mrs J Archie Burger)

Maximillian Nandor Lando U 1902 Chicago, Ill.
Chemist, Lindsay Light Company

James Sherburne Lang U 1896 Boston, Mass. Superintendent of Power Plant, Boston Terminal Company

Martin L Larsen U 1909 South St. Paul, Minn. Physician

Homer Barker Latimer U 1907 University Place, Neb. Professor of Zoology, Nebraska Wesleyan University

Francis P Leavenworth CF 1896\*† Minneapolis, Minn.
Professor of Astronomy, University of Minnesota

Clara K Leavitt G 1900 Minneapolis, Minn.
Teacher, Central High School

Engbert A Lee U 1897 Perth Amboy, N. J. Superintendent, American Smelting and Refining Company

Thomas George Lee F 1896\*† Minneapolis, Minn.
Professor of Anatomy, University of Minnesota

Bessie Geraldine Leeds U 1905 Orono, Me. (Mrs Gordon Edwin Tower)

Harry Alexander Leonhauser F 1896 Montclair, N. J.
Major, United States Army

Edward Harold LeTourneau U 1905 Portland, Ore. Superintendent, Railway Light and Power Company

182 U 1910 Shell Lake, Wis. Charles L Lewis, Jr Manager, The Badger Cranberry Co. U 1908 Seoul, Korea Margo Lee Lewis Principal, Woman's Academy U 1902 Emmogene Lilley (Mrs David Griffiths) (Deceased 1909) G 1908 Summit. S. D. Arvid C Lindberg Physician Charles Gustav Lindelef U 1909 Yellowstone Park, Wyo. Electrical Engineering U 1906 Detroit, Mich. Benjamin W Loye Engineer, American Blower Company U 1900\* Harold Lloyd Lyon Honolulu, H. I. Botanist, Experiment Station, Hawaiian Sugar Planters' Association Maud (Fletcher) Lyon U 1903 Honolulu, H. I. (Mrs Harold Lloyd Lyon) U 1897 Minneapolis, Minn. Kate MacDermid Teacher of Chemistry, South High School CF 1896\*† Daniel Trembly MacDougal Tucson, Ariz. Director, Botanical Research, Desert Laboratory, Carnegie Institution Russell Smith McBride U 1908 Washington, D. C. Assistant Chemist, Bureau of Standards F 1900 Minneapolis, Minn. **Edward Prosper McCarty** Professor of Mining, University of Minnesota Orianna McDaniell Minneapolis, Minn. Physician, State Board of Health William McDonald G 1907 Pretoria, South Africa Editor, Government of Transvaal Agricultural Journal Louis Williams McKeehan U 1908 Minneapolis, Minn. Instructor in Physics, University of Minnesota Conway McMillan CF 1896\*† Philadelphia, Pa. Agency Director, Economic Life Insurance Company Franklin R McMillan U 1905 Minneapolis, Minn. Instructor in Drawing, University of Minnesota Carl Edward Magnusson U 1896\* (Washington CF 1907) Seattle. Professor of Electrical Engineering, University of Washington [Wash. Gustav Alfred Magnusson G 1908 Minneapolis. Minn. Demonstrator of Pathology, University of Minnesota Clarence Maland G 1907 Minneapolis, Minn. Physician James Eugene Manchester F 1905\* Moore, Mont. Frank Melville Mason U 1894 Worthington, Minn. Physician and Surgeon John Van Sickle Martenis F 1907 Minneapolis, Minn.

Assistant Professor of Mechanical Engineering, University of Minnesota

Physician and Surgeon

Minneapolis, Minn.

U 1909

Stanley R Maxeiner

. MINN	ESOTA CHAPTER	183
Alfred David Mayo Foreign Advertising	U 1896 Manager, Chicago Record	Chicago, Ill. I Herald
James M Meany Engineer, J.	U 1907 J. Dennigan and Compan	Monett, Mo. y
Gertrude (Gibbs) Meier (Mrs Ferdinand Meier)	U 1900	Lindsay, Cal.
R C Miller	U 1909	Stanley, N. D.
Shirley Putnam Miller Department of Zoology	G 1904 7, South Dakota Agricultu	Brookings, S. D. ral College
James Burt Miner Assistant Professor of	F 1907* (Illinois G 1903) Psychology, University of	
Alice Margaret Misz Instructor in Bo	U 1907 tany, University of Minne	Minneapolis, Minn. sota
W A Moore	U 1909	St. Paul, Minn.
Charles Statham Morris Manager C	U 1902 ara Grande Development	Cara Grande, Ariz.
Thomas Carlyle Morris Draftsman,	U 1908 Engineering Department	Gatun, C. Z.
Charles Leo Motl Draftsman, Chicago,	U 1910 Milwaukee and St. Paul	Chicago, Ill. Railway
Robert Hyndman Mullin Associate Professor of Patholog	F 1905 gy and Bacteriology, Univ	Minneapolis, Minn. ersity of Minnesota
FE Murrish Elec	U 1909 trical Engineering	Denver, Col.
Henry Francis Nachtrieb Professor of Animal	CF 1896*† Biology, University of Mi	Minneapolis, Minn. nnesota
John Wenceslaus Nekola Draftsman, V	U 1907 Western Electric Company	Chicago, Ill.
William Barrett Newhall Manager, Southern	U 1900 Fruit Lands Irrigation C	Raymondville, Tex.
Burt Leroy Newkirk Assistant Professor of M	G 1898* (California F athematics, University of	1903) Minneapolis, Minnesota [Minn.
Edward Everett Nicholson Assistant Professor of	F 1896 Chemistry, University of	Minneapolis, Minn. Minnesota
Bernard S Nickerson Phys	U 1899 sician and Surgeon	Glencoe, Minn.
Wilhelm Nilson	U 1902 Farmer	Twin Valley, Minn.
Lillian L Nye Assistant in Chen	G 1910 nistry, University of Minn	Minneapolis, Minn. esota
Peter Olaus Okkelberg Instructor in Zo	U 1906 cology, University of Mich	Ann Arbor, Mich.
Joshua Edwin Emanuel Olander	U 1904 Physician	St. Paul, Minn.
Mary Emma Olson (Mrs H M Stanford)	U 1898	Evanston, Ill.

U 1910 New London, Minn. Manford O Oppegard Physician and Surgeon, Sunnyside Hospital Frederick Arthur Otto U 1904 St. Paul, Minn. Chief Engineer, St. Paul Gas Light Company Minneapolis, Minn. Robert Walter Otto U 1904 Engineer, Andrews Heating Company U 1909 Ellsworth, Wis. Martin Oyen Physician and Surgeon **Edward Parker** U 1905 Mukden, Manchuria Experiment Station of Chinese Government U 1900 Westminster Station, Vt. Harleigh Parkhurst President, Abenaque Machine Works F 1904\* Lidgerwood, N. D. Arthur Leonard Parsons Jarvis Montgomery Partridge U 1906 Virginia, Minn. Science Teacher, Technical High School U 1901 **Edith Marion Patch** Orono, Me. Entomologist, Maine Agricultural Experiment Station Harriet (Wales) Patterson TJ 1899 Western Springs, Ill. (Mrs E C Patterson) Marjorie (Cole) Paulson U 1904 Minneapolis, Minn. (Mrs Clarence A Paulson) Harold Gould Payne U 1906 Chicago, Ill. Electrical Engineer, D. C. and W. B. Jackson Levi Beckley Pease U 1898 Minneapolis, Minn. Professor of Metallurgy, University of Minnesota William Argulus Peck Washington, D. C. Bureau of Statistics, U. S. Department of Agriculture Ellen Martha Pendergast TI 1903 St. Joseph, Mo. (Mrs A W Farnum) Edward M Pennock U 1905 South Chicago, Ill. Chemist, By Products Coke Company Andrew Peter Peterson U 1910 Chicago, Ill. Western Electric Company William Arnold Peterson U 1906 Bard, Cal. Superintendent, U. S. Experimental Farm G Leonard Pitchford G 1910 Minneapolis, Minn. Assistant in Chemistry, University of Minnesota Charles Delos Poore U 1905 (Iowa F 1906) Aberdeen, S. D. Professor of Chemistry and Physics, Northern State Normal Orson Birney Poore U 1908 Aurora, Minn. Director of Manual Training, Hearling High School Frederick Poppe G 1911 Minneapolis, Minn. Assistant in Chemistry, University of Minnesota Frederick Harold Poppe G 1907 Minneapolis, Minn. Clinical Instructor in Surgery, University of Minnesota Alden Archibald Potter U 1909 Washington, D. C. Bureau of Plant Industry

MINNESOTA CHAPTER 185 Arthur Clarence Pratt U 1899 Helena, Mont. Chief Electrical Engineer, Missouri River Power Company Arthur Prendergast U 1903 St. Ignatius, Mont. Civil Engineer, U. S. Reclaiming Service John Henry Quense U 1901 Seattle, Wash. Assistant District Engineer Irene Radcliffe U 1906 Minneapolis, Minn. (Mrs F N Edmonds) G 1897\* (Colorado CF 1905) Francis Ramaley Boulder, Col. Professor of Biology, University of Colorado Henry John Ramsey U 1903 Washington, D. C. Assistant Pathologist, Experiment Station, Bureau of Agriculture Louis Rask U 1903 Schenectady, N. Y. Designing Engineer, General Electric Company Robert Retzer F 1910 Chicago, Ill. Professor of Anatomy, University of Chicago Arthur Christian Ringsred U 1906 Duluth, Minn. Hydraulic Engineer Orison B Robbins U 1903 St. Paul, Minn. Chief Draftsman, Great Northern Railway Harold Eugene Robertson F 1908 Minneapolis, Minn. Associate Professor of Pathology, University of Minnesota Archer R Robison TT 1909 Glenbeg, Wickes, Mont. Engineer, Corbin Copper Company Katherine Roney U 1896 Independence, Ia. Teacher Victor H Martini Roehrich G 1910 St. Paul, Minn. City Chemist Carl Otto Rosendahl U 1901\* Minneapolis, Minn. Professor of Botany, University of Minnesota Frank B Rowley F 1911 Minneapolis, Minn. Instructor in Descriptive Geometry, University of Minnesota Arthur Gordon Ruggles F 1906\* St. Anthony Park, St. Paul, Minn. Assistant Professor of Entomology, University of Minnesota

Bert Russell U 1902 Washington, D. C. Assistant Examiner of Patents, U. S. Patent Office

William Thomas Ryan F 1908 Minneapolis, Minn. Assistant Professor of Electrical Engineering, University of Minnesota

G 1898\* (Wisconsin CF 1907) Madison, Wis. Emil Peter Sandsten Professor of Horticulture, University of Wisconsin

Roscoe Frank Sanford U 1905 San Luis, Argentina Assistant, Southern Observatory, Carnegie Institute

Frederick William Sardeson G 1898\*† Minneapolis, Minn. Assistant Professor of Geology, University of Minnesota

Lee Arbor Scace G 1907 Centralia, Wash. Chief Surgeon, Employes' Hospital

SIGMA XI 186 F 1911 Minneapolis, Minn. Frederick William Schlutz Instructor in Pediatrics, University of Minnesota Sleepy Eye, Minn. U 1900 Gottfried Schmidt Physician and Surgeon G 1903 Minneapolis, Minn. Herman F Schrader Medical Student, University of Minnesota TJ 1903 Minneapolis, Minn. John Henry Schumacher Engineer F 1908 Minneapolis, Minn. Frederick Hughes Scott Assistant Professor of Physiology, University of Minnesota Minneapolis, Minn. Julius Parker Sedgwick F 1907 Instructor in Physiological Chemistry, University of Minnesota Francis Clinton Shenehon F 1910\* Minneapolis, Minn. Dean of College of Engineering, University of Minnesota U 1909 St. Paul, Minn. George M Shepard Civil Engineer, U. S. Engineer Corps George Defrees Shepardson CF 1896\*† (Cornell G 1889) Minneapolis. Professor of Electrical Engineering, University of Minnesota Minn. Sylvanus Carl Shipley F 1908 Minneapolis, Minn. Assistant Professor of Machine Construction, University of Minnesota Charles Franklin Shoop F 1907 Minneapolis, Minn. Assistant Professor of Experimental Engineering, University of Minnesota Minneapolis, Minn. Royal Raiss Shumway G 1904 Assistant Professor of Mathematics, University of Minnesota Charles Frederick Sidener CF 1896 Minneapolis, Minn. Professor of Chemistry, University of Minnesota F 1898\*† (Ohio A 1911) Minneapolis, Minn. Charles Peter Sigerfoos Professor of Zoology, University of Minnesota Herman L Slobin F 1911 Minneapolis, Minn. Instructor in Mathematics, University of Minnesota Byron Eton Smith **TI 1907** St. Paul, Minn. Electrical Engineer Ernest Vernon Smith G 1907 Adams, Minn. Physician Harry Ezra Smith CF 1896 (Cornell C 1886) College Station, Tex. Assistant Professor of Engineering, Agricultural and Mechanical College Paul Sherburne Smith U 1901 Red Wing, Minn. Civil Engineer Roy Howard Smith U 1906 St. Paul, Minn. John Edward Smithson U 1907 Chicago, Ill. Western Electric Company

F 1902\*†

U 1901

U 1909 Mechanical Engineer

Chemist, Russell-Miller Milling Company

Electrician

Minneapolis, Minn.

Portland. Ore.

Hopkins, Minn.

Harry Snyder

W H Souba

Jens Johan Solhaug

Minneapolis, Minn. Frederick J Souba U 1910 Resident Pathologist, City Hospital Stephen Barber Soule U 1897 Minneapolis, Minn. Civil Engineer Leonard Boyd Sperry U 1905 Milwaukee, Wis. Draftsman, International Harvester Company Frank Wesley Springer G 1896\* Minneapolis, Minn. Professor of Electrical Engineering, University of Minnesota Elmer Neill Stacy U 1907 Minneapolis, Minn. Mechanical Engineer, Decarie Incinerator Company Alma Louise Stake **TJ 1908** Biwabik, Minn. Teacher, High School Elvin Charles Stakman U 1906 Minneapolis, Minn. Instructor in Plant Pathology, University of Minnesota Harold Melvin Stanford U 1898 Chicago, Ill. Editorial Department, Publishing House Mary (Olson) Stanford U 1898 Evanston, Ill. (Mrs H M Stanford) Raymond Edward Stanton U 1904 St. Paul. Minn. Mechanical Engineer, Toltz Engineering Company Jessie Eliza Stevens U 1896 Minneapolis, Minn. (Mrs Harvey M Hickok) Alexander Stewart U 1904 Minneapolis, Minn. Lawyer, President Plum Valley Railway Company John T Stewart F 1910 Minneapolis, Minn. Ernest Stoppel TT 1911 Rochester, Minn. William Stussy U 1900 Hauserlake, Mont. Electrical Engineer, Missouri River Power Company Matthias Sundt Minneapolis, Minn. Physician and Surgeon St. Cloud, Minn. **Charles Stewart Sutton** U 1909 Physician and Surgeon George Peter Svendson U 1908 Minneapolis, Minn. Engineer David Ferdinand Swenson U 1898 Minneapolis, Minn. Assistant Professor of Philosophy, University of Minnesota Carl A Taylor TJ 1910 Ishpeming, Mich. Chemist, Pluto Powder Company Harold George Taylor U 1909 Chicago Heights, Ill. Tire Department, Railway Steel Spring Company TI 1900\* Joseph Auken Thaler

Bozeman, Mont. Professor of Electrical Engineering, Montana State College

Edith Mighill Thomas (Deceased 1903)

Harriet E (Dunton) Thompson U 1900 Grandview, Wash. (Mrs N H Thompson)

Rosamond Thompson (Mrs Charles A Bruce)	U 1901	Minneapolis, Minn.
Roy Edwin Thompson Vice President and Gen	U 1900 eral Manager, San Diego	San Diego, Cal. Telephone Co.
Josephine Elizabeth Tilden Professor of Be	G 1896* otany, University of Minne	Minneapolis, Minn.
L C Tomlinson Instructor in Electrical	G 1909 Engineering, Colorado Sc	Golden, Col. hool of Mines
Elien Torelle Lecturer and Resear	U 1902 ch Worker, Natural Histor	Milwaukee, Wis. y Museum
Bessie (Leeds) Tower (Mrs Gordon E Tower)	U 1905	Orono, Me.
Charles Edward Tullar Assistant E	U 1901 xaminer, U.S. Patent Offic	Washington, D. C.
Edward Leo Tuohy Physician and	U 1902 Surgeon, State Board of H	Duluth, Minn.
Carl Mugg Ungerman Engineer, El	U 1906 ectrical Machinery Compa	Minneapolis, Minn. ny
Roy Albion Vickery Agent and E	G 1908 xpert, Bureau of Entomolo	Washington, D. C.
Jay Carter Vincent Assistant Engineer,	U 1903 Twin City Rapid Transit	Minneapolis, Minn. Company
Adolph W Wagner Manager, Hur	U 1898 on Light and Power Com	Huron, S. D.
Harriet Wales (Mrs E C Patterson)	U 1899	Western Springs, Ill.
Frank Bates Walker Resident Eng	U 1897 ineer, Great Northern Rai	St. Paul, Minn.
George Hamilton Walker Phy	G 1908 ysician and Surgeon	Fairfax, Minn.
George Warren Walker Assistant, College of	U 1909 Agriculture, University of	Minneapolis, Minn. Minnesota
George Thompson Walker Chemist, Th	U 1905 e Van Tilburg Oil Compa	Minneapolis, Minn. ny
Frederick Leonard Washburn Professor of Ente	F 1905*† omology, University of M	Minneapolis, Minn. innesota
Orson Monroe Washburn C	U 1897 ashier, State Bank	Coburg, Ore.
Frederick Walter Webber Deputy	U 1897 Collector, U. S. Customs	Minneapolis, Minn.
Ervin L Weber Engineer	U 1906 , Great Northern Railway	Seattle, Wash.
	F 1909 of Forestry, University of	
	U 1909 of Biology, University of N	
Donald McDermid Wesbrook Mechanical Engir	U 1910 neer, Oliver Iron Mining Co	Hibbing, Minn. ompany

Aurora, Ill.

MINNESOTA CHAPTER 189 Frank Fairchild Wesbrook F 1896\*† Minneapolis, Minn. Dean of College of Medicine and Surgery, University of Minnesota Rodney Mott West TI 1906 Minneapolis, Minn. Instructor in Chemistry, College of Agriculture, University of Minnesota Joseph Peter Weyrens G 1906 Taylor, N. D. Physician and Surgeon U 1896 Herbert Merrill Wheeler Chicago, Ill. Assistant Chief Engineer, Chicago Railways Company William Archie Wheeler U 1900 Mitchell, S. D. Secretary and Manager, South Dakota Improved Seed Company Solon Marx White F 1900\* Minneapolis, Minn. Associate Professor of Medicine, University of Minnesota Eugene Edgerton Whiteley U 1903 Bisbee, Ariz. Chief Engineer, Calumet and Arizona Manufacturing Company H O Whittaker G 1911 Minneapolis, Minn. Chemist, State Board of Health Albert Davis Wilhoit G 1906 Minneapolis, Minn. Chemist, Pillsbury Flour Mills Company Fred Mortimer Williams U 1905 Chicago, Ill. Telephone Engineer, Western Electric Company Wilbur S Williams U 1909 Memphis, Tenn. Engineer, Wabash Screen Door Company U 1905 St. Anthony Park, Minn. Archie Dell Wilson Superintendent of State Farmers' Institutes and Extension, University of Minnesota. F 1900\* Louis Blanchard Wilson Rochester, Minn. Director of Laboratories, St. Mary's Hospital Newton Horace Winchell CF 1896\*† Minneapolis, Minn. Ex-Professor of Geology, University of Minnesota F 1910 Herbert Woodrow Minneapolis, Minn. Instructor in Psychology, University of Minnesota Roydon Vincent Wright U 1898 New York City Editor, American Engineering and Railroad Journal Louis Yager U 1900 St. Paul, Minn. Division Engineer, Northern Pacific Railway Charles H Zander U 1909 Rochester, Minn. Physician and Surgeon Anthony Zeleny G 1896\* Professor of Physics, University of Minnesota

Minneapolis, Minn. U 1898\* (Indiana F 1904; Illinois F 1909) Charles Zeleny

Associate Professor of Zoology, University of Illinois [Urbana, Ill. U 1898

Assistant Superintendent of Shops, Chicago, Burlington and Quincy Railway John Zeleny F1896\*† Minneapolis, Minn.

Frank Zelenv

Professor of Physics, University of Minnesota

Ralph August Ziesemer U 1905 Bisbee. Ariz. Smith and Ziesemer, Mining Engineers

Louis Peter Zimmerman U 1908 Seattle, Wash. Pacific Coast Manager of Perton Publishing Company

## NEBRASKA CHAPTER

University of Nebraska, Lincoln, Nebraska
Charter Dated June 24, 1897 Chapter Installed June 5, 1897

### HISTORICAL SKETCH

The organization of the Nebraska Chapter in 1897 was due mainly to the efforts of Professors Fred W. Card and A. L. Candy, who had been active members of chapters elsewhere, Professor Card at Cornell University and Professor Candy at the University of Kansas. After conferring with a number of their colleagues at the University of Nebraska, a petition was presented to the General Council, asking for a charter. Official notice was received by Professor Card on June 1, 1897, that such a charter had been granted and the Chapter was accordingly organized on June 5, 1897, with thirteen charter members, all chosen from the faculty. Professor Card became the first president.

The largest number initiated in any one year was thirty-six, in 1898, the year following the organization of the Chapter; of this number twenty-five were taken from among the graduates of the university. The smallest number elected in any one year was nine in 1902, only two from

the senior class being selected.

There have been held in all, since the organization of the Chapter and up to the end of the year 1909-10, seventy-three meetings, at forty of which papers and addresses were presented; the latter meetings were of three different types: those for the presentation of technical papers in which the research work of our own members was presented; meetings to which the public was invited, in which results of a more popular nature were set before them; and occasionally, especially at the mid-winter Commencement season, a similar program with a speaker invited from a sister Chapter.

Besides these meetings of the Chapter, regular and special, there have been held each year one or more functions of a social nature, either a gathering at the home of one of the members for the sake of better acquaintance with each other, or more frequently, especially in connection with the mid-winter address, or the initiation of new members, a banquet at one of the hotels, preceded by a social hour and followed by a program

of after-dinner speeches.

G. D. S.

## **PUBLICATIONS**

By-laws of the University of Nebraska Chapter of the Society of the Sigma Xi. 8 pp., n. p., n. d.

# OFFICERS FOR 1911-12

President	EDWIN MEAD WILCOX
Vice-President	Rosa Bouton
Recording Secretary	LAWRENCE BELL PILSBURY
Corresponding Secretary	ALBERT LUTHER CANDY
Treasurer	
Councilor	ELLERY WILLIAMS DAVIS

TreasurerLouis Bryant Tuckerman CouncilorELLERY WILLIAMS DAVIS		
MEMBERSHIP ROLL		
Louise Marie Allen G 1907 Seattle, Wash. State Seed Analyst of Washington		
Wynfred Emory Allen G 1905 Venice, Cal. Teacher, High School		
Billings Grinnell Almy G 1898 Ord, Neb. Stockman		
John Edwin Almy F 1902* Lincoln, Neb. Professor of Physics, University of Nebraska		
Frederick James Alway F 1907 Lincoln, Neb. Head Professor of Agricultural Chemistry, University of Nebraska		
Charles Edward Anderson G 1898 Craig, Neb. Electrical Engineer		
William Nance Anderson G 1908 Omaha, Neb. Physician		
Edward John Angle G 1898 Lincoln, Neb. Physician		
Samuel Avery F 1897*† Lincoln, Neb. Chancellor, University of Nebraska		
LeRoy Nelson Baker G 1907 Cheyenne, Wyo. Electrician		
Carrie Adeline Barbour G 1901 Lincoln, Neb. Assistant Curator of Museum, University of Nebraska		
Eleanor Barbour U 1910 Agate, Neb. (Mrs Harold James Cook)		
Erwin Hinkley Barbour CF 1897*† Lincoln, Neb. State Geologist and Professor of Geology, University of Nebraska		
Oscar Leonard Barnebey G 1909 Madison, Wis. Instructor in Chemistry, University of Wisconsin		
Franklin Davis Barker F 1907* Lincoln, Neb. Associate Professor of Zoology, University of Nebraska		
Henry Walter Barre G 1910 Clemson, S. C. Botanist, Experiment Station, Clemson College		
Carlos Glazier Bates G 1907 Denver, Col. Chief of Silvics, U. S. Forest Service		
Frederick John Bates G 1902 Washington, D. C. Physicist, U. S. Bureau of Standards		

Hal Truman Beans G 1900 New York City Assistant Professor of Chemistry, Columbia University

Pullman, Wash. G 1898 Rolla Kent Beattie Professor of Botany, Washington State College G 1900 Glenova, W. Va. Carl Ensley Bedell Superintendent of Electric Department, Wheeling Steel and Iron Company Albert Thomas Bell G 1898 Baton Rouge, La. Professor of Botany, Louisiana State University Harris Miller Benedict G 1898\* Cincinnati. Ohio Professor of Botany, University of Cincinnati Charles Abel Bennett U 1911 Omaha, Neb. With Omaha Electric Light and Power Company U 1909 (Illinois G 1910) Urbana, Ill. Claudius Edmund Bennett Research Fellow in Engineering, University of Illinois Lincoln, Neb. Nels August Bengtson G 1907 Assistant Professor of Geography, University of Nebraska Carl Athearn Bessey Chicago, Ill. G 1899 With H. M. Byllesby and Company CF 1897\*† Lincoln, Neb. Charles Edwin Bessey Head Dean and Professor of Botany, University of Nebraska Edward Athearn Bessey G 1898 (Deceased 1910) G 1908\*† East Lansing, Mich. Ernst Athearn Bessey Professor of Botany, Michigan Agricultural College Alice Miranda Birge U 1911 North Platte, Neb. Thaddeus Lincoln Bolton F 1900\* Tempe, Ariz. Professor of Psychology, Arizona State Normal Emil August Boostrom G 1910 Stromsburg, Neb. Superintendent of Schools George Borrowman F 1908 Lincoln, Neb. Adjunct Professor of Chemistry, University of Nebraska Rosa Bouton Lincoln, Neb. Professor of Home Economics, University of Nebraska John Shaw Boyce U 1911 Lincoln, Neb. Henry Blakeslee Boyden U 1909 Chicago, Ill. Student, Rush Medical College F 1908\* Lincoln, Neb. William Charles Brenke Associate Professor of Mathematics, University of Nebraska Paul Lemon Brockway G 1905 Wichita, Kan. Assistant City Engineer Morgan Brooks F 1899\*† (Illinois CF 1903) Urbana, Ill. Professor of Electrical Engineering, University of Illinois William Hand Browne, Jr Baltimore, Md. F 1897\*† Professor of English Literature, Johns Hopkins University Frank G Bruner G 1903\* Chicago, Ill. Assistant Director, Department of Educational Research, Board of Education Lawrence Bruner CF 1897\*† Lincoln, Neb. Head Professor of Entomology, University of Nebraska

Omaha, Neb.

U 1909 Seattle, Wash. Edward Martin Buol Engineer Edgar Albert Burnett F 1902\*† Lincoln, Neb. Dean of the College of Agriculture, University of Nebraska Esther Pearl (Hensel) Burnett G 1905 Ames, Ia. (Mrs L C Burnett) William Robert Calvert A 1911 Washington, D. C. U. S. Geological Survey Albert Luther Candy CF 1897\*† (Kansas A 1894) Lincoln, Neb. Professor of Pure Mathematics, University of Nebraska Earl Vanhise Capps G 1899 Blair, Neb. With Electric Light Company Fred Wallace Card CF 1897 (Cornell G 1893) Sylvania, Pa. Farm Management G 1902\* William Bell Cartmel Montreal. Canada Engineer, Northern Electric Company Cecil Floyd Charlton G 1908 Chicago, Ill. Student, Rush Medical College Carl Fred Chase U 1910 Manhattan, Kan. Assistant in Farm Mechanics, Agricultural College Leon Wilson Chase G 1904 Lincoln, Neb. Professor of Agricultural Engineering, University of Nebraska F 1897\* George Richard Chatburn Lincoln, Neb. Head Professor of Applied Mechanics, University of Nebraska Vivian Leroy Chrisler G 1908 Chapel Hill, N. C. Instructor, University of North Carolina Edith (Schwartz) Clements G 1903 Minneapolis, Minn. (Mrs Frederick Edward Clements) Frederic Edward Clements F 1901\*† (Minnesota F 1908) Minneapolis, Professor of Botany, University of Minnesota [Minn. Zeno E Crook G 1899 Denver, Col. Salesman G 1898\* George Evert Condra Lincoln, Neb. Professor of Geography and Geology, University of Nebraska G 1898\* (Case CF 1904) Samuel Richard Cook San Jose, Cal. George Herbert Coons G 1911 East Lansing, Mich. Research Assistant, Michigan Agricultural College Benton Dales G 1897\* Lincoln, Neb. Professor of Chemistry, University of Nebraska Jay Brownlee Davidson G 1904 Ames, Ia. Professor of Agricultural Engineering, Iowa State College Edwin Greene Davis TI 1909 Baltimore, Md.

Student, Johns Hopkins Medical College

Physician

G 1898

Byron Bennett Davis

194	SIGNIA AI	
Ellery Williams Davis Dean of College of Arts	CF 1897*† s and Science, University of No.	Lincoln, Neb. ebraska
	G 1906 Li sas Farms Company	ittle Rock, Ark.
Warren French Day Engineer	G 1906 , J. G. White Company	Boise, Ida.
Bruno Erdman Debler Engineer,	G 1907 Sam Brown Jr. and Son	Chicago, Ill.
Frank Earl Denny	G 1906 In business	Omaha, Neb.
Harry Wilfred Doubrava Sales Office,	G 1897 Wagner Electric Company	New York City
Jay Clinton Elder Fellow in Physic	G 1907 ology, University of California	Berkeley, Cal.
Gustavus Waldemar Elmen Electrical Engine	G 1904 eer, Western Electric Compan	New York City
Clarence Emerson Student,	G 1909 Rush Medical College	Chicago, Ill.
Rollins Adams Emerson Head Professor of H	G 1897*† forticulture, University of Neb	Lincoln, Neb. raska
Carl Christian Engberg Professor of Applied 1	G 1898* Mathematics, University of Ne	Lincoln, Neb. braska
William Harry England Bure	G 1904 W eau of Corporations	ashington, D. C.
Iva Belle Ernsberger Professor of M	G 1911 athematics, Greenville College	Greenville, Ill.
Flora Grace Ernst Teacher of	G 1909 of Botany, Brownell Hall	Omaha, Neb.
Herbert Silas Evans Professor of Electrical	G 1900 l Engineering, University of Co	Boulder, Col.
George Lorenzo Fawcett Plant Pathologist,	G 1905 Porto Rico Experiment Stat	Mayaguez, P. R.
Olin Jerome Ferguson Associate Professor of	G 1903 (Union F 1905) Sch Electrical Engineering, Union	enectady, N. Y. College
Ethel Content Field Plant Pathologist,	G 1908 W , U. S. Department of Agricultu	ashington, D. C.
Ellery Knapton Files Head Chemist	G 1910 t, Fox River Butter Company	Chicago, Ill.
Cassius Asa Fisher Geol	G 1898 logist and Engineer	Denver, Col.
Harry Cowles Fleming Cou	U 1909 K unty Road Engineer	alamazoo, Mich.
Paul Darwin Foote	G 1911	
Charles Fordyce Dean, Teachers	G 1900 College, University of Nebrask	Lincoln, Neb.

Washington, D. C.

William Olivet Forman G 1911 Havelock, Neb. Mechanical Engineer in Charge of Burlington Drafting Room John Jacob Fossler G 1902 Millard, Neb. Physician Mary Louise Fossler G 1898 Lincoln, Neb. Adjunct Professor of Chemistry, University of Nebraska Clarence Jackson Frankforter F 1910 Lincoln, Neb. Instructor in Chemistry, University of Nebraska George Bell Frankforter G 1898\*† (Minnesota F 1896) Minneapolis, Dean, School of Chemistry, University of Minnesota Elton Fulmer G 1898\* Pullman, Wash. Professor of Chemistry, State College of Washington Lincoln, Neb. Mariel Clapham Gere Teacher of Chemistry, High School Jesse Berthold Gibbs G 1905 Pittsburgh, Pa. Designer, with Westinghouse Electric and Manufacturing Company Melvin Randolph Gilmore G 1911 Lincoln, Neb. Curator of Museum, State Historical Society F 1902\*† (Washington CF 1907) Knoxville, Charles Henry Gordon Professor of Geology, University of Tennessee Charles Newton Gould G 1900\*† Norman, Okla. Professor of Geology, University of Oklahoma Washington, D. C. Harry Webster Graybill G 1900 Assistant in Zoology, U.S. Department of Agriculture Harold Hubert Greenamyre U 1910 Forest Service, U. S. Department of Agriculture Charles Clifton Griggs G 1898 Eureka, Utah General Superintendent, U. S. Consolidated Mining Company August Ernest Guenther F 1906† Lincoln, Neb. Professor of Physiology, University of Nebraska Robert Elton Guthrie G 1908 Fort Barry, Cal. First Lieutenant, Coast Artillery Charles Frederick Hagenow G 1900 Chicago, Ill. Instructor in Physics, Armour Institute of Technology Maurice Crowther Hall G 1906 Washington, D. C. Assistant Zoologist, Bureau of Animal Industry William Garfield Hamilton G 1906 Omaha, Neb. Charles Marks Hardin U 1910 East Pittsburgh, Pa. Westinghouse Machine Company Walter David Harris G 1906 Syracuse, N. Y. Assistant Professor of Physics, Syracuse University G 1903\* (Syracuse CF 1906) George Thomas Hargitt Evanston, Ill. Instructor in Zoology, Northwestern University Arthur Strong Harrington G 1908 Manager, Business Department, Oregon Power Company

A 1911

Bureau of Plant Industry, Department of Agriculture

Leonard Lee Harter

Baltimore, Md.

Walter Lewers Hartzell G 1905 With Westinghouse Electric Company

	1897 Montreal, Canada American Car and Foundry Company
Frederick DeForest Heald F Head, Department of	1906*† Austin, Tex. Botany, University of Texas
	1906 Washington, D. C. S. Department Agriculture
	1901*† Washington, D. C. ry, U. S. Department of Agriculture
	1906 Denver, Col. vil Engineer
	1903 Dallas, Tex. souri Valley Bridge and Iron Company
	1898 Chicago, Ill.
	1908 Monte Vista, Col. S. Forestry Service
Albert Ross Hill Fresident, Un	1897*† (Missouri CF 1905) Columbia, Mo. niversity of Missouri
	1899 Chicago, Ill. ago Telephone Company
	1898 Trojan, S. D. er, Reliance Gold Mine
	1898* Denver, Col. aboratory, U. S. Department of Agriculture
David Clark Hilton G Physician and Instructor in	1901 Lincoln, Neb. n Anatomy, University of Nebraska
	1909 Clovis, N. M. ison, Topeka and Santa Fe Railway
	1900 Lincoln, Neb. arlington and Quincy Railway
	1910 Peru, Neb. nt, Peru Fruit Farms
Harry Levi Hollingworth G Instructor in Psycho	1906 New York City ology, Columbia University
	1908 Portland, Ore. r, Portland Seed Company
	1906 Minneapolis, Minn. cs, University of Minnesota
Erwin Hopt U Assistant Professor of Ag	1909 Lincoln, Neb. gronomy, University of Nebraska
	1911 Wilkinsburg, Pa. ufacturing Company
Clarence John Humphrey G Pathologist, Fore	1906 (Cornell F 1907) Madison, Wis. est Products Laboratory

Walter David Hunter F 1897\*† Investigator, Bureau of Entomology, U. S. Department of Agriculture Delia Elizabeth Ingram G 1910 Washington, D. C. Pathologist, U. S. Department of Agriculture Toronto, Canada Robert Melyne Isham G 1910 Assistant in Chemistry, Toronto University William Gibson Jenkins G 1907 McCook, Neb. Civil Engineer G 1906 Clarence Anthony Johnson Lawrence, Kan. Assistant Professor of Engineering, University of Kansas Earle George Johnson G 1911 Fremont, Neb. Valerius Horatio Kendall G 1907 Niles, Mich. Secretary and Sales Manager, Kawneer Manufacturing Company Frederick Courtland Kenyon G 1898† Washington, D. C. Alvin Keyser G 1904 Fort Collins, Col. Professor of Agronomy, Colorado State Agricultural College G 1908 Theo Alexander Kiesselbach Assistant in Agronomy, University of Nebraska Wilbur Clinton Knight G 1898† (Deceased 1903) Fred Kuhlmann G 1900 Faribault, Minn. Director of Research, State School for Feebleminded G 1910 George Newton Lamb Washington, D. C. Forest Service, U.S. Department of Agriculture George Roger La Rue G 1908 (Illinois F 1909) Ann Arbor, Mich. Instructor in Zoology, University of Michigan Joseph William Laughlin U 1911 Lincoln, Neb. Medical Student Derick Norman Lehmer G 1899\* (California F 1903) Berkeley, Cal. Associate Professor of Mathematics, University of California G 1900 Albert Buell Lewis Chicago, Ill. Curator, Field Columbian Museum . Charles Lieber G 1910 Omaha, Neb. Physician F 1903\* Ralph Stayner Lillie Philadelphia, Pa. Instructor in Physiology and Zoology, University of Pennsylvania G 1907 Antone Lyman Lott Superintendent, Omaha and Council Bluffs Railway George Andrew Loveland F 1898\* Lincoln, Neb. Associate Professor of Meteorology, University of Nebraska Rufus Ashley Lyman G 1899 Lincoln, Neb. Director of School of Pharmacy, University of Nebraska Thomas Lyttleton Lyon CF 1897\*† (Cornell F 1907) Ithaca, N. Y. Professor of Soil Technology, Cornell University Conway MacMillan G 1898\* Minneapolis, Minn.

In Business

G 1907 Rockford, Ill. Ruth Marshall Professor of Biology, Rockford College Wade Randall Martin TJ 1911 Lincoln, Neb. Nurseryman G 1898 Alfred James McClatchie (Deceased 1906) Harold Edgar McComb G 1909 Lincoln, Neb. Instructor in Physics, University of Nebraska Edgar Matthias Medlar G 1911 Boston, Mass. Student, Harvard Medical College G 1902\*† (Brown A 1906) Washington, D. C. Haven Metcalf Pathologist, Bureau of Plant Industry, U. S. Department of Agriculture Lincoln, Neb. Clark Edwin Mickey Adjunct Professor of Mechanics, University of Nebraska G 1903 Washington, D. C. George F Miles Assistant, Pathologist, U. S. Department of Agriculture Alvin Augustus Miller G 1898 Seattle, Wash. Sales Engineer, Westinghouse Electric Company F 1906\*† (Washington F 1908) Seattle, Wash. Frank Garner Miller Professor of Forestry, University of Washington John Mills G 1904 New York City Engineer, American Telephone and Telegraph Company Edward Gerrard Montgomery G 1906 Ithaca, N. Y. Professor of Field Crops, Cornell University Claude William Mitchell U 1910 Lincoln, Neb. Fellow in Zoology, University of Nebraska F1897\* **Burton Evans Moore** Lincoln, Neb. Professor of Physics, University of Nebraska William Henry Harrison Moore G 1900 Martell, Neb. Cashier, Martell State Bank F 1897\*† Louis Trenchard More Cincinnati, Ohio Dean, College of Liberal Arts, Professor of Physics, University of Cincinnati F 1899\*† (Washington CF 1906) Seattle, Robert Edouard Moritz Professor of Mathematics, University of Washington [Wash. George Hart Morse Lincoln, Neb. Professor of Electrical Engineering, University of Nebraska Henry Hudson Nicholson CF 1897\*† Lincoln, Neb. Consulting Chemical Engineer Hiland Bachellor Noyes G 1898 Omaha, Neb. Contractor Robert Edgar Noves G 1904 Brooklyn, N. Y.

Instructor in Electrical Engineering, Pratt Institute

Expert Plant Pathologist, U. S. Department of Agriculture

Assistant Physicist, National Bureau of Standards

Medford, Ore.

Washington, D. C.

G 1902

Patrick Joseph O'Gara

Lewis Bertie Olmstead

Robert Bowie Owens CF 1897\* Philadelphia, Pa. Secretary, Franklin Institute G 1897 Denver, Col. Howard Coon Parmelee Western Editor, Metallurgical and Chemical Engineering Arthur Sperry Pearse G 1904 St. Louis, Mo. Associate Professor of Biology, St. Louis University Gustaf Adolph Pearson G 1907 Flagstaff, Ariz. Director, U. S. Forestry Service Edwin Rudolph Pelster U 1909 South Omaha. Neb. A 1911 San Francisco, Cal. Leon J Pepperberg Mining Geologist, Southern Pacific Company G 1908 Roy Pepperberg Lincoln, Neb. In Business, J. Pepperberg and Son F 1900† Albert Theodore Peters Springfield, Ill. Director, State Biological Laboratory Alfred Olaf Peterson G 1900 Omaha, Neb. Physician, Lecturer in Medicine, University of Nebraska College of Medicine Frank Jay Phillips (Deceased 1911) William Dwight Pierce G 1904 Dallas, Tex. Field Agent, Bureau of Entomology, U. S. Department of Agriculture Walter Bowers Pillsbury G 1898\*† (Michigan CF 1903) Ann Arbor, Professor of Psychology, University of Michigan [Mich. Lawrence Bell Pilsbury F 1906 Asylum, Neb. Adjunct Professor of Pathology, University of Nebraska Francis John Pipal G 1911 Lafayette, Ind. Assistant Botanist, Purdue University Raymond John Pool G 1907\* Lincoln, Neb. Associate Professor of Botany, University of Nebraska Venus Worrell Pool G 1908 Washington, D. C. Scientific Assistant, Bureau of Plant Industry G 1898\*† Roscoe Pound Cambridge, Mass. Professor of Law, Harvard University F 1906 Joseph Horace Powers Lincoln, Neb. Professor of Zoology, University of Nebraska F 1905 Melvin Price Lafayette, Ind. Farmer Fred J Pritchard G 1904 Washington, D. C. Physiologist, Bureau of Plant Industry Karl Chandler Randall G 1897 East Pittsburgh, Pa. Engineer, Westinghouse Electrical and Manufacturing Company Brayton Howard Ransom G 1900† Washington, D. C. Chief Zoologist, Bureau of Animal Industry, U. S. Department of Agriculture Edward J Rendtorff G 1899\* Lake Forest, Ill. Professor of Physics and Chemistry, Lake Forest Military Academy Charles Russ Richards CF 1897\* (Illinois F 1911) Urbana, Ill. Professor of Engineering, University of Illinois

John William Roberts G 1909 Washington, D. C. Pathologist, U. S. Department of Agriculture James Madison Rohrbaugh G 1898 St. Augustine, Fla. Assistant Engineer, Florida East Coast Railway U 1911 Fort Collins, Col. Fay Harry Rosencrants Instructor in Farm Mechanics, Agricultural College A 1903\* Missoula, Mont. Jesse Perry Rowe Professor of Geology, University of Montana Clarence Rubendall G 1906 Omaha, Neb. Physician G 1898\*† Per Axel Rydberg New York City Curator, New York Botanical Gardens G 1907 Arthur William Sampson Washington, D. C. Assistant, Bureau of Plant Industry, U. S. Department of Agriculture De Alton Saunders G 1899\*† Washington, D. C. Botanist, U. S. Department of Agriculture TI 1909 University Place, Neb. Ray James Scarborough Assistant Professor of Geography, Nebraska Wesleyan University Nella Gabrielle Schlesinger G 1905 Lincoln, Neb. (Mrs Kohn) William Leroy Schoonover G 1906 Chicago, Ill. Western Electric Company Eck Frank Schramm G 1908 Lincoln, Neb. Instructor in Geology, University of Nebraska G 1904 Benjamin Lee Seawell Marshall, Mo. Professor of Biology, Missouri Valley College Herbert Almon Senter G 1899 Omaha, Neb. Head of Chemistry Department, Omaha High School Adolph Shane G 1901 Ames, Ia. Associate Professor of Electrical Engineering, Iowa State College Homer LeRoy Shantz G 1905\* (Missouri F 1906) Washington, D. C. Plant Physiologist, U. S. Department of Agriculture Ora James Shaw G 1908 Lincoln, Neb. Secretary, Lincoln Traction Company F 1906 (Missouri F 1908) Washington, D. C. Roscoe Hart Shaw Dairy Chemist, U. S. Department of Agriculture Cornelius Lott Shear G 1897\* Washington, D. C. Plant Pathologist, U. S. Department of Agriculture Claude Kedzie Shedd TT 1909 Ames, Ia. Assistant Professor of Engineering, Iowa State College John Lewis Sheldon G 1899\*† Morgantown, W. Va. Professor of Botany, West Virginia University Lucian Ambler Sheldon G 1905 Schenectady, N. Y. Engineer, General Electric Company Mary Emily Sinclair G 1905 Oberlin, Ohio Associate Professor of Mathematics, Oberlin College

Clarence Aurelius Skinner F 1900 Lincoln, Neb. Professor of Physics, University of Nebraska Arthur Bessey Smith G 1901 Chicago, Ill. Electrical Engineer, Automatic Electric Company Washington, D. C. Harry Scott Smith G 1907 Entomological Expert, U. S. Department of Agriculture Jared Gage Smith G 1898\*† Kealakekua, H. I. Ord, Neb. David Henry Squires TJ 1911 Farmer G 1899\* (Illinois CF 1904) Joel Stebbins Urbana, Ill. Assistant Professor of Astronomy, University of Illinois Alvin Arthur Steele G 1899 Fayetteville, Ark. Professor of Mining, University of Arkansas G 1905 John Cyprian Stevens Portland, Ore. Civil Engineer A 1897 New Haven, Conn. Lucius Seymour Storrs Vice-President, The Connecticut Company CF 1897 Oscar Van Pelt Stout Lincoln, Neb. Head Professor of Civil Engineering, University of Nebraska Caroline Effic Stringer G 1903 Omaha, Neb. Teacher of Biology, High School LaZelle Brantly Sturdevant G 1905 Lincoln, Neb. Assistant Professor of Animal Pathology, University of Nebraska G 1908 George Leonard Sullivan Bozeman, Mont. Assistant Professor of Mechanical Engineering, Montana State College Myron Harmon Swenk G 1907 Lincoln. Neb. Associate Professor of Entomology, University of Nebraska Samuel August Swenson G 1908 Oakland, Neb. Physician and Surgeon Goodwin DeLoss Swezey CF 1897 Lincoln, Neb. Professor of Astronomy, University of Nebraska Leroy Dey Swingle Laramie, Wyo. Research Parasitologist, University of Wyoming John Torrence Tate G 1911 Lincoln, Neb. Graduate Student, University of Nebraska F 1900\* Roscoe Wilfred Thatcher Pullman, Wash. Director, Experiment Station, State College of Washington **Edwin Leroy Thomas** G 1904 (Deceased 1907) University, N. D. Clinton Adam Thompson U 1909 Superintendent of Construction, University of North Dakota John James Thornber Tucson, Ariz. Professor of Biology, University of Arizona Claude Raymond Tillotson U 1909 Washington, D. C.

Forest Service, U. S. Department of Agriculture

Student in University of Berlin

Berlin, Germany

G 1906

Arthur Quincy Tool

Robert Samuel Trumbull F 1909 Lincoln, Adjunct Professor of Chemistry, University of Nebraska	Neb.
James C Tucker U 1910 Omaha, Medical Student, University of Nebraska	Neb.
Leonard Whittier Turner G 1905 Schenectady, I With General Electric Company	N. Y.
Fred Wilbert Upson G 1907 Cincinnati, Instructor in Chemistry, University of Cincinnati	Ohio
Ora Elmer Van Berg U 1910 La Pryor, Civil Engineer	Tex.
Alice Venters G 1905 Syracuse, I (Mrs Charles A Lambeth)	N. Y.
Herbert Harold Waite F 1904* Lincoln, Professor of Bacteriology and Pathology, University of Nebraska	Neb.
Elda Rema Walker G 1906 Lincoln, Assistant Professor of Botany, University of Nebraska	Neb.
Leva Belle Walker G 1908 Lincoln, Adjunct Professor of Botany, University of Nebraska	Neb.
Ivan Emanuel Wallin G 1908 New York Instructor in Anatomy, Bellevue Hospital Medical College	City
Henry Baldwin Ward CF 1897*† (Illinois F 1909) Urban Professor of Zoology, University of Illinois	a, Ill.
Norton Ware G 1904 San Francisco Bridge Engineer, Western Pacific Railway	o, Ill.
Joseph Allen Warren G 1898 Kouts, Manager, Grasmere Land Company	Ind.
Frank Elbert Watson G 1901 Geneva, I Instructor in Biology, Hobart College	N. Y.
John Ernest Weaver G 1911 Lincoln, Graduate Student, University of Nebraska	Neb.
Herbert John Webber G 1898*† Ithaca, Professor of Plant Breeding, Cornell University	N. Y.
Edith Leonore Webster G 1907 Lincoln, Assistant in Geology, University of Nebraska	Neb.
Vernon Vilas Westgate G 1910 Lincoln, Assistant Professor of Horticulture, University of Nebraska	Neb.
John White F 1897* Terre Haute, Professor of Chemistry, Rose Polytechnic Institute	Ind.
Edwin Mead Wilcox F 1909 Lincoln, Professor of Botany, University of Nebraska	Neb.
William Albert Willard F 1903 Lincoln, Professor of Histology, University of Nebraska	Neb.
Cyrus Vance Williams G 1910 University Place, Professor of Botany, Wesleyan University	Neb.
Samuel Robinson Williams G 1903 Oberlin, Professor of Physics, Oberlin College	Ohio

Thomas Albert Williams (Deceased 1900)

G 1898

Arthur Rockwell Wilson

G 1907

Pueblo, Col.

With Pueblo Bridge Company

Sherman Ray Wilson

U 1910

Muskegon, Mich.

Athletic Director, High and Manual Training School

George Samuel Wilson Assistant Professor in Mechanical Engineering, University of Washington

Sausalito, Cal.

G 1897 Hugh Wilson Superintendent, North Western Pacific Railroad

Donna Layonne Withey

G 1907

Clarks, Neb.

(Mrs Little)

Walter Jacob Wohlenberg U 1910 Apprentice, Westinghouse Machine Company

East Pittsburgh, Pa.

G 1906 (Washington F 1907) Seattle, Wash.

Robert Henry Wolcott F 1897\*† Lincoln, Neb. Acting Dean of College of Medicine and Head Professor of Zoology

Frederick Adolph Wolf

G 1908

Auburn, Ala.

Pathologist, Alabama Polytechnic Institute

Elmer Grant Woodruff

G 1901\*

Washington, D. C.

Geologist, U. S. Geological Survey G 1898\*†

Minneapolis, Minn.

Dean of College of Agriculture, University of Minnesota

Robert Thompson Young G 1905 Assistant Professor of Zoology, University of North Dakota

Grand Forks, N. D.

John Todd Zimmer U 1910

Lincoln, Neb. Field Expert in Entomology, University of Nebraska

Leslie Lewis Zook

Albert Fred Woods

G 1907

Washington, D. C.

Scientific Assistant, U.S. Department of Agriculture

## OMEGA CHAPTER

OHIO STATE UNIVERSITY, COLUMBUS, OHIO

Charter Dated June 1, 1898

Chapter Installed December 10, 1998

#### HISTORICAL SKETCH

The Omega Chapter of the Society of the Sigma Xi was established at Ohio State University in 1898 with twenty-seven charter members who

were members of the faculty.

The Chapter has grown from year to year until at the time of this writing there are some eighty-five members of the instructional staff of the Ohio State University and graduate students of this institution who are members of the Omega Chapter. Each year members are elected from the faculty, the graduate school and the senior class. One piece of published research at least is required of a faculty member before he is eligible for election to membership.

On the night of February 14, 1904, the charter and records of this Chapter were destroyed, in the burning of the chemistry building. A committee was appointed to prepare new records, by-laws, etc., but of

necessity these records so restored are at best incomplete.

During the past half dozen years the Chapter has been active in research, many publications representing a large number of fields of work have come from its members. In addition this Chapter has given a series of at least three public lectures each year. These lectures are given by men noted for research and coming to us from other universities and vocations in life. Each year a public lecture is given by a member of the

Society.

Four years ago the Chapter was enabled to establish a lectureship foundation for a period of five years through the generosity of a leading citizen of Columbus, Mr. J. C. Campbell. It is hoped that at the end of this period a permanent endowment fund may accrue to the society. The nine lecturers upon the J. C. Campbell Foundation thus far, and in the order of their appearance, are: Professor Starr of the University of Chicago; Doctor Wiley, U. S. Bureau of Chemistry; Professor Barnard, the University of Chicago; the late Doctor Ricketts of the University of Chicago; Doctor Munsterberg of Harvard College; Doctor Stiles of the U. S. Public Health and Marine-Hospital Service; Doctor Michelson, the Nobel prize physicist, of the University of Chicago; Professor Bailey of Cornell University; Colonel G. W. Goethals, Chief Engineer of the Panama Canal.

C. S.

### OFFICERS FOR 1911-12

President	Ross C Purdy
Vice-President	CHARLES SUMNER PLUMB
Recording Secretary	EDWARD FOSTER CODDINGTON
Corresponding Secretary	EDWARD FOSTER CODDINGTON
Treasurer	
Councilor	EDWARD ORTON, JR.

## OMEGA CHAPTER

#### MEMBERSHIP ROLL

A 1905 Globe, Ariz. Frederick Charles Alsdorf Consulting Engineer, General Development Company Swarthmore, Pa. Catherine Emily Andrews G 1902 (Mrs C W Gay) Charles Lincoln Arnold F 1898 Columbus, Ohio Associate Professor of Mathematics, Ohio State University Pittsburgh, Pa. U 1905\* Harrison Everett Ashley U. S. Geological Survey U 1911 Columbus. Ohio Myron Ansel Bachtel Instructor in Agricultural Chemistry, Ohio State University Boston, Mass. Ervin George Bailey U 1903 Engineer, Fuel Testing Company F 1908 Frank Kelton Bailey (Deceased 1909) Elmer Darwin Ball G 1901 Logan, Utah Director Experiment Station, Agricultural College U 1907 Schenectady, N. Y. Alfred Henry Barnes Research Laboratory, General Electric Company Samuel Jackson Barnett F 1911 Columbus, Ohio Assistant Professor of Physics, Ohio State University William Morton Barrows F 1910 Columbus, Ohio Assistant Professor of Zoology, Ohio State University Harold Criswell Bartholomew U 1906 State College, Pa. Instructor in Railway Engineering, Pennsylvania State College Burr A Beach U 1909 Geneva, Ohio Firman Edward Bear U 1908 Columbus, Ohio Assistant Professor of Agricultural Chemistry, Ohio State University James Anderson Beer U 1903 Columbus, Ohio City Bacteriologist Edward William Berger G 1906 Gainesville. Fla. Entomologist, Florida Agricultural Experiment Station Frederick Columbus Blake G 1907\* (Columbia G 1904) Columbus, Ohio Assistant Professor of Physics, Ohio State University Albert Martin Bleile CF 1898\* Columbus, Ohio Professor of Anatomy and Physiology, Ohio State University Jay George Bloom A1905Mill Creek, Okla. President, Southern Ballast Company Albert Victor Bleininger U 1901 (Illinois F 1910) Urbana, Ill. Professor of Ceramics, University of Illinois Rosser Daniel Bohannan CF 1898 Columbus. Ohio Professor of Mathematics, Ohio State University Edwin Spilman Bonnett U 1909 Fairmount, W. Va. Cecil Ernest Boord G 1909 Columbus, Ohio

Assistant in Chemistry, Ohio State University

U 1907 Phoenix, Ariz. Perry Elmer Borchers Contracting Engineer F 1898 Durham, N. H. Perla G Bowman (Mrs Wm David Gibbs) New Hampshire College of Agriculture CF 1898\* Columbus, Ohio John Adams Bownocker Professor of Geology, Ohio State University CF 1898\* (Cornell G 1896) Columbus, Ohio James Ellsworth Boyd Professor of Mechanics, Ohio State University Columbus, Ohio Joseph Nelson Bradford CF 1898 Professor of Architecture, Ohio State University Columbus, Ohio Roy Brenholts Engineer, American Cash Register Company U 1906 Manila, P. I. Benjamin Talbot Brooks Chemist, Bureau of Science Herbert Barton Brooks TJ 1903 Washington, D. C. Associate Physicist, U.S. Bureau of Standards **CF 1898** Christopher Newton Brown (Deceased 1902) CF 1898 (Cornell G 1898) Newton Henry Brown Austin, Tex. Professor of Electrical Engineering, University of Texas U 1908 Agricultural College, N. M. Joseph Raymond Burkey Assistant in Mathematics, Agricultural College Glenn Smith Burrell TI 1904 Portsmouth, Va. Assistant Engineer, U.S. Naval Station Francis Cary Caldwell CF 1898\* (Cornell U 1890) Columbus, Ohio Professor of Electrical Engineering, Ohio State University Leland Everett Call U 1906 Manhattan, Kan. Associate Professor of Soils, Kansas State Agricultural College East Pittsburgh, Pa. Lewis Warrington Chubb U 1905 Engineer, Westinghouse Electric and Manufacturing Company Wistar Morris Chubb U 1907 Ft. Leavenworth, Kan. Second Lieutenant, Corps of Engineers, U. S. Army Clinton Willard Clark Pittsburgh, Pa. Instructor and Research Fellow, University of Pittsburgh Hugh Clark G 1910 Pittsburgh, Pa. Instructor, University of Pittsburgh Frank Orville Clements A 1911 Dayton, Ohio Chief Chemist, National Cash Register Company **Edward Foster Coddington** F 1902 Columbus, Ohio Associate Professor of Mechanics, Ohio State University Columbus, Ohio Alfred Dodge Cole F 1902\*† Professor of Physics, Ohio State University Reginald Clinton Collison U 1908 Wooster, Ohio Assistant in Nutrition, Ohio Agricultural Experiment Station Stanley Edgar Collison TI 1908 Gainesville, Fla. Chief, Chemistry Department, Florida Agricultural Experiment Station

Columbus, Ohio Daniel Dale Condit TI 1909 Assistant, State Geological Survey Melville Thurston Cook F 1902\* New Brunswick, N. J. Professor of Plant Pathology, Rutgers College Charles Proctor Cooper U 1907 Albany, N. Y. Engineer, New York Telephone Company Forrest Winfred Coover TJ 1900 Ames, Ia. Associate Professor of Chemistry, Iowa Agricultural College U 1905 Knoxville, Tenn. Edwin Charles Cotton Assistant Entomologist, Agricultural Experiment Station Merlin Lee Cox U 1911 New York City New York Telephone Company U 1905 Riverside, Ill. Francis Marion Craft Telephone Engineer TI 1909 Hartwell, Ohio Shirley Ray Cragg Superintendent, International Silver Mines **Evan Jay Crane** U 1911 Columbus, Ohio Associate Editor, Chemical Abstracts U 1909 Racine, Ohio Jessie Floy Cross John Ferguson Cunningham F 1898 Cleveland, Ohio Editor, Ohio Farmer Leigh G Curtis U 1898 Chicago, Ill. Engineer, Baltimore and Ohio Railroad Alfred Paul Dachnowski F 1908\* (Michigan G 1905) Columbus, Ohio Assistant Professor of Botany, Ohio State University Vernon Haves Davis TI 1901 Columbus, Ohio Assistant Professor of Horticulture and Forestry, Ohio State University William Joseph Davis U 1907 Plain City, Ohio Farmer Albert Watson Davison U 1911 Columbus, Ohio Assistant Chemist, Ohio State University F 1898 John Wright Decker (Deceased 1907) Dana James Demorest U 1907 Columbus, Ohio Assistant Professor of Metallurgy, Ohio State University Ralph Hugo Demorest U 1904 Toledo, Ohio Teacher of Physics, High School Florence Harlow Derby F 1898 Houghton, Mich. (Mrs Charles E Haigler) Fredericka Detmers F 1909 Columbus. Ohio Instructor in Botany, Ohio State University Malcolm Gillespie Dickey U 1911 Ithaca, N. Y. Student, Cornell University Howard Dock Cincinnati, Ohio U 1911

William Dock and Company

Alma Drayer (Mrs C Floyd Jackson)	G 1908	Durham, N. H.
Mervin Dresbach Assistant Professor	F 1902* (Cornell F 1906) of Physiology, Cornell Uni	Ithaca, N. Y. versity
Wilbur Latimer Dubois Chief Chemist, U.	U 1901 S. Department of Agricul	Buffalo, N. Y.
Howard Edward Dyche Professor of Mathe	U 1906 matics, University of Pitts	Pittsburgh, Pa. sburgh
Clair Albert Dye Professor of Pha	F 1898 rmacy, Ohio State Univer	Columbus, Ohio sity
Robert Francis Earhart Associate Professor	F 1903* of Physics, Ohio State Uni	Columbus, Ohio iversity
Mary Elizabeth Edmonds University Ex	U 1910 tension Work (Agriculture)	Columbus, Ohio
John Edward Emswiler Assistant Professor of	U 1903 (Michigan F 1908) Engineering, University of	Ann Arbor, Mich. Michigan
Frank Harvey Eno Professor of Municipal	F 1902 Engineering, Ohio State U	Columbus, Ohio Iniversity
Oscar Erf Professor of Da	G 1899 irying, Ohio State Univers	Columbus, Ohio
William Lloyd Evans Associate Professor o	G 1905 (Chicago G 1904) f Chemistry, Ohio State U	Columbus, Ohio
Oliver Lanard Fassig		n Juan, Porto Rico
Luther Thomas Fawcett Deput	U 1908 y County Surveyor	Youngstown, Ohio
Bertha (Lamme) Feicht (Mrs Russell Stemson Feicht	A 1905	Pittsburgh, Pa.
Russell Stemson Feicht	A 1905 sion, Westinghouse Electri	Pittsburgh, Pa. c Company
Arno Charles Fieldner Chemist,	U 1906 U. S. Bureau of Mines	Pittsburgh, Pa.
Robert Fischer Teacher of Chemistr	F 1898 ry, William McKinley High	St. Louis, Mo.
Fred Alan Fish	F 1898 al Engineering, Iowa State	Ames, Ia.
Albert Daniel Fitzgerald	U 1905 State House	Reynoldsburg, Ohio
Dean Wilcox Flowers Superintendent, Conso	U 1905 lidated Gas Company of N	Long Branch, N. J. ew Jersey
Charles William Foulk	F 1898* emistry, Ohio State Univer	Columbus, Ohio
Elma (Perry) Foulk (Mrs Charles William Foulk)	U 1901	Columbus, Ohio

Edward Francis A 1905 Washington, D. C. U. S. Public Health and Marine Hospital Service

Washington, D. C.

A 1905† College Station, Tex. Mark Francis Professor of Veterinary Science, Agricultural and Mechanical College John Nickalas Frank U 1907 Colleton, S. C. Engineer, Colleton Cypress Company U 1910 Frances Rebecca Freeman Moorehead. Minn. Head of Home Economics Department, State Normal School Thomas Ewing French Columbus, Ohio Professor of Engineering Drawing, Ohio State University Edward Lawrence Fullmer G 1898\* Berea, Ohio Professor of Biology, Baldwin University G 1910 Chicago, Ill. Lee Connel Gatewood Physician, Presbyterian Hospital Catherine Emily (Andrews) Gay U 1902 Swarthmore, Pa. (Mrs C W Gay) Perla (Bowman) Gibbs F 1898 Durham, N. H. (Mrs Wm David Gibbs) William David Gibbs **CF** 1898 Durham, N. H. President, New Hampshire College of Agriculture John Chester Gibson U 1906 Du Quoin, Ill.

Standard Engineering Company

Paul Miller Giesy U 1910 Columbus, Ohio Graduate Student, Ohio State University

Herbert Charles Gore G 1900 Bureau of Chemistry

Earnest Holman Grant U 1910 New Orleans, La.

George Francis Gray U 1909 Schenectady, N. Y. Engineer, General Electric Company

Robert Fiske Griggs U 1903 Columbus, Ohio Assistant Professor of Botany, Ohio State University

George Perry Grimsley A 1905\* Martinsburg, W. Va.
Assistant State Geologist

Arthur Guillaudeu U 1911 Cincinnati, Ohio Chemist and Assistant Superintendent, M. Werk Company

Florence Harlow (Derby) HaiglerF 1898 Brookline, Mass. (Mrs Charles Edmund Haigler)

Thomas Harvey Haines F 1905\* Columbus, Ohio Professor of Psychology, Ohio State University

Fred James Hale U 1898 East Pittsburgh, Pa. Chief Draftsman, Westinghouse Machine Company

Ralph Edwin Hall U 1911 Columbus, Ohio Instructor in Agricultural Chemistry, Ohio State University

James Chase Hambleton G 1907 Columbus, Ohio Teacher of Science, East High School

Howard Spurr Hammond U 1908 Agricultural College, N. M. Professor of Biology, New Mexico College of Agriculture

Edwin George Hastings A 1905 (Wisconsin CF 1907) Madison, Wis. Associate Professor of Bacteriology, University of Wisconsin

Albert Henry Heller (Deceased 1906)

F1902

William Edwards Henderson F 1902\* Columbus, Ohio Professor of Chemistry, Ohio State University

William Brodbeck Herms G 1906 (California F 1908) Berkeley, Cal.
Assistant Professor of Entomology, University of California

Thomas McDougall Hills F 1910 (Chicago G 1905) Columbus, Ohio Assistant Professor of Geology, Ohio State University

James Stewart Hine F 1898\* Columbus, Ohio Associate Professor of Zoology, Ohio State University

Columbus, Ohio

Albert Harrison Hinkle U 1907 Deputy Highway Commissioner

Embury Asbury Hitchcock CF 1898 Columbus, Ohio Professor of Experimental Engineering, Ohio State University

John Hoffhine U 1904 Omaha, Neb. Chemist, Union Pacific Railroad

Emily Constance Hollister G 1910 Los Angeles, Cal.
Assistant in Physiology, State Normal School

George David Hubbard F 1907 (Cornell G 1905) Oberlin, Ohio Professor of Geology, Oberlin College

Josiah Simson Hughes G 1910 Manhattan, Kan. Kansas State Agricultural College

John Herman Hunt F 1907 (Michigan U 1905) Columbus, Ohio Associate Professor of Electrical Engineering, Ohio State University

Thomas Forsyth Hunt CF 1898\*† State College, Pa. Dean of Agriculture, Pennsylvania State College

Madone Carington Hunter U 1900 Holton, Kan. Superintendent, Electric Light and Water Works

Jesse Earl Hyde U 1906 Kingston, Ont.
Assistant Professor, School of Mining

Alma Drayer Jackson G 1908 Durham, N. H. (Mrs C Floyd Jackson)

Assistant in Zoology, New Hampshire State College

Cicero Floyd Jackson G 1906 Durham, N. H. Professor of Zoology and Entomology, New Hampshire State College

Otto Emery Jennings U 1903\* Pittsburgh, Pa. Custodian, Botanical Collections, Carnegie Museum

Horace Judd F 1898 Columbus, Ohio Associate Professor of Experimental Engineering, Ohio State University

Walter Raymond Judson U 1903 Mexico, D. F., Mex. Engineer, Victor M. Braschi

Sidney Hershberg Katz U 1909 Durham, N. H. Instructor in Chemistry, New Hampshire College

George Beecher Kauffman CF 1898 Columbus, Ohio
Professor of Pharmacy, Ohio State University

Frederick Keffer A 1905 Greenwood, B. C. General Manager, British Columbia Copper Company, Limited

William Ashbrook Kellerman CF 1898\*
(Deceased 1908)

David Raymond Kellogg G 1909 Columbus, Ohio Instructor in Chemistry, Ohio State University

William Frederick Kern U 1902 Columbus, Ohio Fuel and Supply Company

Charles Henry Kerr U 1909 Creighton, Pa. Chemist, Pittsburgh Plate Glass Company

Frederick Edward Kester G 1898\* (Cornell G 1899) Lawrence, Kan. Professor of Physics, University of Kansas

Charles Franklin Kettering U 1903 Dayton, Ohio Electrical Engineer, Dayton Engineering Laboratories Company

William Abner Knight U 1900 Columbus, Ohio Associate Professor of Machine Shop Practice, Ohio State University

John McBride Knote G 1906 Pittsburgh, Pa. Pittsburgh Testing Laboratory

Donald Alexis Kohr U 1899 Dayton, Ohio Superintendent, Lowe Brothers Company

Harry Waldo Kuhn F 1900 (Cornell G 1899) Columbus, Ohio Professor of Mathematics, Ohio State University

Fred Raymond Kunkel U 1903 Pittsburgh, Pa. Transformer Department, Westinghouse Electric and Manufacturing Company

Charles Henry Lake U 1909 Hamilton, Ohio
Principal of High Schools

Bertha A Lamme A 1905 Pittsburgh, Pa. (Mrs Russell Stemson Feicht)

Benjamin G Lamme A 1905 Pittsburgh, Pa. Chief Engineer, Westinghouse Electric and Manufacturing Company

Francis Leroy Landacre F 1898\* Columbus, Ohio Professor of Zoology, Ohio State University

Walter Alexander Landacre U 1901 Columbus, Ohio Chemist, H. Braun Sons and Company

William Rane Lazenby CF 1898\*† (Cornell A 1887) Columbus, Ohio Professor of Horticulture and Forestry, Ohio State University

Paul Martyn Lincoln A 1905\* Pittsburgh, Pa. Head of Power Division, Westinghouse Electric and Manufacturing Company

Clarence Philander Linville U 1901 State College, Pa. Associate Professor of Metallurgy, Pennsylvania State College

Henry Curwen Lord CF 1898 Columbus, Ohio Professor of Astronomy, Ohio State University

Nathaniel Wright Lord CF 1898\*† Columbus, Ohio Professor of Metallurgy and Mineralogy, Ohio State University

Howard Johnson Lucas U 1907 Chicago, Ill.

Chemist, U. S. Department of Agriculture

F1909 (Yale G 1908) Columbus, Ohio. John Franklin Lyman Associate Professor of Agricultural Chemistry, Ohio State University G 1910 Columbus. Ohio Margaret Maclean Assistant in Chemistry, Ohio State University William Thomas Magruder CF 1898\*† Columbus, Ohio Professor of Mechanical Engineering, Ohio State University F 1906\* Charles Curtis Major Ames, Ia. Associate Professor of Engineering, Iowa State College Edmund Sewall Manson, Jr F 1910 Columbus, Ohio Associate Professor of Astronomy, Ohio State University Clara Gould Mark F 1911 Columbus, Ohio Fellow in Geology, Ohio State University William Benjamin Marquardt U 1905 Sharon, Pa. Superintendent, T. H. Buhl Club Frederick Rupert Marshall F 1908 Columbus, Ohio Professor of Animal Husbandry, Ohio State University Washington, D. C. Charles Frederick Marvin A 1905\*† Professor of Meteorology, U. S. Weather Bureau Eugene Franklin McCampbell F 1907 Columbus. Ohio Professor of Bacteriology, Ohio State University U 1907 **Edna May McCleery** Lancaster, Ohio Teacher of Botany, High School Charles Walter McClure U 1906 Columbus, Ohio Physician, Starling Ohio Medical College Roy Donaldson McClure A 1911 Jekyl Is., Ga. George Washington McCoard CF 1898 Columbus. Ohio Professor of Mathematics, Ohio State University U 1909 Washington, D. C. Arthur Howard McCray Assistant, Bureau of Entomology, Department of Agriculture Taine Gilbert McDougal U 1911 Spokane, Wash. Superintendent, Clay Products Company James Howard McGregor A 1911 New York City Adjunct Professor of Zoology, Columbia University Roscoe Everett McIntosh U 1902 Los Angeles, Cal. McIntosh Electrical Company Marie Fansher McLellan U 1911 Columbus, Ohio Graduate Student at Ohio State University Loren Wallace McOmber F 1910 (Michigan U 1907) Columbus. Ohio Assistant Professor of Electrical Engineering, Ohio State University William McPherson CF 1898\*† Columbus, Ohio Professor of Chemistry, Ohio State University Charles Searing Mead U 1904 San Pedro, Isle of Pines, W. I. Director, Isle of Pines Experiment Station East Lansing, Mich. G 1910 Assistant Professor of Engineering, State Agricultural College Thomas Corwin Mendenhall A 1911 Ravenna, Ohio Retired

OMEGA CHAPTER Pittsburgh, Pa. Ferrand Seymour Merrill U 1905 Engineer, American Bridge Company New York City Ralph Davenport Mershon A 1905\*† Consulting Engineer Clell Lee Metcalf U 1911 Columbus, Ohio Assistant, Department of Zoology and Entomology, Ohio State University Mt. Vernon, Ohio Clyde Raymond Miller U 1911 Teacher Edgar Allan Miller U 1910 Negaunee, Mich. Principal, High School U 1900 (Missouri F 1905) Columbia, Mo. Merritt Finley Miller Professor of Agronomy, University of Missouri F 1898\* Columbus. Ohio William C Mills Curator of Museum of Archaeology, Ohio State University Edward Russell Minns U 1905 (Cornell F 1908) Ithaca, N. Y. Assistant Professor of Extension, State College of Agriculture U 1909 Minneapolis, Minn. Bruce Monroe Mohler Chemist, State Board of Health, University of Minnesota U 1907 Ernest Ellsworth Moore Melones, Cal. Electrical Engineer, Melones Mining Company G 1910 Lou Helen Morgan Pittsburgh, Pa. (Mrs C C Vogt) G 1898 Sergius Morgulis Cambridge, Mass. Fellow, Harvard University F 1902\* Charles Bradfield Morrey Columbus, Ohio Professor of Bacteriology, Ohio State University Clvde Tucker Morris F 1908 Columbus. Ohio Associate Professor of Structural Engineering, Ohio State University Max Withrow Morse U 1902 Hartford, Conn. Professor of Biology, Trinity College William Clifford Morse G 1906 Columbus, Ohio Instructor in Geology, Ohio State University Harry Clifford Mougey U 1911 Dayton, Ohio Chemist, Lowe Brothers Paint Company Gerard Archibald Murray U 1910 Columbus, Ohio Laboratory Assistant, Ohio State University John H Nold U 1900 Mine Engineer, Ray and Nold Sidney Augustus Norton F 1898\*† Emeritus Professor of Chemistry, Ohio State University

Columbus, Ohio

Columbus, Ohio

Christian Nusbaum G 1910 Cambridge, Mass. Whiting Fellow in Physics, Harvard University

Walter Colline O'Kane G 1909 Dunham, N. H. New Hampshire State College

**Edward Orton** CF 1898 (Deceased 1899)

Edward Orton, Jr
Dean, College of Engineering, Ohio State University

Herbert Osborn

F 1898\*†
Columbus, Ohio

Herbert Osborn F 1898*† Columbus, Ohio Professor of Zoology, Ohio State University
Horace Nelson Packard U 1908 Madison, Wis. Instructor in Mechanical Engineering, University of Wisconsin
Charles Abraham Park U 1907 Fort D. A. Russell, Wyo. Engineer, War Department
John Bernard Parker G 1908 Washington, D. C. Instructor in Biology, Catholic University of America
Austin McDowell Patterson F 1909 Columbus, Ohio Editor of Chemical Abstracts, Ohio State University
Forrest Kizer Pence U 1907 Zanesville, Ohio Engineer, American Encaustic Tiling Company
Elma Brooks Perry U 1901 Columbus, Ohio (Mrs Charles William Foulk)
John William Petersen U 1903 Canton, Ohio Chief Draftsman, American Bridge Company
James McIlvane Phillips F 1909 Columbus, Ohio Physician
Harley Martin Plum U 1902 Cleveland, Ohio Teacher, Technical High School
Charles Sumner Plumb F 1902*† Columbus, Ohio Professor of Animal Husbandry, Ohio State University
Edward J Pranke U 1911 Nashville, Tenn Technologist, American Cyanamid Company
Jean Paul Pratt U 1906 Wellington, Ohio
Homer Charles Price U 1900 Columbus, Ohio Dean, College of Agriculture, Ohio State University
Irwin G Priest U 1907 Washington, D. C Assistant Physicist, Bureau of Standards
Charles Smith Prosser F 1900*† (Cornell F 1887) Columbus, Ohio Professor of Geology, Ohio State University
Ross C Purdy F 1908 Columbus, Ohio Professor of Ceramics, Ohio State University
Earl Berger Putt U 1909 Fargo, N. D Agricultural College
Modesta Quiroga U 1904 San Luis, Argentina
Samuel Eugene Rasor U 1898 Columbus, Ohio Associate Professor of Mathematics, Ohio State University
Thomas Francis Ratalczak U 1908 Columbus, Ohio Mechanical Engineer, Columbus Railway and Light Company
Franklin Arnold Ray CF 1898† Columbus, Ohio Professor of Mine Engineering, Ohio State University
Ray Howard Rice U 1904 Portsmouth, Va Chief Draftsman, Norfolk and Southern Railway Company

Columbus. Ohio Hortense Rickard G 1910 Assistant in Mathematics, Ohio State University New York City TJ 1904 John Scott Riddile Engineer with W. D. Mershon A 1905 Columbus, Ohio Howard Sterling Riddle Vice-President, Weinman Pump Manufacturing Company Topeka, Kan. Lumina Cotton Riddle G 1905 (Mrs Bernard B Smyth) Curator, Goss Museum G 1909 Gunnison, Utah Leroy Walter Roush Engineer, Gunnison Valley Power Company U 1900 Plain City, Ohio Frank Ruhlen Farmer Wallace Clement Sabine A 1905\*† Cambridge, Mass. Dean of Scientific School, Harvard University G 1909 Washington, D. C. John Walter Sale Chemist, U. S. Department of Agriculture F 1898 Frank Edwin Sanborn Columbus. Ohio Professor of Industrial Arts, Ohio State University G 1903 James Glossbrenner Sanders Madison, Wis. College of Agriculture, University of Wisconsin John Henry Schaffner F 1898\* Columbus, Ohio Professor of Botany, Ohio State University A 1905\*† Charles Felton Scott New Haven, Conn. Professor of Electrical Engineering, Yale University Harry Charles Severin G 1908 Brookings, S. D. State Entomologist and Professor of Entomology, South Dakota State College Henry Herman Paul Severin G 1908 Honolulu, H. I. Professor of Entomology, College of Hawaii Charles Sheard F 1908 Columbus, Ohio Assistant Professor of Physics, Ohio State University U 1909 Columbus, Ohio Instructor in Drawing, Ohio State University Paul King Sheidler TI 1909 Cody, Wyo. Engineer Charles William Shepherd U 1900 St. Louis, Mo. Superintendent, Illinois Steel Warehouse Company Christopher Elias Sherman CF 1898 Columbus, Ohio Professor of Civil Engineering, Ohio State University James Edmond Shrader G 1909 Medford, Mass. Instructor in Physics, Tufts College Charles Peter Sigerfoos A 1911 Minneapolis, Minn. Professor of Zoology, University of Minnesota Trevor Burchfield Simon U 1907 Columbus, Ohio Engineer, Jeffrey Manufacturing Company Septimus Sisson F 1902 Columbus. Ohio Professor of Comparative Anatomy, Ohio State University

Research Engineer, Westinghouse Electric and Manufacturing Company

East Pittsburgh, Pa.

Columbus, Ohio

A 1905\*

U 1908

Charles Edward Skinner

(Mrs Lee W Funk)

Frank Macy Surface

Harvey Adam Surface

Henry Earl Surface

Agnes Smiley

F 1909 (Wisconsin F 1906) Columbus, Ohio Alpheus Wilson Smith Assistant Professor of Physics, Ohio State University U 1911 Columbus, Ohio Fellow in Agricultural Chemistry, Ohio State University IJ 1902 Lexington, Ohio Harry Ford Smith Manager, Smith Gas Power Company U 1907 Howard Dwight Smith New York City Architect Lumina (Riddle) Smyth G 1905 Topeka, Kan. (Mrs Bernard B Smyth) Curator, Goss Museum Erwin Sohn U 1909 St. Marys, Pa. Chief Chemist, Starkpole Battery Company Edward Elsworth Somermeir U 1898 Columbus, Ohio Associate Professor of Metallurgy, Ohio State University U 1903 Washington, D. C. Robert Browning Sosman Geophysical Laboratory, Carnegie Institute Frederick William Sperr A 1905 Houghton, Mich. Professor of Civil and Mining Engineering, Michigan College of Mines Frederick William Sperr, Jr U 1906 Corey, Ala. Chief Chemist, By-Product Coke Department, Tennessee Coal Company F 1910 Columbus, Ohio Homer Francis Staley Assistant Professor of Ceramics, Ohio State University William Alfred Starin F 1910 Columbus, Ohio Assistant Professor of Bacteriology, Ohio State University Clinton Raymond Stauffer G 1906 (Chicago G 1906) Cleveland, Ohio Associate Professor of Geology, Western Reserve University Harry Walter Stertzbach U 1910 Columbus, Ohio Instructor in Civil Engineering, Ohio State University Alton LeRoy Stewart U 1904 (Deceased 1906) Thomas Wade Stone U 1902 Ft. Wayne, Ind. Engineer, Western Gas Construction Company Minnie Ava Nella Stoner F 1902 Stillwater, Okla. Dean of Women, Agricultural and Mechanical College NormanWilson Storer A 1905† Pittsburgh, Pa. Head of Railway Division, Westinghouse Electric Company

Biologist, Agricultural Experiment Station

State Zoologist, and Professor of Zoology

A 1911

U 1907 Chemist, U. S. Forest Service, Lecturer at University of Wisconsin

U 1905 (Pennsylvania G 1906) Lexington,

[Ky.

Harrisburg, Pa.

Karl Dale Swartzel CF 1898 Columbus, Ohio Professor of Mathematics, Ohio State University G 1902 Otto Herman Swezey Honolulu, H. I. Entomologist, Experiment Station, Sugar Planters Association Orland Russell Sweeney Philadelphia, Pa. TJ 1909 Instructor in Chemistry, University of Pennsylvania Mignon Talbot South Hadley, Mass. Professor of Geology, Mt. Holyoke College Frederick Wellington Taylor U 1900 Durham, N. H. Professor of Agronomy, New Hampshire College Chester Henry Teegarden U 1910 Schenectady, N. Y. Engineer, New York Telephone Company Columbus, Ohio Benjamin Franklin Thomas CF 1898\*† Professor of Physics, Ohio State University Phillips Thomas U 1904 Princeton, N. J. Graduate Student, Princeton University Raleigh, N. C. Opal Ione Tillman U 1905 State Botanist of North Carolina Oswald Herman Tresselt U 1907 Glen Cone, N. Y. District Foreman, New York Telephone Company Louis Bryant Tuckerman F 1902\*

Louis Bryant Tuckerman F 1902\* Lincoln, Neb.
Adjunct Professor of Physics, University of Nebraska

Frederic Jared Tyler U 1902 Perry, Ohio

Walter Lyman Upson F 1909 Burlington, Vt.
Professor of Electrical Engineering, University of Vermont

Clifford Steele Van Dyke U 1902 Schenectady, N. Y. Superintendent, Schenectady Illuminating Company

Perry Van Ewing U 1911 Manhattan, Kan. Assistant to President, Kansas State Agricultural College

Edward M Van Harlingen F 1898 (Deceased 1900)

Albert Earl Vinson A 1911 Tucson, Ariz.

Biochemist, University of Arizona

Alfred Vivian F 1903 Columbus, Ohio Professor of Agricultural Chemistry, Ohio State University

Clarence Charles Vogt G 1906 Pittsburgh, Pa.
Assistant Professor of Chemistry, University of Pittsburgh

Lou Helen Morgan Vogt G 1910 Pittsburgh, Pa. (Mrs C C Vogt)

Joseph Henry Vosskuehler U 1900 (Wisconsin CF 1907) Madison, Wis. Assistant Professor of Machine Design, University of Wisconsin

Frank Lawton Olcott Wadsworth A 1905\*† Pittsburgh, Pa. President, Miller Non-Corrosive Metal Company

Frederick Clarence Weber A 1911 Washington, D. C. Chemist, U. S. Department of Agriculture, Bureau of Chemistry

Henry Adam Weber Professor of Agric	CF 1898*† cultural Chemistry, Ohio State	Columbus, Ohio University
Charles William Weick Teacher	U 1898 s College, Columbia Universit	New York City
Harry Boyer Weiser Fellow in	U 1911 Chemistry, Ohio State Univers	Columbus, Ohio
Bertram Whittier Wells Instru	U 1911 ctor in Biology, Knox College	Galesburg, Ill.
Carl Joseph West Assistant Professo	U 1908 or of Mathematics, Ohio State	Columbus, Ohio University
Horace J Whitacre Physician, Profes	A 1905 ssor of Surgery, University of	Cincinnati, Ohio Cincinnati
David Stuart White Professor of Vet	CF 1898 erinary Medicine, Ohio State 1	Columbus, Ohio University
J D Whitmer Ceramic Engineer,	U 1908 American Encaustic Tiling Co	Zanesville, Ohio ompany, Ltd.
John Anderson Wilkinson Instructor i	U 1903 in Chemistry, Ohio State Unive	Columbus, Ohio
Ernest Daniel Williams Engineer, Steam Tur	U 1905 rbine Department, General Elec	Schenectady, N. Y. ctric Company
Harry Markley Williams Assistant Cher	U 1908 mist, National Cash Register C	Dayton, Ohio company
Samuel Byron Williams, Jr	U 1905 Telephone Engineer	New York City
Edward Bruce Williamson Ca	A 1905* shier, Wells County Bank	Bluffton, Ind.
Arthur Lyman Williston Prin	CF 1898† acipal, Wentworth Institute	Boston, Mass.
Cecil Floyd Wilson Enginee	U 1911 r, New York Telephone Compa	Newark, N. J.
James Renwick Withrow Associate Profes	F 1906 sor of Chemistry, Ohio State	Columbus, Ohio University
James Graham Wittenmyer	U 1905	Peebles, Ohio
Edgar John Witzemann Assistant is	G 1909 n Chemistry, Ohio State Unive	Columbus, Ohio
Francis Carter Wood Professor	A 1905* of Pathology, Columbia Univer	New York City
William Roth Work Assistant Professor of El	U 1905 lectrical Engineering, Carnegie	Pittsburgh, Pa. Technical Schools
Samuel S Wyer	A 1911 Consulting Engineer	Columbus, Ohio
Lloyd Yost Engineer,	U 1902 , Fairbanks, Morse and Comp	Beloit, Wis.
Howard Patterson Zeller	U 1906 Las Esper Mining Engineer	ranzas Coah, Mexico

# PENNSYLVANIA CHAPTER

University of Pennsylvania, Philadelphia, Pennsylvania Charter Dated January 4, 1900 Chapter Installed March 20, 1900

#### HISTORICAL SKETCH

The establishment of the Chapter of the Society of the Sigma Xi at the University of Pennsylvania was due to the initiative of Doctor Edgar F. Smith. Late in the year 1898 a petition for a charter was signed by twelve members of the faculty and presented to the Society, but owing to delays from various causes the charter was not issued until January 4, 1900.

On January 31, 1900, a temporary organization of the petitioners was effected. On March 20, 1900, the Chairman of the Council, Professor Edward L. Nichols of Cornell, performed the initiation ceremonies and presented the charter to The Society of the Sigma Xi at the University of Pennsylvania. The first president was Professor George F. Barker, and the first recording secretary, Professor Edwin S. Crawley.

At a meeting on April 12, 1900, Professor Edgar F. Smith was elected

councilor, a position which he has since continued to fill.

It is the policy of the Chapter to hold the election of new members early in the second half of senior year, so that they enjoy the regular proceedings of the society before graduation.

On the afternoon of Commencement Day this Chapter regularly unites with the Pennsylvania Chapter of Phi Beta Kappa in public ex-

ercises with a speaker invited alternately by the societies.

F. H. S.

#### OFFICERS FOR 1911-12

President	Thomas Nolan
Vice-President	Allen John Smith
Recording Secretary	George Gailey Chambers
Corresponding Secretary	John William Harshberger
Treasurer	Merkel Henry Jacobs
Councilor	Edgar Fahs Smith

#### MEMBERSHIP ROLL

Alexander Crever Abbott CF 1900\*† Philadelphia, Pa. Professor of Hygiene, University of Pennsylvania

William Henry Fitzgerald Addison F1909 Philadelphia, Pa.

Demonstrator of Normal Histology, University of Pennsylvania

Herman Carl Albrecht U 1906 Philadelphia, Pa. Assistant Engineer, Philadelphia Electric Company

Henry Rihl Alburger U 1902\* (Indiana F 1908) Bloomington, Ind.
Professor of Pathology, Indiana University

Portland, Me.

U 1902

John Howard Allen

Physician TI 1903 Germantown, Pa. Walter Haskell Andrus Physician U 1903 Plainfield, N. J. William Henry Anthony Physician, Pathologist and Bacteriologist, Mühlenburg Hospital U 1900 Philadelphia, Pa. Astley Paston Cooper Ashhurst Instructor in Surgery, University of Pennsylvania George Mason Astley U 1903 Philadelphia, Pa. Physician John Light Atlee TJ 1900 Lancaster, Pa. Physician, Lane General Hospital U11905 Philadelphia, Pa. James Harold Austin Assistant Demonstrator of Pathology, University of Pennsylvania Maurice Jefferis Babb F 1908 Philadelphia, Pa. Assistant Professor of Mathematics, University of Pennsylvania Franklin Bache A 1910 Philadelphia, Pa. President, Bache-Denman Coal Company Francis Rogers Bacon U 1911 Philadelphia, Pa. Assistant in Architecture, University of Pennsylvania Empson Haines Bainbridge U 1901 Philadelphia, Pa. Physician Lloyd Balderston G 1904† Ridgeway, Pa. Chemist, Elk Tannin Company G 1905 (Illinois F 1907) Clarence William Balke Urbana, Ill. Assistant Professor of Chemistry, University of Illinois George Frederick Barker CF 1900\*† (Deceased 1910) Harold Charles Barker G 1905 Philadelphia, Pa. Assistant Professor of Physics, University of Pennsylvania DeWitt Dukes Barlow New York City U 1901 Vice-President and Engineer, Atlantic Gulf and Pacific Company William Milton Barr G 1905 (Iowa U 1902) Davenport, Ia. Acting Manager, Andrews Chemical Company Harvey Bartle U 1902 Philadelphia, Pa. Physician Henry John Bartle U 1905 Philadelphia, Pa. Physician Samuel Goodwin Barton G 1906 Swarthmore, Pa. Assistant Professor of Mathematics, Swarthmore College Burke Morgan Baxter F 1906 (Case U 1906) Cleveland, Ohio Engineer with H. B. Prather John Clemmer Bechtel U 1908 Philadelphia, Pa. Graduate Student, University of Pennsylvania Waldron Cheney Beekley U 1908 Hartford, Conn. Engineer, Whitlock Coil Pipe Company

David Hendricks Bergey Assistant Professor	F 1901*† of Bacteriology, Ur	Philadelphia, Pa. aiversity of Pennsylvania
Herman Claude Berry Assistant Professor of Mat	F 1907 terials of Construct	Philadelphia, Pa. ion, University of Pennsylvania
William Shaeffer Bertolet	U 1900 Physician	Reading, Pa.
Paul Harold Bikle	U 1904 Physician	Mifflinburg, Pa.
Charles Louis Billard	U 1904 Physician	Washington, D. C.
Joseph Cooper Birdsall	U 1911	South Starcksboro, Vt.
Walter Martinus Boehm Instructor in	F 1907 (Iowa Physics, University	
John Augustus Boers Sales A	U 1905 gent, General Elect	Philadelphia, Pa.
Gilbert Hillhouse Boggs Associate Professor	G 1900* of Chemistry, Georg	Atlanta, Ga. gia School of Technology
Frederick Andrew Bokop Sales Depa	U 1904 rtment, National C	New York City arbon Company
William Henry Bower Henry Bowe	A 1910 r Chemical Manufae	Philadelphia, Pa.
William Boyd, Jr Ar	U 1907 chitect, Alden and I	Pittsburgh, Pa. Harlow
Frank Robert Braden	U 1901 Physician	Coraopolis, Pa.
John Francis Bresnahan	U 1910 Physician	Boston, Mass.
Amos Peaslee Brown Professor of Minerald	CF 1900*† ogy and Geology, U	Philadelphia, Pa. niversity of Pennsylvania
Albert Ridgely Brunker Sales Ma	U 1903 nager, American St	Pittsburgh, Pa. eel Foundries
Charles Walts Burr Professor of Men	F 1910 tal Diseases, Unive	Philadelphia, Pa. rsity of Pennsylvania
Joseph Howell Burroughs,	Jr U 1903 Otis Elevator Comp	New York City
Philip Powell Calvert Assistant Professor	F 1904*† or of Zoology, Univ	Philadelphia, Pa. ersity of Pennsylvania
John Berton Carnett Associate in	F 1900 Surgery, University	Philadelphia, Pa. of Pennsylvania
Howard Childs Carpenter Physician and Instruc	U 1900 ctor in Pediatrics, U	Philadelphia, Pa. Iniversity of Pennsylvania
Dana Brackenridge Casteel Adjunct Profe	G 1902* (Miclessor of Zoology, Un	nigan G 1903) Austin, Tex. niversity of Texas
Franklin Smith Chambers	U 1904 Engineer, J. J. Wi	New Lisbon, N. J

F 1908 George Gailey Chambers Philadelphia, Pa. Assistant Professor of Mathematics, University of Pennsylvania William Henry Chapin G 1909 Oberlin, Ohio Associate Professor of Chemistry, Oberlin College Richard Burt Chillas. Jr Cleveland, Ohio Chemical Engineer, National Carbon Company Arthur Latham Church A 1910 Philadelphia, Pa. Harold Sellers Colton G 1906 Philadelphia, Pa. Assistant in Zoology, University of Pennsylvania Henry Shoemaker Conard G 1900\* Grinnell, Ia. Professor of Botany, Grinnell College F 1900\*† Edwin Grant Conklin Princeton, N. J. Professor of Biology, Princeton University U 1908 Isaac Baum Connor Pittsburgh, Pa. Salesman, Indian Refining Company John Sebastian Conway U 1900 Washington, D. C. Chief Engineer, U. S. Lighthouse Service Carson Coover U 1909 Harrisburg, Pa. Physician Thomas Darlington Cope F 1908 Philadelphia, Pa. Instructor in Physics, University of Pennsylvania Edward Foulke Corson U 1906 Cynwyd, Pa. Physician John Lawrence Costello U 1910 Philadelphia, Pa. Instructor in Civil Engineering, University of Pennsylvania Edwin Schofield Crawley CF 1900\*† Philadelphia, Pa. Professor of Mathematics, University of Pennsylvania Paul Philippe Cret F 1904† Philadelphia, Pa. Professor of Design, University of Pennsylvania Walter Lewis Croll TI 1911 Philadelphia, Pa. Physician, Howard Hospital Philadelphia, Pa. Walter Stilwell Crowell Research Chemist, S. S. White Dental Manufacturing Company Charles Aaron Culver G 1906 Beloit, Wis. Professor of Physics, Beloit College Franklin Miles Day Philadelphia, Pa. A 1910 Lyn Waller Deichler F 1910 Philadelphia, Pa. Physician George Edmund de Schweinitz F 1910 Philadelphia, Pa. Professor of Ophthalmology, University of Pennsylvania Samuel Jackson Dickey U 1904 Philadelphia, Pa. Engineer, United Gas Improvement Company Chester Edward Dimick F 1906 New London, Conn. Instructor of Cadets in Mathematics, U.S. Revenue Cutter Service Columbia, Mo. Gideon Stanhope Dodds G 1909 (Colorado G 1905) Instructor in Zoology, University of Missouri

Arthur Knox Doig
U 1901
Physician
Nyack, N. Y.

Henry Herbert Donaldson
F 1906\*† (Chicago CF 1903) Philadelphia, Pa.

Professor of Neurology, Wistar Institute

Charles Leander Doolittle CF 1900\*† Philadelphia, Pa. Professor of Astronomy, University of Pennsylvania

Eric Doolittle F 1900\*† Philadelphia, Pa. Assistant Professor of Astronomy, University of Pennsylvania

Rae Shepard Dorsett U 1900 Philadelphia, Pa. Associate Professor of Medicine, Temple University

Ardrey Whiddin Downs U 1904 Philadelphia, Pa. Associate Professor of Physiology, Temple University

Arthur Wayland Dox U 1904 (Yale G 1908) Ames, Ia. Chemist, Iowa State College, Agricultural Experiment Station

William Easby, Jr F 1900 (Rensselaer U 1890) Philadelphia, Pa. Professor of Municipal Engineering, University of Pennsylvania

Burton Scott Easton G 1900\* Nashotah, Wis. Professor of New Testament Exegesis, Nashotah House

William Hastings Easton U 1900 Pittsburgh, Pa. Advertising Manager, Westinghouse Electric and Manufacturing Company

William Clarence Ebaugh G 1901\* Salt Lake City, Utah Professor of Chemistry, University of Utah

Frederick William Eckfeldt U 1903 Philadelphia, Pa. Assistant Superintendent, John T. Lewis and Brothers Company

Engelhardt August Eckhardt U 1908 Philadelphia, Pa. Instructor in Physics, Morgan Laboratory, University of Pennsylvania

David Linn Edsall F 1908\*† St. Louis, Mo. Professor of Medicine, Washington University

Henry Edward Ehlers U 1900 Philadelphia, Pa. Professor of Experimental Engineering, University of Pennsylvania

Frederick Ehrenfeld F 1900\* Philadelphia, Pa. Assistant Professor of Mineralogy, University of Pennsylvania

Robert Howard Eisenbrey U 1903 Philadelphia, Pa. Consulting Engineer, Emory and Eisenbrey

Eldridge Lyon Eliason U 1905 Philadelphia, Pa. Surgeon, University of Pennsylvania Hospital

Huger Elliott F 1901 Providence, R. I.
Director, Rhode Island School of Design

John Thompson Emlen U 1904 Philadelphia, Pa. Secretary and Treasurer, Armstrong Association of Philadelphia

Charles Tyndall Evans G 1900 Pottstown, Pa Teacher of Physics and Chemistry, The Hill School

Henry Brown Evans F 1900\* Philadelphia, Pa. Professor of Mathematics, University of Pennsylvania

Henry Sebastian Evans U 1907 West Chester, Pa.

Owen Brooks Evans U 1900 Philadelphia, Pa.

With United Gas Improvement Company

Franz Frederick Exner Professor of	G 1903* Chemistry, Carleton College	Northfield, Minn.
Howard Blaine Eynon Chemist, M	U 1910 National Carbon Company	Cleveland, Ohio
James Dobbin Faires Civil Engineer and Superintend	U 1901 lent, River and Harbor Imp	Philadelphia, Pa. rovement Company
Horace West Fairlamb, Jr Young Me	U 1908 n's Christian Association	Fort Collins, Col.
Charles Falkowsky, Jr	U 1901 Physician	Scranton, Pa.
George Fetterolf Demonstrator of An	F 1910 atomy, University of Penn	Philadelphia, Pa. sylvania
Benjamin Franklin Finkel Professor of Mathe	G 1906*† matics and Physics, Drury	Springfield, Mo. College
George Egbert Fisher Professor of Mather	F 1903* matics, University of Penn	Philadelphia, Pa. sylvania
Henry Donald Fisher Chemica	U 1904 al Expert and Engineer	Boston, Mass.
Edmund Joseph Fitzmaurice	U 1910	Philadelphia, Pa.
William John Fitzmaurice, Jr	U 1907	Philadelphia, Pa.
Moyer Springer Fleisher Assistant, Barnar	U 1907 d Free Skin and Cancer Ho	St. Louis, Mo. spital
Simon Flexner Director of Laboratories, R	F 1900*† tockefeller Institute for Me	New York City edical Research
Frank Richards Ford Ford, Bac	A 1910 on and Davis, Engineers	New York City
Benjamin Fox	U 1911	Philadelphia, Pa.
Henry Fox Professor o	G 1900 f Biology, Ursinus College	Collegeville, Pa.
John Frazer Assistant Professor of	F 1908 Chemistry, University of Pe	Philadelphia, Pa. ennsylvania
Charles Harrison Frazier Professor of Clinical	F 1910 Surgery, University of Pen	Philadelphia, Pa. asylvania
George Clausen Friend Superintend	U 1900 ent, D. B. Martin Company	Philadelphia, Pa.
Walter Herbert Fulweiler Department of Tests,	U 1900 United Gas Improvement	Philadelphia, Pa. Company
Frederick Parker Gay Professor of Pat	F 1902 hology, University of Califo	Berkeley, Cal.
Henry Gebhart Superintendent, O	U 1904 akwood Street Railway Con	Dayton, Ohio npany
Arthur Edwin Geiger Iri	U 1908 K rigation Engineer	lamath Falls, Ore.
Charles Herbert Gerhard	U 1905 Physician	Reading, Pa.

PENNSYLVANIA CHAPTER 225 James Rieser Gerhard U 1901 Reading, Pa. Physician George Washington Geyer U 1902 Cape May Court House, N. J. John Joseph Gilbert U 1909 Chicago, Ill. Student, University of Chicago Nathaniel Gildersleeve G 1901 Philadelphia, Pa. Associate in Bacteriology, University of Pennsylvania Arthur Bruce Gill U 1905 Philadelphia, Pa. Widener Men's Hospital Stephen Kirk Gillam TT 1908 (Deceased 1908) Samuel Howard Gilliland U 1904 Philadelphia, Pa. Director, Health Laboratories of Pennsylvania James Gillinder F 1902 Philadelphia, Pa. Chemist, Gillinder and Sons, Inc. Francis Hopkinson Gilpin U 1904 Philadelphia, Pa. Chemist, United Gas Improvement Company Oliver Edmunds Glenn G 1904 Philadelphia, Pa. Assistant Professor of Mathematics, University of Pennsylvania William Beans Goentner U 1901 New York City Assistant Engineer, Department of Water Supply, Gas and Electricity Jacob Samuel Goldbaum U 1908 Philadelphia, Pa. Research Chemist, Fels and Company Albert Theodore Goldbeck Easton, Pa. Instructor in Civil Engineering, Lafayette College Paul Eckert Good U 1902 Philadelphia, Pa. Assistant Secretary, Southwork Foundry and Machine Company Arthur Willis Goodspeed CF 1900\*† Philadelphia, Pa. Professor of Physics, University of Pennsylvania Harold Goodwin, Jr U 1908 Philadelphia, Pa. Assistant Superintendent, Philadelphia Electric Company Joseph Hugh Goodwin U 1905 Fremont, Ohio Chemical Engineer, National Carbon Company George Byron Gordon F 1907 Philadelphia, Pa. Director of University Museum, University of Pennsylvania George Fay Gracey U 1902 Austin, Tex. Professor of Chemistry, University of Texas John Howard Graham U 1902 Philadelphia, Pa. Professor of Chemistry, Central High School Robert Lochead Gray TI 1904 Philadelphia, Pa. Physician Herlwyn Ruggles Green U 1903 Tacoma, Wash. Physician

F 1900\* (Missouri CF 1905)

Professor of Mechanical Engineering, Rensselaer Polytechnic Institute

Director, Wistar Institute, University of Pennsylvania

F 1906\*†

Troy, N. Y.

Philadelphia, Pa.

Arthur Maurice Greene, Jr

Milton Jay Greenman

U 1906 Pencoyd, Pa. Arthur Main Gregory American Bridge Company F 1902† (Northwestern CF 1906) Munich, Elisha Hall Gregory [Germany Philadelphia, Pa. IJ 1904 William Edward Groben Architect, Department of Public Works U 1909 William Garrett Grove New York City Assistant Engineer, American Bridge Company U 1905 Lawrence, Kan. Don Carlos Guffey Professor of Obstetrics, University of Kansas G 1904 (Wisconsin CF 1906) Bloomfield, N. J. Roy Dykes Hall With Westinghouse Lamp Company William Charles Hall TJ 1901 Allegheny, Pa. Physician F 1900\* George Hervey Hallett Philadelphia, Pa. Professor of Mathematics. University of Pennsylvania Ulysses Sherman Hanna G 1900\* (Indiana F 1905) Bloomington, Ind. Associate Professor of Mathematics, Indiana University TJ 1909 Wilmer Crooks Hanson New York City Engineer John Frederick Harbeson U 1910 Philadelphia, Pa. Willett Lepley Hardin F 1900\*† Mt. Washington, Los Angeles, Cal. Melvin Reese Harkins F 1909 Philadelphia, Pa. Instructor in Physics, University of Pennsylvania Daniel Roberts Harper, 3rd U 1905 Washington, D. C. Scientist, Bureau of Standards Charles Custis Harrison Philadelphia, Pa. A 1910 John William Harshberger F 1904\*† Philadelphia, Pa. Professor of Botany, University of Pennsylvania William Gibbons Harskeeper U 1903 Bloomfield, N. J. Engineer, Westinghouse Lamp Company Joseph Hall Hart F 1904 Cincinnati, Ohio Isaac Harter, Jr U 1901 Barberton, Ohio Superintendent, Barberton Works, Babcock and Wilson Company **Burt Laws Hartwell** G 1903\*† Kingston, R. I. Chemist, Rhode Island State College Edmund Newton Harvey U 1909 Princeton, N. J. Instructor in Physiology, Princeton University William Peter Haseman G 1907 (Indiana F 1905) Norman, Okla. Professor of Physics, University of Oklahoma Shinkishi Hatai F 1908 (Chicago CF 1903) Philadelphia, Pa. Associate in Neurology, Wistar Institute Charles James Hatfield U 1900 Philadelphia, Pa. Physician to White Haven Sanatorium Charles Elvin Haupt, Jr U 1905 Washington, D. C. Architectural Draftsman

San Francisco, Cal. Thaddeus Leon Euclid Haupt U 1907 Engineer, Union Iron Works Company F 1904 (Columbia G 1903) Urbana, Ill. Philip Bovier Hawk Professor of Physiological Chemistry, University of Illinois William Faithful Hendrickson F 1902 (Deceased 1903) Washington, D. C. Joseph Samuel Hepburn U 1907 Scientific Assistant in Chemistry, U. S. Food Research Laboratory A 1910 Philadelphia, Pa. Carl Hering Rudolph Hering A 1910 New York City U 1909 J Leon Herman Philadelphia, Pa. Physician, German Hospital Charles John Hexamer A 1910 Philadelphia, Pa. Cassius Eugene Hiatt G 1908 (Indiana G 1906) Bloomfield, N. J. Westinghouse Lamp Company U 1903 Philadelphia, Pa. Joel Henry Hildebrand Instructor in Chemistry, University of Pennsylvania Fanny Rysam Mulford HitchcockA 1910 Warwick, N. Y. Walter Andrew Hitchcock U 1910 South Bend, Ind. Chief Engineer, Chicago, South Bend and Northern Indiana Railway Company William Frank Hitchens U 1909 Philadelphia, Pa. Raymond Mason Hobbs U 1906 Chicago, Ill. Draftsman, Frost and Granger, Architects Arthur Holmes F 1910 Philadelphia, Pa. Assistant Professor of Psychology, University of Pennsylvania Gerald Anderson Holmes U 1908 New York City Architect with McKim, Mead and White Robert Harbison Hough G 1905 Philadelphia, Pa. Assistant Professor of Physics, University of Pennsylvania William Jarrett H Hough U 1911 Ambler, Pa. Studying Architecture in Europe Thomas Hovenden U 1903 Philadelphia, Pa. Walter Freeman Hovey U 1909 New York City Engineer with J. G. White and Company, Inc. Carl Eugene Howell U 1905 Columbus, Ohio Architect, Howell and Thomas, Architects John Ezra Hoyt G 1906 Philadelphia, Pa. Instructor in Physics, Drexel Institute George Augustus Huggins U 1902 Philadelphia, Pa. Actuary

(Deceased 1907) Edward Lovering Ingram F 1908\* Philadelphia, Pa. Professor of Railroad Engineering and Goedesy, University of Pennsylvania

U 1907

Henry Sheafe Hutchinson

Kenneth Ralph Knapp

TJ 1900 New York City Frederick Merwin Ives Assistant Visiting Surgeon, Columbus Hospital U 1905 Cleveland, Ohio Herbert Eugene Ives Physicist, National Electric Lamp Association F1904\*† (Worcester CF 1908) Worcester, Howard Chapin Ives Assistant Professor of Railroad Engineering, Worcester Polytechnic [Mass. U 1905 Philadelphia, Pa. Merkel Henry Jacobs Instructor in Zoology, University of Pennsylvania Michael William Jacobs. Jr TI 1907 Hamburg, Pa. Nelson Wilson Janney U 1906 Munich, Germany Student of Medicine F 1905 Herbert Spencer Jennings Baltimore, Md. Professor of Zoology, Johns Hopkins University U 1905 Pottstown, Pa. Jonathan Jones Designer, McClintic-Marshall Construction Company Thomas Barnett Lewis Jordan U 1900 Philadelphia, Pa. Physician G 1909 Dicran Hadjy Kabakjian Philadelphia, Pa. Instructor in Physics, University of Pennsylvania Alfred Lewis Kammerer G 1902 St. Louis. Mo. Consulting Timber Engineer, Von Schrenk and Kammerer U 1905 David Kapp Philadelphia, Pa. Physician, Jewish Hospital Walter Thompson Karcher TJ 1901 Philadelphia, Pa. Architect Howard Thomas Karsner F 1911 Boston, Mass. Assistant Professor of Pathology, Harvard Medical School Raymond Humphrey Keil TJ 1909 Chicago, Ill. Commonwealth Edison Company Allen Meredith Kerr U 1906 Pittsburgh, Pa. Physician Harry F Keller A 1910 Philadelphia, Pa. Benjamin Witt Key U 1909 New York City Physician, New York Eye and Ear Infirmary, Bellevue Medical College Ernest Louis Alexander Kiesel U 1901 Scranton, Pa. Physician Edward Cameron Kirk F 1910 Philadelphia, Pa. Dean of Dental Faculty, University of Pennsylvania Donald Morris Kirkpatrick U 1911 Easton, Pa. Fred Harlen Klaer U 1904 Philadelphia, Pa. Physician, Instructor in Medicine, University of Pennsylvania Henry Jacob Klaer U 1909 Chester, Pa. Chemist, American Steel Foundries

U 1911

Cadet Engineer, United Gas Improvement Company

Gwynedd, Pa.

229 Samuel Stryker Kneass A 1910 Philadelphia, Pa. University Club George Simpson Koyl U 1909 Philadelphia, Pa. Assistant in Architecture, University of Pennsylvania F 1908 Louis Krautter, Jr (Deceased 1909) Herbert Guy Kribs G 1907 Philadelphia, Pa. Instructor in Zoology, University of Pennsylvania Edward Bell Krumbhaar U 1908 Philadelphia, Pa. Assistant Instructor in Medicine, University of Pennsylvania Walter Laib U 1911 Philadelphia, Pa. Chemical Engineer CF 1900† Warren Powers Laird Philadelphia, Pa. Professor of Architecture, University of Pennsylvania Walter Davis Lambert G 1909 Philadelphia, Pa. Instructor in Mathematics, University of Pennsylvania George Paul La Roque U 1902 Richmond. Va. Associate Professor of Surgery, University of Virginia College of Medicine William Thomas Leggo TI 1903 Philadelphia, Pa. Instructor in Civil Engineering, University of Pennsylvania Simon Levy Philadelphia, Pa. Chemist, Quaker City Rubber Company Paul Adin Lewis TJ 1904 Philadelphia, Pa. Assistant Professor of Pathology, Phipps Institute, University of Pennsylvania U 1904 Seth Andrew Light Lebanon, Pa. Physician William Linker U 1904 Philadelphia, Pa. Contracting Engineer Thomas Robinson Little U 1900 Greensboro, N. C. Physician and Medical Director, Southern Life and Trust Company Morton Githens Lloyd G 1900\* Chicago, Ill. Technical Editor, Electrical Review Leo Loeb F 1907\* St. Louis, Mo. Physician, Barnard Free Skin and Cancer Hospital Jacob Loewenstein U 1902 New York City Assistant Engineer, American Bridge Company William Shannon Lohr Philadelphia, Pa. Instructor in Civil Engineering, University of Pennsylvania Paul R Loos U 1907 Philadelphia, Pa. Louis Henry Losse U 1904 St. Louis, Mo.

Assistant Engineer, U. S. Geological Survey, Materials Testing Laboratory Albert Kienzle Ludy U 1903 Flemington, N. J. Engineer David Lincoln Luke A 1910 New York City Vice-President, West Virginia Pulp and Paper Company Frederic Bowers Lysle U 1906 Philadelphia, Pa. With Barrett Manufacturing Company

Philadelphia, Pa.

Muskegon, Mich.

Philadelphia, Pa.

Irondale, Wash.

John Muirhead Macfarlane

Frank Eugene McKee

Guy Hale McKinstry

Aaron Merzbacher

Professor of Botany, University of Pennsylvania U 1901 Charles Smick Mackay, Jr Easton, Pa. Chemist, Vulcanite Portland Cement Company William Humphrey Mackinney U 1903 Philadelphia, Pa. Physician, Instructor in Medicine, University of Pennsylvania U 1908 Paul Budd Magnuson Chicago, Ill. Physician, Instructor in Surgery, Rush Medical College F 1900 (Illinois F 1910) Urbana, Ill. Frederick Maynard Mann Head of Architectural Department, University of Illinois Bloomfield, N. J. Edward Ellsworth Marbaker U 1910 With Westinghouse Electric Company CF 1900† Philadelphia, Pa. Edgar Marburg Professor of Civil Engineering, University of Pennsylvania G 1908 (Indiana U 1906) Walter Ross Marriott Swarthmore, Pa. Assistant Professor of Mathematics, Swarthmore College CF 1900\*† Philadelphia, Pa. John Marshall Professor of Chemistry and Toxicology, University of Pennsylvania Stewart McCulloch Marshall TI 1900 Johnstown, Pa. Assistant Chief Engineer, Cambria Steel Company F 1910 Philadelphia, Pa. Edward Martin Professor of Clinical Surgery, University of Pennsylvania Louis Herbert Maxson U 1910 Seattle, Wash. Daniel Josef McCarthy F 1901 Philadelphia, Pa. Professor of Medical Jurisprudence, University of Pennsylvania William McClellan U 1900\* Albany, N. Y. Consulting Engineer, Public Service Commission Jesse Francis McClendon G 1905\* (Missouri F 1907) New York City Instructor in Embryology, Cornell Medical College Andrew Todd McClintock U 1911 Wilkes-Barre, Pa. Physician, Wilkes-Barre City Hospital Thomas Potter McCutcheon, Jr U 1903 Philadelphia, Pa. Assistant Professor of Chemistry, University of Pennsylvania Claude Stonecliffe McGinnis G 1911 Fredericton, N. B. Professor of Physics, University of New Brunswick Henry Kerr McGoodwin F 1902 Pittsburgh, Pa. Assistant Professor of Architecture, Carnegie Technical School Norman Eugene McIndoo G 1910 (Indiana G 1908) Washington, D. C. Assistant, Bureau of Entomology

U 1900

U 1910 Physician, Medical Department University of Pennsylvania

U 1900

Assistant Manager, Shaw Electric Crane Company

Western Steel Corporation

John Franklin Meyer Physical Engineer	G 1903* r, Westinghouse Lamp Com	Bloomfield, N. J.
William Shainline Middleton	U 1911	Philadelphia, Pa.
David Isaac Miller	U 1901 Physician	Harrisburg, Pa.
Henry Blackburn Miller	U 1908 Physician	Rossville, Kan.
Sarah Pleis Miller	A 1910	Philadelphia, Pa.
Charles Karsner Mills Professor of Neuro	F 1910 plogy, University of Pennsyl	Philadelphia, Pa. vania
Coleman Sellers Mills Architec	U 1902 ts, Mills and VanKirk	Philadelphia, Pa.
William Ossian Milton Electrical Engineer,	U 1902 Chicago Pneumatic Tool C	Franklin, Pa.
Lewis Ferry Moody Assistant Professor of Mecha	U 1901 anical Engineering, Rensse	Troy, N. Y. laer Polytechnic
John Percy Moore Professor of Zoole	F 1900*† ogy, University of Pennsylv	Philadelphia, Pa. ania
Randal Morgan With United	A 1910 Gas Improvement Company	Philadelphia, Pa.
Max Philip Morrison With T	U 1906 renton Iron Company	Trenton, N. J.
Jay Bird Moyer Professor of Chemistry and I	F 1900 Metallurgy, Penn College of	Philadelphia, Pa. Dental Surgery
John Hughes Müller Instructor in Chem	G 1910 listry, University of Pennsyl	Philadelphia, Pa. vania
John Raymond Murlin Assistant Professor of Phys	G 1900* siology, Cornell University I	New York City Medical School
Lewis Irving Neikirk Instructor in Mathe	G 1903* (Illinois F 1906) ematics, University of Wash	Seattle, Wash.
James Allen Nelson Scientist, U.	F 1905* S. Bureau of Entomology	Washington, D. C.
Harry Newmayer	U 1911	
Karl Nibecker Pittsburgh Representative, S	F 1909 Southwark Foundry and Ma	Pittsburgh, Pa. chine Company
Verner Nisbet With Ame	F 1905 erican Biologic Company	Kansas City, Mo.
Thomas Nolan Professor of Archite	F 1901 ecture, University of Penns	Philadelphia, Pa. ylvania
Arthur Miller Northrup	U 1902 Physician	Ashley, Pa.
John Budd Nutt Physician, Unive	U 1911 ersity of Pennsylvania Hosp	Philadelphia, Pa. ital
Thornton Oakley	U 1902 Artist	Philadelphia, Pa.

U 1901 Charles Malden Oman Brooklyn, N. Y. Surgeon, U. S. Naval Hospital U 1905 Alexander Hay O'Neal Wayne, Pa. Physician Philadelphia, Pa. Charles Francis Osborne F 1904 (Cornell F 1887) Professor of History of Architecture, University of Pennsylvania F 1909 Louis O'Shaughnessy Philadelphia, Pa. Instructor in Mathematics, University of Pennsylvania U 1905 Harry Ottinger Johnstown, Pa. With Cambria Steel Company U 1907 Philadelphia, Pa. George Whitney Outerbridge Physician A 1910 Edward Asa Partridge Philadelphia, Pa. Carl Van Schaick Patterson U 1911 Philadelphia, Pa. Chemical Engineer Richard Mills Pearce, Jr F 1902\*† Philadelphia, Pa. Professor of Medicine, University of Pennsylvania CF 1900\*† (Cornell U 1888) Leonard Pearson (Deceased 1909) Ralph Pemberton F 1910 Philadelphia, Pa. Assistant Instructor in Chemistry, University of Pennsylvania Mary Engle Pennington A 1910 Washington, D. C. Scientist, Bureau of Chemistry Charles Bingham Penrose A 1910 Philadelphia, Pa. William Pepper F 1908 Philadelphia, Pa. Assistant Professor of Clinical Pathology, University of Pennsylvania Frank Edson Perkins F 1901 New York City Architect G 1904\* Washington, D. C. Everett Franklin Phillips Scientist, U. S. Bureau of Entomology George Arthur Piersol F 1900\*† Philadelphia, Pa. Professor of Anatomy, University of Pennsylvania George Morris Piersol U 1902 Philadelphia, Pa. Physician, Instructor in Medicine, University of Pennsylvania Lewis Frederick Pilcher Poughkeepsie, N. Y. F 1900 Professor of Art, Vassar College Robert Mackey Pitts U 1910 Riverside, N. J. Engineer, Riverside Traction Company Haviland Hull Platt U 1909 Philadelphia, Pa. With Fels-Naptha Soap Company George William Plummer G 1910 Philadelphia, Pa. Instructor in Chemistry, University of Pennsylvania Edward Pollitt U 1907 Pencoyd, Pa. With American Bridge Company Frank Ethelwulf Powers U 1908 Pottsville, Pa.

Engineer, Eastern Steel Company

Phoenixville, Pa.

U 1907 (Illinois G 1907) Clarks Summit, Pa.

Clyde Beethoven Pyle TI 1911 Philadelphia, Pa. Instructor in Civil Engineering, University of Pennsylvania Snowden Bayard Redfield U 1902 Phillipsburg, N. J. Engineer of Tests, Ingersoll-Rand Company Martin Emil Rehfuss U 1909 Paris. France Resident Physician, American Hospital of Paris Philadelphia, Pa. **Edward Tyson Reichert** F 1910 Professor of Physiology, University of Pennsylvania Reading, Pa. Homer Jonas Rhode U 1901 Physician, Reading Hospital F 1900\* Philadelphia, Pa. Horace Clark Richards Professor of Physics. University of Pennsylvania William Waddell Richardson U 1902 Norristown, Pa. Chief Physician, State Hospital for Insane Webster Luther Rieser U 1910 Philadelphia, Pa. Instructor in Mechanical Engineering, University of Pennsylvania David Riesman Philadelphia, Pa. Assistant Professor of Medicine, University of Pennsylvania Damaso Rivas F 1911 Philadelphia, Pa. Assistant Director of Laboratory of Tropical Medicine, University of Pennsylvania George Chapin Robeson U 1910 Atlanta, Ga. Instructor, Georgia School of Technology Howard Needham Robinson U 1901 Lawrenceville, Ill. Chemist G 1900 George Ward Rockwell Philadelphia, Pa. Student in Medicine, University of Pennsylvania G 1902 Alien Rogers Brooklyn, N. Y. In Charge of Industrial Chemistry, Pratt Institute Frank Henkels Rogers U 1906 Philadelphia, Pa. Mechanical Engineer, I. P. Morris Company Edward Chapin Romine U 1910 Harrisburg, Pa. Special Industrial Representative, United Gas Improvement Company George Rosengarten U 1908 Philadelphia, Pa. Instructor in Science, Central Manual Training School George David Rosengarten A 1910 Philadelphia, Pa. Walter Edward Rosengarten U 1911 Philadelphia, Pa. Instructor in Civil Engineering, University of Pennsylvania Joseph Rosin U 1909 Philadelphia, Pa. Chemist, Powers, Weightman, Rosengarten Company Samuel Holcomb Ross U 1903 Omaha, Neb. Chemist William Lee Rowland A 1910 Philadelphia, Pa.

U 1909

Physician, Phoenixville Hospital

Physician, Hillside Home

Samuel Archer Rulon, Jr

Thomas Arthur Rutherford

Frederick Hollister Safford Assistant Professor of M	F 1904* Iathematics, U	Philadelphia, Pa. Jniversity of Pennsylvania
Walter Samans Assistant Engineer,	U 1905 Bessemer an	Greenville, Pa. d Lake Erie Railroad
Charles Lawrence Sargent Chemist, 1	G 1900 Murphy Varni	Newark, N. J.
Albert Carl Sautter	U 1900 Physician	Philadelphia, Pa.
Gordon Joel Saxon	U 1908 Physician	Philadelphia, Pa.
Harry Abraham Schatz First Assistant in Bac	U 1905 teriology, Uni	Philadelphia, Pa. versity of Pennsylvania
Hugo Schlatter Chemist,	U 1904 U. S. Geologi	Pittsburgh, Pa.
Howard Gustav Schleiter	U 1905 Physician	Pittsburgh, Pa.
Adolph William Schramm President, Electro	F 1902 Dental Manu	Philadelphia, Pa. facturing Company
William Magill Schultz	U 1905 Physician	Tsinan, Shantung, China
Henry Arthur Schwab Instructor in Archit	F 1910 ecture, Carne	Pittsburgh, Pa. gie Technical Schools
Isaac Joachim Schwatt Professor of Mathe	F 1900*† matics, Unive	Philadelphia, Pa. rsity of Pennsylvania
Alfred Newlin Seal	A 1910	Germantown, Philadelphia, Pa.
Horace Wells Sellers	A 1910	Ardmore, Pa.
Franklin Heverin Shakespeare With the G	U 1901 Carter Fire Ba	New York City
Owen Louis Shinn, Jr Assistant Professor of	F 1901* Chemistry, Ur	Philadelphia, Pa. aiversity of Pennsylvania
Barton Presley Sibole Machinist, Pier	U 1911 ce-Arrow Mot	Buffalo, N. Y. or Car Company
Jacob George Silverman	U 1904 Physician	Philadelphia, Pa.
Fred Lester Simon	U 1911	Philadelphia, Pa.
Edgar Arthur Singer, Jr Professor of Philos	F 1902* sophy, Univer	Philadelphia, Pa. sity of Pennsylvania
Francis Wharton Sinkler	U 1900 Physician	Philadelphia, Pa.
James Mortimer Skinner	U 1911	Philadelphia, Pa.
Allen John Smith Professor of Patho	F 1905*† ology, Univers	Philadelphia, Pa. ity of Pennsylvania
Arthur Thomas Smith	U 1906 Draftsman	Philadelphia, Pa.
Burnett Smith Assistant Professor		racuse F 1907) Syracuse, N. Y. Syracuse University

Charles Meldrum Smith U 1910 Washington, D. C. Assistant Chemist, Bureau of Chemistry, Department of Agriculture Edgar Fahs Smith CF 1900\*† Philadelphia, Pa. Professor of Chemistry, University of Pennsylvania Francis Palmer Smith U 1907 Atlanta, Ga. Professor of Architecture, Georgia School of Technology George Lathrop Smith U 1908 Philadelphia, Pa. Livingston Smith U 1901 Philadelphia, Pa. Architect, Karcher and Smith Ralph Ogden Smith G 1905 New Brunswick, N. J. Associate Professor of Chemistry, Rutgers College Stanley Smith U 1910 Pottstown, Pa. Designer, McClintic-Marshall Construction Company William Jones Smith U 1903 Chicago, Ill. Architect F 1904\*† Henry Wilson Spangler Philadelphia, Pa. Professor of Mechanical Engineering, University of Pennsylvania Christian George Spoerl TI 1903 Philadelphia, Pa. Architect F 1904 Philadelphia, Pa. J Verne Stanford Assistant Professor of Mechanical Engineering, University of Pennsylvania William Parvin Starr U 1905 Havre de Grace. Md. Transitman, Baltimore and Ohio Railroad John Barr Stauffer G 1909 Philadelphia, Pa. Graduate Student in Mathematics, University of Pennsylvania Carl Rossow Steinke U 1909 Rochester, Minn. Physician, St. Mary's Hospital Alfred Stengel F 1910 Philadelphia, Pa. Professor of Clinical Medicine, University of Pennsylvania Harry Sternfeld U 1911 Philadelphia, Pa. Colin Campbell Stewart F 1904\* Hanover, N. H. Professor of Physiology, Dartmouth College Lever Flegel Stewart U 1910 Clearfield, Pa. George William Stimson U 1903 Pittsburgh, Pa. Physician George Flowers Stradling G 1902\*† Philadelphia, Pa. Head of Department of Science, Northeast Manual Training High School Charles Gunnison Strickland U 1903 Erie, Pa. Physician Frank Macy Surface G 1906 (Ohio U 1905) Lexington, Ky. Biologist, Agricultural Experiment Station

Charles Joseph Swalm U 1906 Norristown, Pa. Resident Physician, State Hospital for Insane Orland Russell Sweeney

F1910 (Ohio U 1909) Philadelphia, Pa. Instructor in Chemistry, University of Pennsylvania

Philadelphia, Pa.

New York City

G 1902

Joshua Edwin Sweet

Joseph Barnard Walton

Assistant Professor of Experimental Surgery, University of Pennsylvania G 1900 Philadelphia, Pa. Walter Thomas Taggart Assistant Professor of Chemistry, University of Pennsylvania Granville Lewis Taylor U 1900 Pittsburgh, Pa. Assistant Chief Engineer, McClintic-Marshall Construction Company G 1900\* Thomas Maynard Taylor (Deceased 1907) William Purves Taylor U 1900 Philadelphia, Pa. Engineer, Municipal Testing Laboratory Arthur Linville Terry, Jr U 1900 Philadelphia, Pa. Filtration Engineer, Hungerford and Terry Nathaniel Wiley Thomas A 1910 Philadelphia, Pa. Howard Earle Tomlinson St. Davids. Pa. U 1911 Oscar Noel Torian TI 1900 Indianapolis, Ind. Physician U 1902 Charles Travis Philadelphia, Pa. Instructor in Mineralogy, University of Pennsylvania Philadelphia, Pa. Henry William Troelsch U 1907 Instructor in Civil Engineering, University of Pennsylvania A 1910 Swarthmore, Pa. Professor of Biology, Swarthmore College William Gray Turnbull U 1906 Philadelphia, Pa. Physician, Instructor in Medicine, University of Pennsylvania Lucius Tuttle F 1908 (Yale U 1901) Philadelphia, Pa. Physician and Demonstrator of Physiology, University of Pennsylvania F 1904\* Edwin Burket Twitmyer Philadelphia, Pa. Assistant Professor of Psychology, University of Pennsylvania Frederick Maria Urban Philadelphia, Pa. Professor of Psychology, University of Pennsylvania Walter Kurt Van Haagen U 1905 Atlanta, Ga. Professor of Chemistry, Georgia School of Technology Jean Jacques Abram Van Kaathoven U 1902 Los Angeles, Cal. Physician Frank Russell Van Loon U 1911 Philadelphia, Pa. Engineer, F. W. Van Loon, Contractor and Builder Edward Bright Vedder U 1902\* Washington, D. C. Captain Medical Corps, U. S. Army Borden Smith Veeder U 1907 St. Louis, Mo. Instructor in Pediatrics, Washington University Samuel Tobias Wagner A 1910 Germantown, Philadelphia, Pa. Jesse Pusey Walton U 1910 Pittsburgh, Pa. Draftsman, Pennsylvania Lines

Secretary, Young Men's Christian Association, Intercollegiate Branch

PENNS	YLVANIA CHAPTER	237
Charles Laurence Warwick Instructor in Civil En	U 1909 gineering, University of Per	Philadelphia, Pa. nnsylvania
Cassius Hinds Watson Instructor	U 1901 in Biology, Pratt Institute	Brooklyn, N. Y.
Walter Loring Webb Chief Consulting	F 1900† Engineer, Day and Zimme	Philadelphia, Pa. erman
George Smedley Webster	A 1910	Philadelphia, Pa.
John Morris Weiss Laboratory of Hy	U 1905 giene, University of Pennsy	Philadelphia, Pa. ylvania
Frank Wenner Assistant Physic	F 1907 cist, U. S. Bureau of Stand	Washington, D. C. lards
Calvin Naftzinger Wenrich Univ	G 1910 versity of Pittsburgh	Pittsburgh, Pa.
William Carter Wescott Phys	U 1908 sician, City Hospital	Atlantic City, N. J.
George Hazzard West Chemist, Old	U 1904 Dominion Copper Compan	Globe, Ariz.
Bayee Newcomb Westcott	U 1909 Engineer	Schenectady, N. Y.
Edgar Theodore Wherry Assistant Professor	U 1906 So of Mineralogy, Lehigh Un	outh Bethlehem, Pa. niversity
William Berry Whetstone	U 1903 Physician	Philadelphia, Pa.
Arthur Jennings White Assistant C	U 1911 Themist Welsbach Company	Gloucester, N. J.
Philip Richardson Whitney Assistant Professor of	F 1907 Graphics, University of Po	Philadelphia, Pa. ennsylvania
Edward Embree Wildman Professor of	G 1906 Biology, Central High Scho	Philadelphia, Pa.
Joseph Smith Wilds, Jr Structural Draftsman, M	U 1905 cClintic-Marshall Construc	Pottstown, Pa.
Samuel Borton Williams Assistant Engineer, P	U 1901 ennsylvania Bell Telephon	Philadelphia, Pa. e Company
Clarence Addison Willis Professor of	G 1901 Mathematics, Girard Colle	Philadelphia, Pa. ge
Louis Albert Wills Chemist, Amer	U 1909 ican Sugar Refining Comp	Philadelphia, Pa.
Lightner Witmer Professor of Psych	F 1904*† nology, University of Penns	Philadelphia, Pa. ylvania
Clarence C Winterstein	U 1910	Philadelphia, Pa.
Alfred Daniel Wolff, Jr Assistant Engineer, New	U 1907 York Central and Hudson	New York City River Railroad
Henry Dunn Wood	U 1904	Philadelphia, Pa.
George Jesse Wright	U 1904 Physician	Pittsburgh, Pa.

Levi Parker Wyman G 1902\* Chester, Pa. Professor of Chemistry, Pennsylvania Military College

Frederick Wynkoop U 1907 Philadelphia, Pa.
Analytical Chemist, Booth, Garrett and Blair

Rowland Lawrence Young U 1907 New York City Engineer, American Telephone and Telegraph Company

Edward Herman Zieber U 1909 Philadelphia, Pa.

# BROWN CHAPTER

Brown University, Providence, Rhode Island

Charter Date April 16, 1900

Chapter Installed, May 9, 1900

## HISTORICAL SKETCH

Previous to the year 1900 Phi Beta Kappa was the only honorary society existing at Brown University. As candidates for the engineering degrees were not eligible to membership to Phi Beta Kappa at this University, it was felt by some members of the faculty that it would be desirable to establish an honorary scientific society at Brown University. Accordingly, on January 18, 1900, a meeting of members of the faculty engaged in teaching branches of pure and applied science was held at which the first tangible step was taken toward the formation of a chapter of Sigma Xi. On January 25, 1900, twenty-six members of the faculty petitioned for a charter and on May 9 were initiated as members of the Brown Chapter, by Professor H. S. Williams, of Yale University, President of the National Society of Sigma Xi. It has been impossible to locate the charter, so the date it was drawn cannot be given. [It is entered as stated in the official announcement on file.]

During the period from 1900 to 1908, inclusive, the Brown Chapter has elected five faculty members, fifteen alumni members, twenty-eight resident graduate members, and forty-seven undergraduate members.

The Brown Chapter has endeavored to promote the interests which it is the object of Sigma Xi to encourage, by discrimination in the election of members and by holding public and Chapter meetings at which scientific topics are discussed by investigators in various branches of research work.

А. Н. В.

## OFFICERS FOR 1911-12

President	WILLIAM HERBERT KENERSON
Vice-President	Charles Wilson Brown
Recording Secretary	Roland George Dwight Richardson
Corresponding Secretary .	Ansel Brooks
Treasurer	HERBERT EUGENE WALTER
Councilor	ALBERT DEFOREST PALMER

#### MEMBERSHIP ROLL

Jarvis Howard Alger U 1909 Pittsburgh, Pa. Sales Department, Aluminum Company of America

John Howard Appleton CF 1900\*† Providence, R. I. Professor of Chemistry, Brown University

Paul Appleton U 1911 Boston, Mass.
Student, Harvard Medical School

Vahan Simon Babasinian G 1905 South Bethlehem, Pa. Associate Professor Chemistry, Lehigh University

William Whitman Bailey CF 1900\*† Providence, R. I. Emeritus Professor of Botany, Brown University

Frederick Eugene Banfield U 1908 Newton Highlands, Mass.
Assistant Superintendent, Saco Pettee Company

Ernest Warren Barnes G 1902 Wickford, R. I.
Assistant Superintendent, Wickford Laboratory

Carl Barus CF 1900\*† Providence, R. I. Dean of Graduate Department, Professor of Physics, Brown University

Maxwell Barus U 1910 Cambridge, Mass.
Student, Harvard Law School

Frederick Steere Beattie U 1906 South Bethlehem, Pa.
Instructor in Chemistry, Lehigh University

Samuel Jacob Beeber U 1908 Westbrook, Me. Head Science Department, Westbrook High School

Albert Arnold Bennett U 1910 Princeton, N. J. Graduate Student, Princeton University

Charles Barrows Bennett U 1906 Burlington, Vt.
Instructor in Chemistry, University of Vermont

Arthur Horace Blanchard CF 1900 (Columbia CG 1903) New York City Professor of Engineering, Columbia University

Frederick May Boyce U 1909 Andover, Mass.
Physics Instructor, Phillips Academy

Laura Cinderella Brant U 1909 Northampton, Mass.
Assistant in Physics, Smith College

Charles Lewis Brightman U 1909 South Hadley, Mass.
Instructor in Physics, Mt. Holyoke College

J Ansel Brooks F 1904 Providence, R. I. Associate Professor of Mechanics, Brown University

Arthur Robert Brown U 1905 Panama, C. Z. Isthmian Canal Company

Charles Wilson Brown

G 1901\*

Providence, R. I.

Assistant Professor of Geology, Brown University

William Ward Browne G 1910 Providence, R. I. Graduate Student, Brown University

John Emery Bucher F 1902\* Providence, R. I.
Associate Professor of Organic Chemistry, Brown University

Hermon Carey Bumpus CF 1900\*† Madison, Wis.
Business Manager, University of Wisconsin

John Wyman Miller Bunker G 1910 Cambridge, Mass. Instructor in Chemistry, Harvard University

Alexander Manlius Burgess A 1906 Boston, Mass.

Alexander Maniius Burgess A 1906 Boston, Mass. First Assitant in Pathology, Boston City Hospital

Edward Clifton Burnham CF 1900 Hopedale, Mass.

Designer, Draper Company

New Haven, Conn.

Liberty, Mo.

Frank Arthur Burr U 1905 Boston, Mass. Engineer, Swift and Company Ada Irene Burton G 1910 Providence, R. I. Assistant, Physical Department, Brown University Raymond Davis Cady  $G_{1905}$ Bridgeport, Conn. Chemist, Union Metallic Cartridge Company Walter Cuyton Cady A 1901\* Middletown, Conn. Professor of Physics, Wesleyan University William Hamlin Cady G 1905 Providence, R. 1. Colorist, Badische Company CF 1900 Edwin Eddy Calder Providence, R. I. Professor of Chemistry, Rhode Island College of Pharmacy Robert Gamble Caswell U 1911 Providence, R. I. Instructor in Chemistry, Brown University. Arnold Buffum Chace A 1902\* Providence, R. I. Chancellor, Brown University Edward Blanchard Chamberlain G 1901 Washington, D. C. Teacher of Mathematics and German, University School Robert Foster Chambers F 1911 Providence, R. I. Graduate Assistant, Brown University Horace Edward Chandler U 1906 (Cornell F 1907) Weihsten, Shantung, In Charge of Department of Physics, Shantung Christian University [China Charles Value Chapin A 1902+ Providence, R. I. Superintendent of Health, City of Providence John Osborne Chesley U 1911 New Kensington, Pa. Sales Department, Aluminum Company of America Paul Franklin Clark G 1906 New York City Assistant in Pathology and Bacteriology, Rockefeller Institute Benjamin Franklin Clarke CF 1900\*+ (Deceased 1908) Harry Duffield Clough G 1909 Baltimore, Md. Medical Student, Johns Hopkins University George Ellett Coghill G 1901\* Granville, Ohio Professor of Zoology, Denison University James Franklin Collins CF 1900+ Providence, R. I. Forest Pathologist, United States Bureau of Plant Industry Howard Wilbur Congdon G 1906 New York City Civil Engineer Herbert Ray Connor U 1911 San Francisco, Cal. Mechanical Engineer, Meese and Gottfried Company Elmer Lawrence Corthell A 1901\*+ New York City Consulting Engineer Ernest Willard Crawley

U 1901

G 1910

Moses Leverock Crossley

Junior Engineer, United States Army

Associate Professor of Chemistry, William Jewell College

Clinton Harvey Currier G 1900 Providence, R. I. Instructor in Mathematics, Brown University G 1910 Nelson Clark Dale Providence, R. I. Instructor in Geology, Brown University G 1910 Cold Spring Harbor, L. I., N. Y. Florence Harris Danielson Field Worker, Eugenics Record Office, Carnegie Institute Harvey Nathaniel Davis U 1901\* Cambridge, Mass. Assistant Professor of Physics and Mathematics, Harvard University ch Davis CF 1900\*† F Professor of Mathematics, Brown University Nathaniel French Davis Providence, R. I. Herbert Franklin Davison U 1905 Pawtucket, R. I. Science Teacher, High School CF 1900\*+ Edmund Burke Delabarre Providence, R. I. Professor of Psychology, Brown University Maurice Lois Dolt U 1906 South Bethlehem, Pa. Instructor in Chemistry, Lehigh University Edwin Arthur Dow U 1911 Iowa City, Ia. Instructor, State University of Iowa U 1903 Henry Bernardin Drowne New York City Instructor in Engineering, Columbia University G 1903\* (Case F 1907) Norman Armin Dubois Cleveland, Ohio Dean, Professor of Chemistry, Western Reserve University Harold Bowen Edmundson U 1909 Providence, R. I. State Board of Public Roads Victor Emanuel Emmel G 1905 St. Louis. Mo. Associate in Anatomy, Washington University Medical School Albert Potter Farwell U 1910 Providence, R. I. Chemist, Kendall Manufacturing Company George Wilton Field A 1906\* Sharon, Mass. Chairman, Massachusetts Commission on Fisheries and Game Robert Franklin Field U 1906 Providence, R. I. Instructor in Physics, Brown University Arthur Leonard Flagg U 1906 Providence, R. I. Mining Geologist A 1906\*+ New York City Amory Prescott Folwell Editor, Municipal Journal and Engineer U 1904 Herbert Augustine Freeman Hamson, N. J. Caleb Allen Fuller G 1901\* (Wisconsin CF 1907) Madison, Wis. Assistant, Wisconsin State Hygienic Laboratory Frank Taylor Fulton F 1903\* Providence, R. I. Physician, Rhode Island Hospital Louis John Gillespie G 1910 New York City Fellow in Bacteriology, Rockefeller Institute George Herbert Gilbert  $G_{1901}$ Greensboro, N. C.

Assistant Engineer, Southern Railway

Associate Professor of Biology, Brown University

Providence, R. I.

CF 1900\*+

Frederick Poole Gorham

Providence, R. I.

G 1905 Philip Bardwell Hadley Kingston, R. I. Chief, Division of Biology, Agricultural Experiment Station Henry Jewett Hall G 1901 New London, N. H. Science Teacher, Colby Academy James Alexander Hall U 1910 Providence, R. I. Assistant Mechanical Engineer, Brown University Walter Gardiner Harrington U 1911 New York City Engineer, Good Roads Machinery Company U 1904 (Syracuse CF 1906) Montclair, N. J. Howard Farnum Hart Instructor in Mathematics, High School Leslie Robert Hicks U 1903 Fall River, Mass. Superintendent, Fall River Electric Light Company John Edward Hill CF 1900\*+ Providence, R. I. Professor of Civil Engineering, Brown University Norman Edward Holt U 1910 Providence, R. I. Instructor in Chemistry, Brown University Ray Palmer Hovey U 1905 Salt Lake City, Utah Engineer, Utah Copper Company Roland Ellis Hutchins U 1910 Providence, R. I. Instructor in Civil Engineering, Brown University G 1907 Lulu Broadbent Joslin Baltimore, Md. Instructor of Physics, Goucher College George Thomas Huxford U 1909 Providence, R. I. William Williams Keen A 1906\*+ Philadelphia, Pa. President, American Philosophical Society U 1911 John Vincent Keily Providence, R. I. General Fire Extinguisher Company William Herbert Kenerson CF 1900 Providence, R. I. Associate Professor of Mechanical Engineering, Brown University Frederick George Keyes G 1908 Rochester, N. Y. In Research Ira Winsor Knight U 1911 Boston, Mass. Graduate Student, Massachusetts Institute of Technology G 1902 Baltimore, Md. Allen Kramer Krause Student, Johns Hopkins Medical School Krieble Vernon Krieble U 1907 Montreal, Canada Instructor in Chemistry, McGill University U 1909 Providence, R. I. Julius Lasker F 1906 (Chicago G 1906) New York City Nels Johann Lennes Instructor in Mathematics, Columbia University U 1906 Providence, R. I. Albert John Loepsinger Mechanical Engineer, General Fire Extinguisher Company Brooklyn, N. Y. G 1910 Harold William Lyall Associate Hoagland Laboratory, Long Island College Hospital

G 1903

Curator, Roger Williams Park Museum

Harold Lester Madison

Joseph James Malcolm (Deceased 1907)

U 1907

Henry Parker Manning CF 1900\*+ Providence, R. I. Associate Professor of Pure Mathematics, Brown University

James Cook Martin G 1910 Princeton, N. J. Assistant in Geology, Princeton University

CF 1900\*+ Providence, R. I. Albert Davis Mead Professor of Biology, Brown University

Ada Geneva (Wing) Mead CF 1900 Providence, R. I. (Mrs Albert Davis Mead)

CF 1900\*† Alexander Meiklejohn Providence, R. I. Professor of Logic and Metaphysics, Brown University

Jesse George Melendy U 1901 Cleveland, Ohio Superintendent, United States Works of General Chemical Company

A 1906\*†(Nebraska G 1902) Washington, D. C. Pathologist, Bureau of Plant Industry, U. S. Department of Agriculture

Harold Edmund Miller U 1907 Providence, R. I. Assistant Engineer, State Board of Public Roads

Max Merrill Miller U 1901 Yonkers, N. Y. Designer, Bridge Department, New York Central and Hudson River Railroad

Philip Henry Mitchell F 1904 (Yale U 1904) Providence, R. I. Assistant Professor of Physiology, Brown University

Lyman Churchill Newell l Newell A 1906\*†
Professor of Chemistry, Boston University Boston, Mass.

Arthur Edwin Norton U 1900 Cambridge, Mass. Assistant Professor of Mechanical Drawing, Harvard University

Chester Linwood Nourse U 1909 Cambridge, Mass. Harvard University

G 1905\* George Barrows Obear

Waterville, Me. Instructor in Physics, Colby College

Alpheus Spring Packard CF 1900+ (Deceased 1905)

Roscoe Milliken Packard G 1903 Washington, D. C. Assistant Examiner, United States Patent Office

George Frederick Paddock TJ 1902 Mt. Hamilton, Cal. Assistant, Lick Observatory

CF 1900\* Albert de Forest Palmer Providence, R. I. Associate Professor of Physics, Brown University

Waterville, Me. George Freeman Parmenter G 1903\* Associate Professor of Chemistry, Colby College

Irving Wooster Patterson Providence, R. I. U 1909

John Combe Pegram, Jr F 1903+ (Deceased 1906)

Jay Perkins F 1903\* Providence, R. I. Physician, Demonstrator in Anatomy, Brown University

BROWN	CHAPTER 245
Charles Manchester Perry A 190 With Sayles Bleacheries	of Greene, R. I. and Glenlyon Dye Works
Irving Wilhert Pettengill U 19 Engineer, Cadillac	11 Detroit, Mich. Motor Car Company
Thurston Mason Phetteplace U 19 Assistant Professor of Mechanic	Providence, R. I. cal Engineering, Brown University
Robinson Pierce U 19	South Easton, Mass.
Charles Huntington Porter U 190 Comptroller, W. H.	00 Boston, Mass. . McElwain Company
David James Purdie U 19	11 Providence, R. I.
Oscar William Rackle U 19	Providence, R. I.
Lemuel Charles Raiford U 19 Instructor in Chemistr	00 Chicago, Ill. y, University of Chicago
	900*† Providence, R. I. hanical Drawing, Brown University
Roland George Dwight Richardson Assistant Professor of Ma	F 1904 (Yale F 1904)) Providence, R. I. thematics, Brown University
William Nisbet Ross U 19 Teacher of Science,	O7 Providence, R. I. English High School
George Herbert Sherwood G 196 Curator, American Mu	00 New York City seum of Natural History
	06 (Chicago G 1906) Milwaukee, Wis. ilwaukee-Downer College
Walter Clifton Slade U 190 Research Chemist, Ge	Pittsfield, Mass. neral Electric Company
Frederick Slocum CF 1 Assistant Professor of Ass	900* Williams Bay, Wis. ronomy, Yerkes Observatory
George Hawthorne Smith G 19: Assistant in Physiol	10 Providence, R. I. ogy, Brown University
Roy Harman Smith U 19 Superintendent, National	01 Cleveland, Ohio Screw and Tack Company
Walter Edward Smith CF 1 Foundry	900 Providence, R. I. Company
Henry Pomeroy Stacy U 19 Bridge Designer, New York Ce	08 New York City entral and Hudson River Railway
Frank William Stephens U 19 Engineer, Panan	O5 Hornersville, N. Y. na Canal Company
Harlan True Stetson U 19 Instructor in Physic	O8 Hanover, N. H. es, Dartmouth College
Mary Clegg Suffa U 19 Teacher of Mathematic	10 Warwick, R. I. ics, Warwick High School
Michael Xavier Sullivan G 196 Chemist, United St	02* Washington, D. C. tates Bureau of Soils
Walter Edward Sullivan G 19 Instructor in Biology, W	10 Cleveland, Ohio Testern Reserve University

Everett Harold Swett Engineer, Unite	U 1907 ed States Reclamation Serv	Montrose, Col.
George Francis Sykes Instructor in Zool	G 1910 ogy, Oregon Agricultural C	Corvallis, Ore.
Howard Alfred Taber Rhodes Scho	U 1910 olarship, Oxford University	Oxford, Eng.
Frank Carter Taylor	U 1909	Providence, R. I.
Millett Taylor Thompson (Deceased 1907)	G 1900*	
Ralph Cameron Thompson Treasurer, Ch	G 1903 narles M. Robbins Compan	Attleboro, Mass.
Ralph Winfred Tower Curator, America	CF 1900*† an Museum of Natural His	New York City
Henry Carroll Tracy Instructor, Medical	G 1906 School, Northwestern Uni	Evanston, Ill.
Ernest Edward Tyzzer Assistant in Pa	A 1906* athology, Harvard Univers	Cambridge, Mass.
Winslow Upton Professor of A	CF 1900*† astronomy, Brown University	Providence, R. I.
Herbert Eugene Walter Assistant Professo	F 1909* or of Biology, Brown Univ	Providence, R. I. versity
Arthur Eugene Watson Assistant Professo	CF 1900* or of Physics, Brown Univ	Providence, R. I. versity
Clarence West Wade Bures	U 1908 au of Public Works	Manila, P. I.
Martha Wilbur Watt Teacher of Math	U 1900 nematics, Fielden-Chace Sci	Providence, R. I.
Robert Campbell Weed Student	U 1909 t, Harvard University	Arlington, Mass.
Niles Westcott Student	U 1905 , Yale Medical College	New Haven, Conn.
Frank Perkins Whitman Professor of Phys	A 1906* sics, Western Reserve Univ	Cleveland, Ohio versity
Alice Wilson Wilcox Instructor in Biology,	G 1906 Women's College, Brown U	Providence, R. I. Iniversity
Leonard Worcester Williams Instructor,	G 1901* Harvard Medical School	Boston, Mass.
Sydney Wilmot Graduate Stu	U 1909 ident, Columbia University	New York City
Clarence Edgar Wilson	CF 1900 Chemist	Perth Amboy, N. J.
Ada Geneva Wing (Mrs Albert Davis Mead)	CF 1900	Providence, R. I.
Arthur Melvin Winslow	U 1903	Providence, R. I.
Foster Verne Young	U 1911 Manufacturer	Worcester, Mass.

# IOWA CHAPTER

STATE UNIVERSITY OF IOWA, IOWA CITY, IOWA

Charter Dated June 22, 1900 Chapter Installed November 14, 1900

## HISTORICAL SKETCH

On June 22, 1900, a charter was granted for the establishment of "a Chapter of the Society of the Sigma Xi at the State University of Iowa." There being no other chapter of Sigma Xi in the state of Iowa at the time, the Chapter designated in its charter by the phrase quoted above decided to call itself the "Iowa Chapter," a name which has continued to the present time without the use of a chapter letter.

The Iowa Chapter of the State University of Iowa was installed with twelve charter members. In the election of new members, the policy of the Chapter has ever been conservative, hence it is that at the end of its tenth year the total membership reaches only one hundred and sixty-one.

Of this number, fifty-one are active members.

It was decided early in the history of the Chapter that two public lectures should be attempted each year; one of these to be given early in the fall by the retiring president of the Chapter; the other to come as near to February 22 as possible and to be delivered by some distinguished investigator outside the Chapter. The plan so adopted has been adhered to consistently, and these two lectures have become established University functions.

In addition to these two occasions when the entire University is invited as guests of the Chapter, several closed meetings are held throughout the year at which reports on researches in progress are made by the members. These, together with the business meetings, have served to unify the scientific interests of the University to a highly desirable

degree.

G. L. H.

# OFFICERS FOR 1911-12

President	WILLIAM GALT RAYMOND
Vice-President	CARL EMIL SEASHORE
Recording Secretary	James Newton Pearce
Corresponding Secretary	GILBERT LOGAN HOUSER
Treasurer	Robert Bradford Wylie
Councilor	THOMAS HUSTON MACRRIDE

# MEMBERSHIP ROLL

Emma Beth Achenbach (Mrs. E. B. Brauch)

U 1905

Lakefield, Ia.

Joseph Quincy Adams

U 1909 City Engineer Centerville, Ia.

Frederick Albert U 1904 Mason City, Ia.
Physician

Henry Albert F 1903\*† Iowa City, Ia.

Professor of Pathology and Bacteriology, State University of Iowa

Clive Morris Alexander U 1911 Iowa City, Ia.
Assistant in Chemistry, State University of Iowa

Rudolph Martin Anderson U 1903 New York City Zoologist, American Museum of Natural History

Launcelot Winchester Andrews CF 1900\*† Davenport, Ia.

President, Andrews Chemical Works

Kathryn Theiss Aschenbrenner U 1911 Atlantic, Ia.
Science Teacher, High School

Frederick George Baender U 1908 Oakland, Cal. Mechanical Engineer Foreman, Southern Pacific Railroad Shops

Richard Philip Baker F 1907 Iowa City, Ia.
Instructor in Mathematics, State University of Iowa

William Edward Barlow F 1904 Blacksburg, Va. Professor of Metalurgy and Metallography, Virginia Polytechnic Institute

William Milton Barr U 1902 (Pennsylvania G 1905) Davenport Ia.
Acting Manager, Andrews Chemical Company

Albert Moore Barrett G 1904 (Michigan A 1904) Ann Arbor, Mich.
Professor of Nervous Diseases and Psychiatry, University of Michigan

Claude Alpheus Bartholow U 1904 Minneapolis, Minn. Civil Engineer with W. D. Lovell Company

Paul Bartsch G 1905\* Washington, D. C. Curator of Conchology, Smithsonian Institution

Arthur Neal Bean U 1906 Minneapolis, Minn.

Great Northern Railway Office

William Edmund Beck G 1902 Sioux City, Ia.
Teacher of Mathematics, Sioux City High School

William Bonar Bell U 1902 Fargo, N. D. Professor of Zoology and Physiology, North Dakota Agricultural College

James Guest Berryhill, Jr U 1903 Des Moines, Ia. Attorney

Walter Martinus Boehm U 1902 (Pennsylvania F 1907) Philadelphia, Instructor in Physics, University of Pennsylvania [Pa.

Perry Avery Bond U 1901 Chicago, Ill.
Instructor in Chemistry, Armour Institute of Technology

Frederic Bonnet, Jr F 1904\* (Worcester CF 1908) Worcester, Assistant Professor of Chemistry, Worcester Polytechnic Institute [Mass.

Charles Henry Bowman G 1901 Butte, Mont.

President, Montana State School of Mines

Lucy Winifred Brant U 1906 Council Bluffs, Ia.
(Mrs James Mead)

Fay Cluff Brown
Assistant Professor of Physics, State University of Iowa City, Ia.

Boston, Mass.

Menomonee, Wis.

Grace Emma Buckley U 1907 Cresco, Ia. Science Teacher, High School Harry Pitkin Burgum U 1904 Minneapolis, Minn. Civil Engineer, W. D. Lovell Company Ira Arthur Burkheimer U 1908 Seattle, Wash. Civil Engineer Harry Edward Burton G 1905 Washington, D. C. Assistant, United States Naval Observatory Samuel Calvin CF 1900\*† (Deceased 1911) Olive Merrill Chase U 1906 Vancouver, Wash. (Mrs George W Gearheart) Teacher of Domestic Science, High School Edward Perry Churchill U 1907 Washington, Ia. Principal, High School Arthur John Cox G 1908 Iowa City, Ia. Civil Engineer Edward Webster Crellin G 1908 Des Moines. Ia. President, Des Moines Bridge and Iron Works Sarah Elizabeth Cronin U 1903 Iowa City, Ia. Instructor in Mathematics, State University of Iowa Lilah B Crum Osage, Ia. Principal, High School Arnold Victor Dahlberg F 1908 (Minnesota U 1905) Spreckels, Cal. Industrial Chemist Donald Berryhill Davison TI 1911 Cambridge, Mass. Student, Harvard University. George Edward Decker G 1908 Davenport, Ia. Physician Dallas, Tex. Otto Dell De Hart U 1905 Engineer, Des Moines Bridge and Iron Company Philip Kirby De Voe U 1910 Creston, Ia. With City Engineer Edward Lewis Dodd F 1905\* (Yale G 1904) Austin, Tex. Instructor in Mathematics, University of Texas Woods Hole, Mass. Gilman Arthur Drew G 1905\*+ Assistant Director, Marine Biological Laboratory George Frederick Eckhard TJ 1905 Decatur, Ill. Professor of Civil Engineering, James Millikin University Paul Frederick Edinger G 1906 Cedar Rapids, Ia. In Business Charles Howard Edmondson G 1904 Topeka, Kan. Professor of Biology, Washburn University

U 1907

F 1906 Physician

Instructor in Electrical Engineering, Massachusetts Institute of Technology

Evie James Edwards

Anfin Egdahl

Paonia, Col. U 1902 Frederic Grant Emry Merchant U 1909 Ft. Collins, Col. Louise Henrietta Falk (Mrs Wilfred W Robbins) Clifford Harrison Farr U 1911 Iowa City, Ia. Scholar in Botany, State University of Iowa Burton Percival Fleming F 1910 Iowa City, Ia. Professor of Steam and Mechanical Engineering, State University of Iowa Arthur Hillyer Ford F 1907 Iowa City, Ia. Professor of Electrical Engineering, State University of Iowa G 1909\* Marquette, Mich. George Cutler Fracker Professor of Psychology, Northern State Normal School Charles McLean Fraser G 1911 Iowa City, Ia. Fellow in Zoology, State University of Iowa F 1901\* (Colorado CF 1905) Boulder, Col. Russell D George State Geologist, Professor of Geology, University of Colorado George Sabin Gibbs G 1904 Ft. Leavenworth, Kan. Captain, United States Signal Corps Iowa City, Ia. Levi Alexander Giddings U 1911 Assistant in Botany, State University of Iowa Henry Max Goettsch F 1901 Cincinnati. Ohio Assistant Professor of Chemistry, University of Cincinnati Mary Caroline Griffith U 1905 Whittier, Cal. Science Teacher F 1906\*† (Michigan CF 1905) Ann Arbor, Karl Eugen Guthe Professor of Physics, University of Michigan [Mich. Eugene C Hartley U 1908 Cloquet, Minn. Teacher Harvey Wilfred Hartupee U 1911 Des Moines, Ia. Engineer Earl Washington Hatz U 1911 Watertown, S. D. Engineer, Watertown Light and Power Company Iowa City, Ia, Assistant in Zoology, State University of Iowa U 1908 Jesse Van Fleet Henley San Diego, Cal. In Business Emil John Hemmer U 1906 Chicago, Ill. Civil Engineer, Chicago, Milwaukee and St. Paul Railway F 1910 Frederick Goodson Higbee Iowa City, Ia.

Professor of Geometry and Drawing, State University of Iowa

Professor of Science, State Normal School

Civil Engineer, Morgan Engineering Company

Professor of Animal Biology, State University of Iowa

CF 1900\*

Moorhead, Minn.

Memphis, Tenn.

Iowa City, Ia.

G 1905

U 1911

Sebern Waldo Hockett

Gilbert Logan Houser

Ivan Edgar Houk

Campbell Palmer Howard F 1911 Iowa City, Ia. Professor of Theory and Practice of Medicine, State University of Iowa Ralph Chase Huston G 1908 East Lansing, Mich. Assistant Professor of Chemistry, Michigan Agricultural College Harry Morgan Ivins **TJ 1904** Cedar Rapids, Ia. Physician Frank Thomas Jensen U 1901 Dysart, Ia. Editor F 1905 William Jepson Iowa City, Ia. Professor of Surgery, State University of Iowa Susan Grace Jewell Tabor, Ia. Professor of Biology, Tabor College G 1904 Vermilion, S. D. Anna Johnson (Mrs Alexander Pell) Otto Frederic Kampmeier U 1909 Princeton, N. J. Fellow in Zoology, Princeton University F 1906 William Jay Karslake Iowa City, Ia. Assistant Professor of Chemistry, State University of Iowa F 1908\* (Chicago G 1903; Kansas G 1904) George Frederick Kay Professor of Economic Geology, State University of Iowa [Iowa City, Ia. Carleton Volney Kent U 1904 Northfield, Minn. Acting Professor of Physics, Carleton College Frank Dunn Kern Lafayette, Ind. Instructor in Botany, Purdue University Rudolph Ernst Kleinsorge G 1906 Silverton, Ore. Physician Noah D Knupp G 1911 Iowa City, Ia. Assistant in Botany, State University of Iowa U 1907 Chicago, Ill. Raymond Carl Kramer Civil Engineer, Chicago, Burlington and Quincy Railway Albert Kuntz G 1910 Iowa City, Ia. Instructor in Biology, State University of Iowa Byron James Lambert G 1904 Iowa City, Ia. Professor of Structural Engineering, State University of Iowa Charles Irwin Lambert U 1901 New York City Assistant Pathologist, New York Pathological Institute John Joseph Lambert F 1902 Iowa City, Ia. Assistant Professor of Anatomy, State University of Iowa Charles Frederic Lorenz F 1900 Cleveland, Ohio Physicist, National Electric Lamp Association Frederick William Lovell Cleveland, Ohio G 1909 Vice-President and Secretary, McMyler Interstate Company Thomas Huston Macbride CF 1900\*+ Iowa City, Ia. Professor of Botany, State University of Iowa

F 1904

Charles Scott Magowan

(Deceased 1907)

Civil Engineer, Bailey-Marsh Company

Minneapolis, Minn.

U 1902

Richard Dana Marsh

Roswell Clair Puckett

Calvin Terry McClintock TJ 1905 Sioux City, Ia. Teller, Woodbury County Savings Bank Lucy Winifred (Brant) Mead U 1906 Chicago, Ill. (Mrs James Mead) Dayton Eugene Merrill G 1910 Iowa City, Ia. Fellow in Zoology, State University of Iowa Walter Richard Miles G 1911 Iowa City, Ia. Fellow in Psychology, State University of Iowa U 1909 LeRoy F Miller Detroit, Mich. Chemist, Parke Davis and Company F 1905\* (Columbia F 1903) Minneapolis, Minn. James Burt Miner Assistant Professor of Psychology, University of Minnesota Fred Moore U 1906 Iowa City, Ia. Scholar in Medicine, State University of Iowa George Wilber Moffitt U 1910 Palo Alto, Cal. Assistant in Physics, Leland Stanford Junior University G 1910 George Haines Mount Cedar Falls, Ia. Professor of Psychology, Iowa State Teachers College George Auerbach Neustadt U 1908 Decatur, Ill. In Business G 1905\*+ Francis Eugene Nipher St. Louis, Mo. Professor of Physics, Washington University Charles Cleveland Nutting CF 1900\*+ Iowa City, Ia. Professor of Zoology, State University of Iowa Linwood Ohle F 1906 (Case U 1904) St. Lo Professor of Mechanical Engineering, Washington University Ernest Linwood Ohle St. Louis, Mo. James Newton Pearce F 1908 Iowa City, Ia. Assistant Professor of Chemistry, State University of Iowa Anna (Johnson) Pell G 1904 Vermilion, S. D. (Mrs Alexander Pell) James Owen Perrine U 1909 Ann Arbor, Mich. Assistant in Physics, University of Michigan Charles Delos Poore F 1906 (Minnesota U 1905) Aberdeen, S. D. Professor of Physics and Chemistry, Northern State Normal School Henrietta Prentiss G 1907 New York City Instructor in Zoology, Normal College Henry James Prentiss F 1906 Iowa City, Ia. Professor of Anatomy, State University of Iowa George Cornelius Priester U 1910 Minneapolis, Minn. Instructor in Mathematics, University of Minnesota Ralph Clarkson Puckett U 1908 Iowa City. Ia. Manager, Interseal Inner Tire Company

U 1909

Superior of Schools, Nabua District, Bureau of Education Philippine Islands

Nabua, Ambos Camarines, P. I.

IOWA CHAPTER 253 Karl Sobieski Putnam U 1911 Fairfield, Ia Engineer with Fairfield Gas and Electric Company William Galt Raymond F 1905\*† (Rensselaer F 1895) Iowa City, Ia. Dean of College of Applied Science, State University of Iowa John Franklin Reilly F 1910 Iowa City, Ia. Assistant Professor of Mathematics, State University of Iowa Joseph Richmond Chicago, Ill. U 1910 Civil Engineer, Chicago, Burlington and Quincy Railway Edith Gertrude Rigler U 1910 Iowa City, Ia. Assistant Registrar, State University of Iowa Louise Henrietta Robbins U 1909 Ft. Collins, Col. (Mrs W W Robbins) F 1904\*+ Elbert William Rockwood Iowa City, Ia. Professor of Chemistry, State University of Iowa Ralph Eugene Root Columbia, Mo. Instructor in Mathematics, University of Missouri U 1906 Ambridge, Pa. Edward John Ruff Draftsman and Engineer, American Bridge Company Thomas Edmund Savage G 1903\* (Illinois F 1908) Urbana, Ill. Assistant Professor of Geology, University of Illinois U 1904 Temple, Tex. Charles Plume Schenck Physician, Temple Sanitarium. U 1909 Milwaukee, Wis. John Scherner Mechanical Engineer, Federal Rubber Manufacturing Company Carl Emil Seashore F 1905\* Iowa City, Ia, Professor of Psychology and Dean of Graduate College, State University of Iowa G 1904 New York City Fred Jay Seaver Director of Laboratories, New York Botanical Garden U 1909 Iowa City, Ia. Charles Mahlon Secrest Civil Engineer Hiteman, Ia. U 1906 Earl Reinholdt Seidel Mining Engineer, Wapello Mining Company U 1905 Fargo, N. D. John Austin Shaw Civil Engineer with G. W. Haggart Company Iowa City, Ia. U 1909 Ella Shimek Fellow in Botany, State University of Iowa Iowa City, Ia. Bohumil Shimek Iowa City, Ia. G1901Assistant Professor of Physics, State University of Iowa Alfred Varley Sims CF 1900 Civil Engineer

CF 1900\*

TI 1901

Professor of Mathematics, State University of Iowa

Civil Engineer, W. D. Lovell Company

Arthur George Smith

Charles Horton Smith

Iowa City, Ia.

Minneapolis, Minn.

Franklin Orion Smith Fellow in Psycho	G 1907 logy, State University of Iowa	Iowa City, Ia.
Frank Springer	G 1900*† La Paleontologist	as Vegas, N. M.
Daniel Starch Instructor in Psych	G 1906 hology, University of Wiscons	Madison, Wis.
George Walter Stewart Professor of Phy	F 1910*† (Cornell F 1900) sics, State University of Iowa	Iowa City, Ia.
Merle Rufus Stone	U 1907 Surveyor	Hawarden, Ia.
Dayton Stoner Assistant in Mus	G 1909 eum, State University of Iowa	Iowa City, Ia.
Frank Albert Stromsten Assistant Professor of An	G 1902 imal Biology, State University	Iowa City, Ia. of Iowa
Minerva Grace Swaney (Mrs Frank A Stromsten)	U 1910	Iowa City, Ia.
Arthur Lawrie Tatum Instructor in Pharmacology	G 1907 (Colorado F 1907) and Toxicology, University of	Madison, Wis. Wisconsin
Maud Estella Taylor	G 1906 Physician	Ottumwa, Ia.
David Mills Terwilliger Assistant in Electrical Enginee	U 1911 ring, Massachusetts Institute	Boston, Mass. of Technology
Abram Owen Thomas Instructor in Geo	G 1909 logy, State University of Iowa	Iowa City, Ia.
Orley Hosmer Truman Graduate Stude	U 1911 ent, State University of Iowa	Iowa City, Ia.
Granville Howard Twining Physician, M	G 1907 (Northwestern G 1906) ilwaukee Railway Hospital	Milwaukee, [Wis.
John Andrews Udden Graduate Stud	G 1906 (Chicago G 1907) lent, University of Chicago	Chicago, Ill.
Hyman Josepf Udinsky Student, Je	U 1910 P. offerson Medical College	hiladelphia, Pa.
Irma Augusta Uhde Scholar in Bota	U 1910 ny, State University of Iowa	Iowa City, Ia.
Clarence Van Epps Assistant Professor of	F 1907 Medicine, State University of	Iowa City, Ia. Iowa
Francis Maurice Van Tuyl Assistant in Geol	U 1911 ogy, State University of Iowa	Iowa City, Ia.
Frank Vasku	U 1907 Hed Clergyman	lgesville, Mont.
Andrew Anderson Veblen	CF 1900* S Retired	tillwater, Minn.
Carl Leopola von Ende Professor of Ch	F 1901 emistry, Universtly of Idaho	Moscow, Ida.
Hershey Samuel Welch Civil Engine	U 1904 er, Union Pacific Railway	th Platte, Neb.

LeRoy Dougherty Weld G 1910\* Cedar Rapids, Ia.

Professor of Physics, Coe College

Laenas Gifford Weld CF 1900\*† Iowa City, Ia.
Professor of Mathematics, State University of Iowa

Roy Titus Wells F 1904\* Boston, Mass. Electrical Engineer

John Van Etten Westfall CF 1900\* New York City
Expert Accountant, Equitable Life Insurance Company

Clarence Lester White U 1909 The Dalles, Ore.

Henry Frederick Wickham CF 1900\*† Iowa City, Ia. Professor of Entomology, State University of Iowa

Frank Alonzo Wilder F 1904\* North Holston, Va. Consulting Geologist, Southern Gypsum Company

Mabel Claire Williams G 1909 Iowa City, Ia. Assistant Professor of Psychology, State University of Iowa

Bernard Darwin Willis G 1904 Chicago, Ill. Electrical Engineer, Automatic Electric Company

John Henry Witte U 1910 Burlington, Ia. In Business

Finley Miller Witter G 1906 (Deceased 1909)

Mary Louise Woods G 1909 Prairieburg, Ia. (Mrs Levi Wilkinson)

Sherman Melville Woodward F 1905 Iowa City, Ia.
Professor of Mechanics, State University of Iowa

Archie Garfield Worthing F 1908 Cleveland, Ohio Physicist to National Electric Lamp Association

Bertram Joseph Wright U 1906 Montreal, Canada Designer Draftsman, Canadian Pacific Bridge Department

Robert Bradford Wylie F 1907\* (Chicago A 1904) Iowa City, Ia. Professor of Morphological Botany, State University of Iowa

Alice Emily Yocum U 1907 Iowa City, Ia.
Graduate Student, State University of Iowa

Frederick Charles Young U 1909 Iowa City, Ia.
Instructor in Civil Engineering, State University of Iowa

Mildred Rebecca Yule U 1906 Iowa City, Ia.
Assistant in Biology, State University of Iowa

# STANFORD CHAPTER

Leland Stanford Junior University, Palo Alto, California Charter Dated December 16, 1901 Chapter Never Formally Installed

# HISTORICAL SKETCH

Stanford Chapter of Sigma Xi was organized at the initiation of a number of resident members of the Stanford faculty holding membership from other institutions. Of this group of fourteen who became the charter members of this Chapter, ten were members of the Alpha Chapter at Cornell University. The charter was granted December 16,

1901, and the Society held its first meeting January 23, 1902.

As a matter of general policy, membership has been restricted almost entirely to graduate students who have either completed a creditable piece of research work or have otherwise given undoubted evidence of their ability to carry on original investigation. Undergraduates of senior standing are elected very rarely, so the resident active membership of the Society has never been large. The activities of the Society have been limited thus far to occasional formal lectures by prominent scientists and to the promotion of social intercourse among the members.

L. R. A.

# OFFICERS FOR 1911-12

President. Guido Hugo Marx
Vice-President. Samuel Barclay Charters, Jr.
Recording Secretary. LeRoy Abrams
Corresponding Secretary. LeRoy Abrams
Treasurer. LeRoy Abrams
Councilor. Harris Joseph Ryan

## MEMBERSHIP ROLL

James Francis Abbott A 1908\* St. Louis, Mo. Professor of Embryology and Zoology, Washington University

LeRoy Abrams G 1902\* Stanford University, Cal.
Associate Professor of Botany, Leland Stanford Junior University

Robert Edgar Allardice F 1902\*† Stanford University, Cal.
Professor of Mathematics, Leland Stanford Junior University

William Fitch Allen A 1907 (California F 1908) Minneapolis, Minn.
Instructor of Histology, University of Minnesota

Frank M Anderson A 1904\* (California G 1909) Berkeley, Cal. Geologist, Southern Pacific Railway Company

Robert Van Vleck Anderson G 1909 Washington, D. C. Assistant Geologist, United States Geological Survey

Frank Angell CF 1902\*† (Cornell F 1892) Palo Alto, Cal. Professor of Psychology, Leland Stanford Junior University

San Jose, Cal.

George Hall Ashley A 1904\*† Washington, D. C. Geologist, United States Geological Survey

Arthur Oswin Austin G 1909 Barberton, Ohio Electric and Ceramic Engineer, Ohio Insulator Company

Luther Madison Bahney F1911 Palo Alto, Cal.
Assistant Professor of Metallurgy, Leland Stanford Junior University

Samuel Jackson Barnett CF 1902\* (Cornell G 1897) Columbus, Ohio Assistant Professor of Physics, Ohio State University

George DeForest Barnett F 1909 Baltimore, Md. Student, Johns Hopkins University Medical School

William George Bateman G 1908 Tientsin, China Professor of Chemistry, Pei Yang University

Frank George Baum F 1902\* Berkeley, Cal.
Assistant Professor of Electrical Engineering, University of California

Ruby (Green) Bell G 1904 (Cornell F 1905) Ithaca, N. Y. (Mrs Albert William Smith)

Samuel Stillman Berry G 1909 Stanford University, Cal. Graduate Student, Leland Stanford Junior University

Rose (Patterson) Blakeman G 1907 (Mrs Charles Bartlett Blakeman)

Hans Frederick Blickfeldt F 1902\* Stanford University, Cal.
Associate Professor of Mathematics, Leland Stanford Junior University

George Shambaugh Bohart G 1911 Palo Alto, Cal. Graduate Student, Leland Stanford Junior University

John Casper Branner CF 1902\*† (Cornell A 1887) Stanford Vice-President, Professor of Geology [University, Cal.

Luther Burbank F 1905 Santa Rosa, Cal.
Plant Breeder

John Samuel Burcham A 1904 (Deceased 1905)

Charles Victor Burke G 1908 Stanford University, Cal. Graduate Student, Leland Stanford Junior University

William Edmund Burke U 1905 Camoguey, Cuba Assistant Chemist with Hawaiian Sugar Plantation Association

Leonas Lancelot Burlingame F 1908 Stanford University, Cal.
Assistant Professor of Botany, Leland Stanford Junior University

Clinton Sumner Burns A 1905 Kansas City, Mo.
Consulting Engineer, Burns and McDonnell

Douglas Houghton Campbell CF 1902\*† Stanford University, Cal. Professor of Botany, Leland Stanford Junior University

William Austin Cannon A 1904\* Tucson, Ariz.
Resident Investigator, Desert Laboratory, Carnegie Institution

Anten Julius Carlson G 1903\*† (Chicago F 1904) Chicago, Ill Associate Professor of Physiology, University of Chicago

Albert Edward Caswell G 1911 Lafayette, Ind.
Instructor in Physics, Purdue University

Theodore Sheffield Chapin G 1909 Washington, D. C. Junior Geologist, U. S. Geological Survey

Samuel Barclay Charters, Jr F 1906 Stanford University, Cal.
Assistant Professor of Electrical Engineering, Leland Stanford Junior
University

George Archibald Clark F 1910 Stanford University, Cal.
Academic Secretary, Leland Stanford Junior University

William Otterbein Clark G 1906 Milwaukee, Wis.
Professor of Chemistry and Geology, State Normal School

Galen Howell Clevenger G 1907 Palo Alto, Cal.
Assistant Professor of Metallurgy, Leland Stanford Junior University

George Albert Coleman G 1905 Berkeley, Cal.
Curator, University of California

Melville Thurston Cook A 1904\* Newark, Del. Plant Pathologist, Delaware Agricultural Experiment Station

John Edgar Coover A 1906 Stanford University, Cal.
Assistant in Psychology, Leland Stanford Junior University

Clement Austin Copeland CF 1902 San Francisco, Cal. Electrical Engineer, Pacific Gas and Electric Company

Edwin Bingham Copeland F 1902\*† Los Baños, P. I. Dean, College of Agriculture, University of Philippines

Rhinehart Parker Cowles A 1907\* Baltimore, Md. Associate in Biology, Johns Hopkins University

Alvin Joseph Cox G 1903\* Manila, P. 1 Chemist, United States Government Laboratories

Roderic Crandall A 1907 Rio Janeiro, Brazil
Geologist, Geological Survey of Brazil

Mary Ruhamah Cravens G 1905 Sacramento, Cal.
Instructor in Science, High School

Albert Cornelius Crawford F 1911 Palo Alto, Cal.
Professor of Pharmacology, Leland Stanford Junior University

Charles Norman Cross F 1911 Palo Alto, Cal. Instructor in Engineering, Leland Stanford Junior University

Robert John Cross G 1911 Palo Alto, Cal.
Assistant, Chemistry Department, Leland Stanford Junior University

Lawrence Edminster Cutter F 1911 Palo Alto, Cal.
Instructor in Engineering, Leland Stanford Junior University

Lewis Andrew Darling G 1904 (Cornell F 1907) Grand Rapids, Mich.
Chief Engineer and Works Manager

William Mark Davidson G 1910 San Jose, Cal.
Agent, United States Bureau of Entomology

Bradley Moore Davis A 1904\*† (Chicago CF 1903) Philadelphia, Pa. Assistant Professor of Botany, University of Pennsylvania

Mary Cynthia Dickerson F 1908† New York City Curator, American Museum of Natural History

Rennie Wilbur Doane A 1906\* Palo Alto, Cal.
Assistant Professor of Entomology, Leland Stanford Junior University

Robert William Dodd G 1904 San Francisco, Cal. Instructor in Chemistry, Cogswell Polytechnic College

Norman Eliot Dole G 1905 San Francisco, Cal. Assistant Superintendent, Western Sugar Refinery

Robert L'Amy Donald A 1905 Portland, Ore.

Contracting Engineer

Noah Fields Drake A 1904\* Stanford University, Cal. Associate Professor of Economic Geology, Leland Stanford Junior University

Elmer Reginald Drew F 1906\* (Cornell G 1903) Palo Alto, Cal. Assistant Professor of Physics, Leland Stanford Junior University

William Russell Dudley CF 1902\*† (Cornell CF 1887) Palo Alto, Cal. Emeritus Professor of Botany, Leland Stanford Junior University

William Frederick Durand F 1904\*† (Cornell F 1892) Palo Alto, Cal. Professor of Mechanical Engineering, Leland Stanford Junior University

William Rankine Eckardt F 1908 Palo Alto, Cal.
Associate Professor of Mechanical Engineering, Leland Stanford Junior

Frank Oakes Ellenwood F 1911 New York City Acting Assistant Professor, Columbia University

Cyril Frank Elwell G 1908 Palo Alto, Cal.
President, Poulson Wireless Telephone and Telegraph Company

John Charles Lounsbury Fish CF 1902\* (Cornell U 1892) Palo Alto, Cal. Professor of Railroad Engineering, Leland Stanford Junior University

Walter Kenrick Fisher G 1904\*† Palo Alto, Cal. Assistant Professor of Zoology, Leland Stanford Junior University

Fred Finley Fitzgerald G 1906 Palo Alto, Cal. Chemist, Oil Department, Southern Pacific Railway Company

David Morrill Folsom A 1907 Palo Alto, Cal. Assistant Professor of Mining, Leland Stanford Junior University

Eleanor Anna Foshay G 1910 Los Angeles, Cal.
Teacher of Science, High School

Edward Curtis Franklin F 1903\*† (Kansas F 1890) Palo Alto, Cal. Professor of Organic Chemistry, Leland Stanford Junior University

David Timmons Fulloway U 1908 Honolulu, H. I. Entomologist, United States Agricultural Station

Harry Drake Gibbs G 1901 Manila, P. I.
Chemist, United States Bureau of Science

Ruby Green G 1904 (Cornell F 1905) Ithaca, N. Y. (Mrs Albert William Smith)

Harry Lewis Haehl A 1907 Palo Alto, Cal. Civil and Mining Engineer, Leland Stanford Junior University

Elmon Lawrence Hall G 1910 Milwaukee, Ore.
Assistant Superintendent, Portland Gas Company

Walter Raleigh Hamilton A 1910 San Francisco, Cal. Geologist, Associated Oil Company

William Draper Harkins A 1905\* (Chicago G 1904) Missoula, Mont.

Professor of Chemistry, University of Montana

Harold Heath F 1902\* Palo Alto, Cal.
Professor of Zoology, Leland Stanford Junior University

Edmund Heller A 1909 Washington, D. C.
Assistant in Charge of the Roosevelt African Collections,
United States National Museum

Charles William Henderson U 1910 Denver, Col. Statistician, United States Geological Survey

Lou Henry A 1907 London, England (Mrs Herbert Clark Hoover)

Albert Christian Herre G 1905 Oakland, Cal. Vice-Principal, Fremont High School

Rose Miriam Higley G 1908 San Rafael, Cal.
Teacher, San Rafael High School

William Arthur Hillebrand F 1905 (Cornell U 1905) Corvallis, Ore.
Professor of Electrical Engineering, Oregon Agricultural College

Thomas Buck Hine G 1911 Palo Alto, Cal. Graduate Student, Leland Stanford Junior University

Herbert Clark Hoover A 1907 London, England Manager, Director and Consulting Engineer, Various Mining Companies

Lou (Henry) Hoover A 1907 London, England (Mrs Herbert Clark Hoover)

Thomas Cramer Hopkins A 1904\*† (Syracuse CF 1906) Syracuse, N. Y. Professor of Geology, Syracuse University

Leander Miller Hoskins F 1902† Palo Alto, Cal.
Professor of Applied Mathematics, Leland Stanford Junior University

Harry Baker Humphrey G 1904 Pullman, Wash. Assistant Professor of Botany, Washington State College

Shirley Hyatt G 1909 Palo Alto, Cal. Assistant in Physics, Leland Stanford Junior University

Halley D M Jollivette G 1911 Palo Alto, Cal. Graduate Student, Leland Stanford Junior University

David Starr Jordan CF 1902\*† (Cornell A 1887) Palo Alto, Cal.
President, Leland Stanford Junior University

Willis Wallace Jourdin U 1908 Hurley, N. M. Chief Engineer, Chino Copper Company

Masaki Kawara G 1908 Schenectady, N. Y. Electrician, Testing Department, General Electric Company

Vernon Lyman Kellogg CF 1902\*† (Kansas G 1890) Palo Alto, Cal. Professor of Entomology, Leland Stanford Junior University

Dexter Simpson Kimball A 1904 Ithaca, N. Y. Professor of Machine Design and Construction, Cornell University

Edwin Boyse Kimball A 1907 Piedmont, Cal.

Consulting Mining Engineer

Hugo Edmund Kramm G 1910 Ithaca, N. Y.
Instructor in Geology, Cornell University

Shinkai Inokichi Kuwana G 1902 Tokyo, Japan Entomologist, Imperial Agricultural Experiment Station

Lovell Langstroth U 1908 San Francisco, Cal.
Medical Student, Cooper Medical College

Anstruther Abercrombie Lawson F 1902 Glasgow, Scotland Instructor in Botany, University of Glasgow

Everett Parker Lesley F 1909 Palo Alto, Cal.
Assistant Professor of Mechanical Engineering, Leland Stanford Junior

James Ogier Lewis Pacific Grove, Cal.

Geologist

William Montana Mann G 1911 Cambridge, Mass.
Assistant in Entomology, Harvard University

William Albert Manning G 1902\* Palo Alto, Cal.
Assistant Professor of Mathematics, Leland Stanford Junior University

Lillien Jane Martin F 1902\* Palo Alto, Cal. Professor of Psychology, Leland Stanford Junior University

Charles David Marx CF 1902\*† (Cornell CF 1887) Palo Alto, Cal. Professor of Civil Engineering, Leland Stanford Junior University

Guido Hugo Marx CF 1902 (Cornell U 1893) Palo Alto, Cal. Professor of Mechanical Design, Leland Stanford Junior University

Louis John Mayreis G 1907 Collahuasi, Chile Geologist, Ponderosa Mining Company

James Farley McClelland F 1908 (Yale F 1910) New Haven, Conn. Professor of Mining Engineering, Yale University

Robert Emmett McDonnell A 1908 Kansas City, Mo. Consulting Engineer, Burns and McDonnell

George Francis McEwen G 1909 Urbana, Ill.
Instructor in Mathematics, University of Illinois

Ernest Alexander McGregor U 1908 Dallas, Tex. Entomologist, United States Bureau of Entomology, Southern Investigations

Richard Crittenden McGregor G 1909 Manila, P. I. Assistant to Editor, Philippine Journal of Science, Bureau of Science

James Ira William McMurphy F 1909 Palo Alto, Cal.
Instructor in Botany, Leland Stanford Junior University

John Harrison Means A 1907 London, England Consulting Engineer

Arthur Henry Myer G 1911 Pittsburgh, Pa. Fellow Industrial Research Laboratory, University of Pittsburgh

Arthur William Meyer F 1910 Palo Alto, Cal.
Professor of Human Anatomy, Leland Stanford Junior University

George Abram Miller CF 1902\* (Illinois F 1908; Cornell F 1898)
Professor of Mathematics, University of Illinois [Urbana, Ill.

John Pearce Mitchell G 1904 Palo Alto, Cal.
Assistant Professor of Chemistry, Leland Stanford Junior University

Halcott Cadwalader Moreno F 1902\* Palo Alto, Cal Associate Professor of Mathematics, Leland Stanford Junior University

Charles S Morris G 1909 Palo Alto, Cal. Instructor, Palo Alto High School

SIGMA XI 262 Harry Wheeler Morse A 1904\* Cambridge, Mass. Instructor in Physics, Harvard University **Dudley Moulton** A 1910 San Francisco, Cal. State Entomologist, Quarantine Officer G 1905 George Munteami Murgoci Bucharest, Roumania Geologist, State Lecturer in Polytechnikum Arthur Henry Myer G 1911 Pittsburgh, Pa. Fellow Industrial Research Laboratory, University of Pittsburgh Chester Naramore A 1909 Coalinga, Cal. Field Geologist, British Pacific Oil Company, Ltd. Erval Jackson Newcomer G 1911 Sacramento, Cal. Assistant, State Insectary F 1902\* John Flesher Newsom Oruro, Bolivia Consulting Mining Engineer Frederick William Nobs G 1910 Matagalpa, Nicaragua Manager Oroya Leonesa Mines Washington Henry Ochsner G 1909 Los Angeles, Cal. Consulting Geologist Pehr Hjalmar Olsson-Seffer G 1903\* (Deceased 1911) Wilfred Hudson Osgood A 1905\*+ Chicago, Ill. Assistant Curator, Field Museum of Natural History Rose Patterson G 1907 San Jose, Cal. (Mrs Charles Bartlett Blackman) F 1902\*† George James Peirce Palo Alto, Cal. Professor of Botany, Leland Stanford Junior University Cyril E Pemberton G 1911 Washington, D. C. Expert, United States Bureau of Entomology John Rothwell Pemberton G 1910 Buenos Aires, Argentina Geologist **U 1908** Basil Prescott Matehuala, S. L. P. Mexico Superintendent, Minas Dolores Anexas Albert Homer Purdue A 1907\*+ Fayetteville, Ark. Professor of Geology, University of Arkansas G 1909 Palo Alto, Cal. Josephine Dows Randall Assistant in Botany, Leland Stanford Junior University George Mann Richardson F 1902 (Deceased 1902) Robert Earl Richardson Urbana, Ill. F 1909

Assistant, Illinois State Laboratory Natural History

CF 1902\* (Cornell F 1891) Frederick John Rogers Palo Alto, Cal Associate Professor of Physics, Leland Stanford Junior University

G 1910 Crystal, Ore. Jessie Perkins Rose Private Research in Botany

Pereley Ason Ross G 1910 Palo Alto, Cal. Instructor in Physics, Leland Stanford Junior University

Charles Augustus Rouiller A 1908 Baltimore, Md. Assistant in Chemistry, Johns Hopkins University

Harris Joseph Ryan F 1905\*† (Cornell U 1887) Palo Alto, Cal. Professor of Electrical Engineering, Leland Stanford Junior University.

George Holland Sabine F 1907 (Cornell G 1904) Palo Alto, Cal.

Assistant Professor of Philosophy, Leland Stanford Junior University

Hazel Wood Severy G 1908 Pasadena, Cal. Instructor in Chemistry, Pacific College of Osteopathy

George Daniel Shafer G 1906 (Cornell G 1907) East Lansing, Mich. Research Entomologist, Michigan Agricultural College

Walter Robert Shaw A 1904\* Manila, P. I.
Assistant Professor of Botany, University of the Philippines

Solon Shedd A 1906\* Pullman, Wash. Professor of Geology, Washington State College

Ralph Harrison Sherry G 1905 (Rensselaer F 1908) Buffalo, N. Y. Metallurgist, Pierce Arrow Motor Car Company

William Henry Sloan G 1904 Palo Alto, Cal. Instructor in Chemistry, Leland Stanford Junior University

James Rollin Slonaker FC 1905 (Chicago CF 1903) Palo Alto, Cal. Assistant Professor of Physiology, Leland Stanford Junior University

James Perrin Smith F 1902\*† Palo Alto, Cal. Professor of Paleontology, Leland Stanford Junior University

Ruby Green (Bell) Smith G 1904 (Cornell F 1905) Ithaca, N. Y. (Mrs Albert William Smith)

Robert Evans Snodgrass G 1904\* Washington, D. C. Artist, Bureau of Entomology, United States Department of Agriculture

John Otterbein Snyder F 1902\* Palo Alto, Cal Assistant Professor of Zoology, Leland Stanford Junior University

Milo Herrick Spaulding G 1904 Bozeman, Mont. Assistant Professor of Zoology, Montana Agricultural College

Georgina B Spooner G 1911 Palo Alto, Cal. Graduate Student, Leland Stanford Junior University

Herbert Spencer Stark A 1907 (Deceased 1910)

Edwin Chapin Starks F 1904\* Palo Alto, Cal.
Assistant Professor of Zoology, Leland Stanford Junior University

Nettie Maria Stevens A 1905\* Bryn Mawr, Pa.
Associate in Experimental Morphology, Bryn Mawr College

John Maxon Stillman F 1902\*† Palo Alto, Cal.
Professor of Chemistry, Leland Stanford Junior University

Susan Gabriella Stokes A 1910 Orange, Cal.
Teacher, Orange Union High School

Thomas Andrew Storey F 1902\* New York City Professor of Physical Training, College of the City of New York

Robert Eckles Swain F 1903\* Palo Alto, Cal.
Professor of Chemistry, Leland Stanford Junior University

Walter Cox Taber G 1910 Washington, D. C. Assistant Chemist, Bureau of Chemistry, Department of Agriculture

Arthur Fay Taggart G 1910 Oruro, Bolivia Mining Engineer, Assistant to J. F. Newsom

Charles Henry Thompson G 1903\* St. Louis, Mo. Botanist, Missouri Botanical Gardens

William Francis Thompson G 1910 Palo Alto, Cal. Graduate Student, Leland Stanford Junior University

Sidney Dean Townley F 1907 Palo Alto, Cal.
Associate Professor of Applied Mathematics, Leland Stanford Junior

Gerald Ashley Waring A 1910 Rio de Janeiro, Brazil Hydrographic Chief, Inspectoria de Obras Contra a Leccas

Frank Walter Weymouth G 1909 Palo Alto, Cal. Acting Instructor in Physiology, Leland Stanford Junior University

William Franklin Wight A 1910 Washington, D. C. First Assistant Botanist, United States Department of Agriculture

Francis Xavier Williams G 1908 (Kansas F 1909) Lawrence, Kan. Assistant Curator in Entomology, University of Kansas

Horace Elbert Williams A 1907 Rio de Janeiro, Brazil Geologist, Geological Survey of Brazil

Charles Benjamin Wing CF 1902 (Cornell CG 1887) Palo Alto, Cal.
Professor of Engineering, Leland Stanford Junior University

William Quinby Wright A 1907 Sausalito, Cal. Chief Engineer, Northern California Mining Company

Stewart Woodford Young F 1902\* Palo Alto, Cal. Professor of Physical Chemistry, Leland Stanford Junior University

Hans Zinsser F 1911 Stanford University, Cal. Professor of Bacteriology, Leland Stanford Junior University

# CALIFORNIA CHAPTER

University of California, Berkeley, California Charter Dated January 1902 Chapter Installed February 19, 1902

## HISTORICAL SKETCH

Early in the fall of 1901 Professor W. A. Setchell called together the members of Sigma Xi known to be present on the faculty of the University of California, to discuss the advisability of organizing a Chapter of Sigma Xi at this institution. They were Professors W. A. Setchell and W. C. Morgan of the Yale Chapter together with Professors C. L. Cory, A. R. Ward, A. S. Eakle, W. L. Jepson, and J. N. LeConte, of the Cornell Chapter.

After a discussion, in which the sentiment was unanimous in favor of asking for a charter for a local Chapter, a committee consisting of Professors Setchell and Eakle was appointed to petition for a charter

and to draw up a set of by-laws for the Chapter.

The special committee appointed at this meeting formally presented a petition to the Council for a charter, which was duly passed upon and granted, and the first regular business meeting of the California Chapter of the Society of Sigma Xi was called to order on February 19, 1902, by Professor Setchell.

The committee appointed to petition for a charter and to draw up a set of by-laws for the Chapter announced that a charter had been granted, and they presented a set of by-laws, which were adopted, after which an

election of officers was held.

Five meetings were held before the close of the college year, mostly devoted to the transaction of business and the election and initiation of new members from the student body, as well as from the faculty. During the seven years of the Chapter's existence since this time an average of eight meetings a year have been held. Some of these meetings have been for the transaction of business only, but usually papers or addresses have been presented on these occasions, sometimes of a popular nature and open to the public, but more often the meetings have been restricted to the members of the Chapter.

In the fall of 1903 the Chapter decided to abandon the method of election of new members by general vote of the Chapter, and substituted for it an Electoral Council consisting of the President and Recording Secretary and seven other members, who are elected annually. After investigation of any candidates nominated for membership in the Society, the

Council elects such a number of them as they consider worthy.

A joint meeting of the Stanford and the California Chapters was held September 23, 1905, with a banquet at the California Hotel, San Francisco, in honor of Professor S. W. Williston, Past President of the National Society. Thirty-three members of the California Chapter and sixteen members of the Stanford Chapter were present. Toasts were responded to by President Jordan and Professors Williston, Wing, Torrey,

and Stringham. Professor Miller of Stanford presided.

The first of a proposed series of annual joint meetings of the Stanford and California Chapters of Sigma Xi was to have been held on Saturday, April 21, 1906, at the California Hotel, San Francisco. On account of the fire of April 18, the meeting was indefinitely postponed, and no actual joint meetings have since been held, although the plan is still adhered to.

In view of the fact that the local authorities were doing nothing to combat the spread of bubonic plague through the town of Berkeley, the local Chapter of Sigma Xi actively interested itself in stirring up sentiment to compel the adoption of preventive measures. A special committee was appointed to investigate the conditions actually existing in the region about San Francisco Bay and to report to the Society. They presented an exhaustive review of the situation and made recommendations for its betterment. Inasmuch as public funds were not available for the purpose of sanitary measures, the Chapter started a subscription among its own membership and in a few minutes raised three hundred and twenty-five dollars. This was the beginning of a public subscription for sanitary work in the town of Berkeley, which afterwards amounted to more than ten thousand dollars.

The report of the investigating committee was printed for local distribution, and has since been sent upon request pretty widely throughout the country, to the various health officers. Various clubs and civic organizations throughout the town were organized for the work, public meetings were held, and a live interest in the situation was stirred up throughout the community, with the result that the danger seems to have

been completely averted.

In an academic way also the Chapter is taking a very keen interest in local conditions, and after thorough investigation has made recommendations on one or two occasions which have been adopted and carried out by proper authorities in the University.

W. C. M.

# PUBLICATIONS

Report, in part, of the Committee of the Society of the Sigma Xi on the Plague Conditions in Berkeley, San Francisco, and Oakland. Published in Eradicating Plague from San Francisco Report of the Citizens' Health Committee and an Account of its Work. March 31, 1909.

## OFFICERS FOR 1911-12

President	MELLEN W. HASKELL
Vice-President	RULIFF STEPHEN HOLWAY
Recording Secretary	
Corresponding Secretary	EDMOND O'NEILL
Treasurer	Joseph Nisbet LeConte
	JOHN CAMPBELL MERRIAM

## MEMBERSHIP ROLL

Everette Eugene Adams U 1904 Chicago, Ill.
Civil Engineer with John D. Isaacs

Edwin Larned Adams U 1908 Berkeley, Cal.
Civil Engineer, Associated Transit Company

Edward von Adelung G 1910 Oakland, Cal.
Professor of Medicine, Oakland College of Medicine and Surgery

Alex Adler U 1902

(Deceased 1905)

Robert Grant Aitken F 1907\*† Mt. Hamilton, Cal. Astronomer, Lick Observatory

Sebastian Albrecht G 1904 Córdoba, Argentina First Astronomer, Observatorio Nacional

William Fitch Allen F 1908 (Stanford A 1907) Minneapolis, Minn. Instructor in Histology, University of Minnesota

Arthur Carl Alvarez U 1908 Berkeley, Cal. Instructor in Civil Engineering, University of California

Frank M Anderson G 1909\* (Stanford A 1904) Berkeley, Cal. Geologist, Southern Pacific Railway Company

Leroy Anderson F 1908\* (Cornell U 1902) Berkeley, Cal.
Professor of Agriculture, University of California

John Wesley Atkinson G 1910 Betteravia, Cal.
Manager, Union Sugar Company

Ernest Brown Babcock G 1906 Berkeley, Cal.
Assistant Professor of Agricultural Education, University of California

Harold Delos Babcock F 1908 Pasadena, Cal.
Physicist, Mt. Wilson Solar Observatory

Benjamin Allen Baird G 1910 San Francisco, Cal.
Assistant Engineer, City and County of San Francisco

Frank Baird G 1910 Berkeley, Cal.
Metallurgist

Samuel Ellsworth Bailey U 1909 San Francisco, Cal. Medical Student, University of California

Ned Duncan Baker U 1909 Sacramento, Cal. Inspector, California State Board of Health

Frank Watts Bancroft F 1902\* New York City Associate, Rockefeller Institute for Medical Research

George Henry Bardsley G 1911 Berkeley, Cal. Fellow in Physics, University of California

Herbert Aubrey Barre G 1910 New York City Engineer, Electric Operating Construction Company

Samuel Alfred Barrett G 1910 Milwaukee, Wis. Curator of Anthropology, Public Museum of Milwaukee

David Prescott Barrows F 1910 Berkeley, Cal.
Professor of Education, University of California

James Milne Barry U 1910 San Francisco, Cal. U 1902 Los Angeles, Cal. Edgar Baruch Consulting Chemical Engineer **Bennett Routh Bates** G 1908 Los Angeles, Cal. Miner Roger Lee Beals G 1910 Rosini, Sinaloa, Mexico . Metallurgist Scott Ingalls Beaser G 1910 Berkeley, Cal. Construction Engineer, Kern Trading Oil Company Henry Ward Beecher U 1906 Seattle, Wash. Engineer, Charles C. Moore and Company Benjamin Abram Bernstein F 1909 Berkeley, Cal. Instructor in Mathematics, University of California Lynne John Bevan U 1905 Berkeley, Cal. Miner Henry Chalmers Biddle F 1903\*† Berkeley, Cal. Assistant Professor of Chemistry, University of California Adolf Frederick Bittner U 1907 Portland, Ore. Head, Department of Mathematics, Jefferson High School Milton Julius Blackman U 1904 San Francisco, Cal. The Blackman Drug Company Edwin Mortimer Blake F 1902\* (Columbia G 1900) New York City Walter Charles Blasdale F 1902\* Berkeley, Cal. Associate Professor of Chemistry, University of California Howard Hamilton Bliss U 1909 San Francisco, Cal. Head of Physics Department, Cogswell Polytechnical College George Deroy Blood G 1910 Park City, Utah Superintendent, Silver King Coalition Mines Company Frank Fulton Bloomer U 1908 Los Angeles, Cal. Mechanical Engineer Alfred August Blowski U 1910 Alameda, Cal. Chief Chemist, Alameda Sugar Company Sanford Blum G 1910 San Francisco, Cal. Physician, Instructor in Pediatrics, University Medical School John Freeman Boyard U 1903 Eugene, Ore. Professor of Zoology, University of Oregon Harold Cornelius Bradley G 1910 Madison, Wis. Professor of Chemistry, University of Wisconsin James Chester Bradley G 1907\* (Cornell U 1906) Ithaca, N. Y. Assistant Professor of Entomology, Cornell University Phillip Reed Bradley G 1910 New York City Mining Engineer Townshend Smith Brandegee F 1906 Berkeley, Cal. Curator of Herbarium, University of California Simpson Leroy Brown G 1909 Vincennes, Ind.

Warner Brown Berkeley, Cal. G 1910 Instructor in Psychology, University of California Spencer Cochrane Browne, Jr U 1906 Oakland, Cal. Mining Engineer Berkeley, Cal. Harold Child Bryant G 1910 Fish and Game Commission Research Fellow, University of California Alexander Sterling Bunnell U 1907 San Francisco, Cal. Physician, Instructor in Surgery, University Medical School Theodore Crété Burnett F 1908 Berkeley, Cal. Instructor in Physiology, University of California Herbert Alexander Burns G 1903 Oakland, Cal. Chemical Engineer, Western Precipitation Company John Albert Burgess U 1906 Wonder, Nev. Superintendent, Nevada Wonder Mining Company George Kimball Burgess F 1902\*† Washington, D. C. Associate Physicist, U. S. Bureau of Standards Charles Butters G 1910 San Francisco, Cal. Metallurgist John Richard Cahili U 1905 San Francisco, Cal. Consulting Engineer Frank Cathcart Calkins U 1902\* Washington, D. C. Assistant Geologist, U. S. Geological Survey William Wallace Campbell F1902\*† Mt. Hamilton, Cal. Director of Lick Observatory, University of California F 1906 (Minnesota U 1900) San Francisco, Henry Benjamin Carey Physician and Surgeon [Cal. Alfred Joseph Champreux F 1904 San Francisco, Cal. Pacific Telegraph and Telephone Company Albert Edward Chandler F 1910 San Francisco, Cal. Assistant Professor of Institutions of Irrigation Marvin Lee Chappel G 1910 Point Richmond, Cal. Chemist Chin tao Chen G 1910 New Haven, Conn. Student, Yale University Victor King Chesnut G 1910 Bozeman, Mont. Chemist. Samuel Benedict Christy CF 1910\*† Berkeley, Cal. Professor of Mining, University of California Bruce Lawrence Clark G 1910 Berkeley, Cal. Instructor in Paleontology, University of California Frank Cuthbert Clarke U 1911 Berkeley, Cal. Fellow in University of California Warren Thompson Clarke F 1906 Berkeley, Cal. Assistant Professor of Horticulture, University of California Ernest Winton Cleary G 1910 San Francisco, Cal.

U 1902

Mining Engineer

San Francisco, Cal.

James Sollitt Colbath

~		
John Henry Collier Superinte	G 1910 endent, Lassen Mining Com	Haydenhill, Cal.
Clinton C Conrad	U 1910	Berkeley, Cal.
Sidney Bruce Cooper	U 1910	Schenectady, N. Y.
William Forest Copeland	U 1903 Mining Engineer	Alameda, Cal.
Harvey Wiley Corbett	G 1910 Architect	New York City
Clarence Linus Cory Professor of Electr	CF 1901*† ical Engineering, Universi	Berkeley, Cal. ty of California
Frederick Gardner Cottrel Assistant Professor of	F 1903* Physical Chemistry, Unive	Berkeley, Cal. ersity of California
John Walker Craig	G 1910 Mining Engineer	Bulawayo, Rhodesia
Russel Tracy Crawford Associate Professo	G 1902* r of Astronomy, Universit	Berkeley, Cal. y of California
Fred Wilbur Crocker Vice-President, Men	U 1904 cerian Bridge and Constr	Los Angeles, Cal. uction Company
Albert Scott Crossfield Ch	U 1910 emist, Bureau of Mines	Pittsburgh, Pa.
David Raymond Curtiss Professor of I	G 1910 Mathmatics, Northwestern	Evanston, Ill. University
Ralph Hamilton Curtiss Junior Professor	G 1902* (Michigan G r of Astronomy, University	1907) Ann Arbor, Mich. of Michigan
Emil Frank Cykler	U 1911 Civil Engineering	San Francisco, Cal.
Lyman Luther Daines Fellov	G 1911 v in University of Californ	Berkeley, Cal.
Arnold Abraham D'Ancona Dean of College	a G 1910 e of Medicine, University o	San Francisco, Cal. of California
John Franklin Daniel Instructor i	F 1910 n Zoology, University of C	Berkeley, Cal. alifornia
	C 1901*† or of Geography, University	Berkeley, Cal. y of California
James Grant Davidson Professor of	G 1905 Physics, McGill Universit	Vancouver, B. C. y College
Thomas Andrew Davidson Fellow in Electric	G 1911 cal Engineering, University	Berkeley, Cal. y of California
Robert Geiser Davies Assistant in Minera	G 1911 logy and Geology, Univer	Berkeley, Cal. sity of California
Benjamin Marshall Davis Professor of Ag	G 1903* cricultural Education, Mian	Oxford, Ohio ni University
Donald Walton Davis Assistant	U 1906 in Zoology, Harvard Univ	Cambridge, Mass.
Elmer Fred Davis	U 1910	Berkeley, Cal.

Berkeley, Cal.

Harvey Lewis Davis U 1909 Mesa Grande, Cal. Clarence Edward Day U 1905 San Francisco, Cal. Office Assistant, Southern Pacific Railroad William Peyton Day U 1905 San Francisco, Cal. Engineer with John B. Leonard Beloit, Wis. Hiram Delos Densmore G 1906 Professor of Botany, Beloit College Charles Derleth, Jr F 1904 Berkeley, Cal. Professor of Engineering, University of California U 1906 San Francisco, Cal. Henry Dirvendorf Dewell Engineer, Galloway and Markwart, Construction Engineers U 1904 Oroville, Cal. Fred Austin Dick Western Pacific Railroad John Leslie Dobbins U 1907 Ely. Nev. Civil Engineer, Nevada Consolidated Copper Mine TI 1910 Harrie Carlton Dod San Francisco, Cal. Charles Thomasson Dozier  $G_{1903}$ Berkeley, Cal. Mining Engineer G 1910 Elmer Reginald Drew Palo Alto, Cal. Professor of Physics, Leland Stanford Junior University Arthur Eilbert Drucker Taracol, Korea Metallurgical Engineer G 1910 San Francisco, Cal. Ernest Ingalls Dyer Chief Engineer, Union Oil Company of California Arthur Starr Eakle CF 1901\*† (Cornell U 1892) Assistant Professor of Mineralogy, University of California Stanley Alexander Easton G 1910 Kellogg, Ida. Manager, Bunker Hill and Sullivan Mining and Concentrating Company U 1910 Adolphus James Eddy Berkeley, Cal. Instructor in Engineering, University of California Hiram Wheeler Edwards U 1908 Berkeley, Cal. Assistant in Physics, University of California F 1906 (Minnesota U 1905) Sturla Einarsson Berkeley, Cal. Instructor in Astronomy, University of California Leo Eloesser, Jr San Francisco, Cal. G 1910 Physician, Assistant in Surgery, University of California Thomas Sidney Elston F 1904 Berkeley, Cal. Instructor in Physics, University of California Saul Epsteen G 1910 (Chicago CF 1903) Boulder, Col. Professor of Mathematics, University of Colorado G 1910 (Washington F 1911) St. Louis, Mo. Joseph Erlanger Professor of Physiology, Washington University Calvin Olin Esterly U 1902 Los Angeles, Cal. Professor of Biology, Occidental College

U 1902

Associate Professor of Irrigation, University of California

Bernard Alfred Etcheverry

Herbert McLean Evans Physician, Jo	U 1904 ohns Hopkins Medical Schoo	Baltimore, Md.
Ernest Ellsworth Everett	U 1902 Civil Engineer	Ventura, Cal.
Harold Wellman Fairbanks Geo	G 1910 grapher and Author	Berkeley, Cal.
John Randolph Farrell	G 1910 Mining Engineer	San Francisco, Cal.
Edward Arthur Fath Assistant	G 1907 Mt. Wilson Observatory	Pasadena, Cal.
Dozier Finley Assistant Superin	U 1902 tendent, Paraffine Paint Co	Emeryville, Cal. mpany
William Lovell Finley	G 1910 ecturer and Author	Berkeley, Cal.
Martin Henry Fischer Professor of Phy	F 1903*† vsiology, University of Cinc	Cincinnati, Ohio innati
Ernest Flammer West	U 1903 ern Electric Company	Chicago, Ill.
Joseph Marshall Flint Professor o	F 1902*† of Surgery, Yale University	New Haven, Conn.
Donald Eastman Fogg Superintend	U 1905 ent, Peyton Chemical Works	Martinez, Cal.
Charles Noyes Forbes Curator of	U 1908 Herbarium, Bishop Museum	Honolulu, H. I.
Samuel Fortier U. S. Department of	F 1904* of Agriculture, Division of Ir	Washington, D. C. rigation
Ebert Arnold Foster	G 1910 Mining Engineer	Spokane, Wash.
Herbert Bismarck Foster Sanitary Eng	U 1907 ineer, University of Californ	Berkeley, Cal.
Guy Owen Fraser Junior Engine	U 1907 er, Isthmian Canal Commiss	Culebra, C. Z.
Eustace Leopold Furlong Assistant in Pale	F 1906 ontology, University of Cali	Berkeley, Cal.
Nathaniel Lyon Gardner Poly	G 1905 rtechnic High School	Los Angeles, Cal.
Frederic Parker Gay Professor of Pa	F 1910 thology, University of Califo	Berkeley, Cal.
Earl Graham Gaylord Field Geolog	U 1911 lst, Southern Pacific Compan	San Francisco, Cal.
George Clark Gester	U 1909	Berkeley, Cal.
Pliny Earle Goddard Anthropologist, Am	F 1903*† erican Museum of Natural	New York City History
Thomas Harper Goodspeed Assistant in E	G 1911 sotany, University of Californ	Berkeley, Cal.
Ralph Amos Gould Chemist,	A 1907* U. S. Bureau of Chemistry	San Francisco, Cal.

Alexander Edward Graham G 1907 Berkeley, Cal. Inspector, U. S. Bureau of Animal Industry F 1905 Washington, D. C. Arthur Wellington Gray Assistant Physicist, U. S. Bureau of Standards William Beckhout Greeley G 1910 ' Missoula, Mont. Forester Joseph Grinnell F 1909 Berkeley, Cal. Director of Museum of Vertebrate Zoology, University of California F 1902\* (Cornell G 1902) Berkeley, Cal. Associate Professor of Physics, University of California Harold Morris Hall Los Angeles, Cal. U 1907 Sales Engineer, General Electric Company Harvey Monroe Hall G 1902\* Berkeley, Cal. Assistant Professor of Botany, University of California F 1902\* New Orleans, La. **Irving Hardesty** Professor of Anatomy, Tulane University F 1905 (Cornell U 1904) Berkeley, Cal. Clarence Melvin Haring Assistant Professor of Veterinary Science, University of California U 1910 Vina, Cal. Frank Mason Harris Joseph Alexander Hartley U 1907 Los Angeles, Cal. Secretary, The Braun Corporation U 1905 Syracuse, N. Y. Frederick Addison Harvey Assistant Professor of Physics, Syracuse University Richard Warren Harvey F 1909 Berkeley, Cal. Instructor in Anatomy, University of California F 1902\*† Berkeley, Cal. Mellen Woodman Haskell Professor of Mathematics, University of California G 1910 London, England Henry Hay Mining Engineer G 1910 San Francisco, Cal. Carl Edward Heise F 1908 (Ohio G 1906) Berkeley, Cal. William Brodbeck Herms Assistant Professor of Entomology, University of California U 1907 Berkeley, Cal. Henry Nathan Herrick Assistant in Mining, University of California Frederic Charles Herrmann G 1910 Calexico, Cal. Engineer, California Development Company Ernest Albion Hersam F 1902\* Berkelev. Cal. Associate Professor of Metallurgy, University of California Frederick Godfray Hesse CF 1901 (Deceased) Berkeley, Cal. CF 1901\*† Eugene Waldemar Hilgard Emeritus Professor of Agriculture, University of California F 1903 Chicago, Ill. Bruce Vickroy Hill Bell Telephone Company Ithaca, N. Y. G 1910 (Cornell G 1903) Clarence Floyd Hirshfeld

Professor of Gas Power Engineering, Cornell University

# SIGMA XI

Carl Leslie Hoag	G 1910 University Hospital	San Francisco, Cal.
Fred Miller Hofer	G 1911 Mining Engineer	Kellogg, Ida.
George Jacob Hoffman	G 1910 Mining Engineer	Oakland, Cal.
Karl Frederick Hoffman	G 1910 Johanne Mining Engineer	sburg, South Africa
Ross Browne Hoffman	G 1910 Consulting Engineer	Oakland, Cal.
Samuel Jackson Holmes Assistant Profes	G 1909 sor of Zoology, University of	Madison, Wis. Wisconsin
Ruliff Stephen Holway Assistant Profess	F 1907 for of Geography, University o	Berkeley, Cal. f California
Henry Horn	G 1891 Physician	San Francisco, Cal.
William T Horne Assistant Professor	F 1911 of Plant Pathology, Universit	Berkeley, Cal. y of California
Walter Leroy Huber	U 1905 gineer, U. S. Forest Service	San Francisco, Cal.
Loren Edward Hunt Eng	F 1907 ineer, City Engineer's Office	San Francisco, Cal.
Dwight Brunell Huntley	G 1910 Mining Engineer	Oakland, Cal.
Charles Gilman Hyde Professor of	F 1906 Engineering, University of Cal	Berkeley, Cal.
Eugene Law Ickes	U 1909 Mining Engineer	Los Angeles, Cal.
Samuel Irving Mana	G 1910 ger, Paraffine Paint Company	Berkeley, Cal.
Abraham Wendell Jackson	G 1910	New York City
Gaskell Samuel Jacobs	U 1909	San Francisco, Cal.
	eer, J. G. White and Company	
Myer Edward Jaffa Professor of	F 1906† Nutrition, University of Cali	Berkeley, Cal. fornia
Willis Linn Jepson Associate Profe	CF 1901* (Cornell G 189 ssor of Botany, University of (	5) Berkeley, Cal. California
Frank Edward Johnson	G 1910 in Soils, University of Califo	Berkeley, Cal.
Fred Lyle Johnston	U 1902 City Engineer	Santa Barbara, Cal.
Harry James Kesner Instructor in	F 1910 Engineering, University of Ca	Berkeley, Cal. lifornia
Alson Raphael Kilgore Studer	U 1909 nt at Harvard Medical School	Boston, Mass.
Eugene Sterling Kilgore Medical E	G 1910 examiner, University of Califor	Berkeley, Cal.

Pasadena, Cal. Arthur Scott King G 1902 Director of Laboratory, Mt. Wilson Observatory Robert Allen Kinzie G 1910 Alaska Superintendent, Treadwell Mine Tucson, Ariz. Frank Louis Kleeberger U 1908 Instructor in Chemistry, University of Arizona Adolph Knopf U 1904 Washington, D. C. Geologist, U. S. Geological Survey Charles Atwood Kofoid F 1902\*† Berkeley, Cal. Professor of Zoology, University of California F 1902 Berkeley, Cal. Herman Kower Associate Professor of Drawing, University of California Charles August Kraus G 1902 Boston, Mass. Research Assistant, Massachusetts Institute of Technology Walter Carl Krenz U 1908 (Deceased 1910) F 1903\*† Alfred Louis Kroeber Berkeley, Cal. Assistant Professor of Anthropology, University of California F 1909 Charles Kuschke Berkeley, Cal. Instructor in Mathematics, University of California Arthur Lachman G 1910 San Francisco, Cal. Merchant Fred Laist G 1910 Anaconda, Mont. Chemist Cornelius B Lakenan G 1910 Ely, Nev. General Manager, Nevada Consolidated Copper Company Herbert Oliver Lang G 1910 Oakland, Cal. Mining Engineer Esper Signius Larsen, Jr U 1906 Washington, D. C. Assistant Petrographer, U. S. Geological Survey Anstruther Abercrombie Lawson G 1910 Edinburgh, Scotland Botanist Andrew Cowper Lawson CF 1908\*† Berkeley, Cal. Professor of Geology, University of California CF 1901 (Cornell G 1892) Joseph Nisbet LeConte Berkeley, Cal. Associate Professor of Engineering, University of California F 1903\* (Nebraska, G 1899) Derick Norman Lehmer Berkeley, Cal. Associate Professor of Mathematics, University of California Felix Lengfeld G 1910 San Francisco, Cal. Armin Otto Leuschner CF 1901\*† Berkeley, Cal. Professor of Astronomy, University of California Exum Percival Lewis F 1902\* Berkeley, Cal. Professor of Physics, University of California William Henry Linney G 1910 Spokane, Wash. Mining Engineer

G 1909 Charles Bernard Lipman Berkeley, Cal. Assistant Professor of Soils, University of California Walter Colton Little U 1911 San Francisco, Cal. Civil Engineering F 1903\*† New York City Jacques Loeb Member, Rockefeller Institute for Medical Research Maurice Ennis Lombardi G 1910 Berkeley, Cal. Superintendent of Construction, Kern Trading Oil Company Berkeley, Cal. Joseph Abraham Long F 1908 Instructor in Zoology, University of California F 1906\* George Davis Louderback Berkeley, Cal. Associate Professor of Geology, University of California F 1904\* Robert Hills Loughridge Berkeley, Cal. Emeritus Professor of Chemistry, University of California Thomas Calvin MacKay F 1905\* Socorro, N. M. . Professor of Physics, New Mexico State School of Mines G 1904\* Ukiah, Cal. James Davis Maddrill Astronomer in Charge, International Latitude Observatory William Henry Markley U 1906 Turlock, Cal. Farmer Arthur Hermann Markwart G 1904 San Francisco, Cal. Civil Engineer, Galloway and Markwart Samuel Steen Maxwell F 1906\* Berkeley, Cal. Associate Professor of Physiology, University of California Alexander George McAdie A 1907\*† San Francisco, Cal. Professor of Meteorology, U. S. Weather Bureau F 1904\* John Bruce McCallum (Deceased 1906) Carl Howard McCharles U 1909 Berkeley, Cal. Instructor in Chemistry, University of California William Clyde McDonald San Francisco, Cal. Superintendent, Warren Brothers Company F 1903\*† Elwood Mead Melbourne, Australia Chief of Victoria Water Commission William Wallace Mein Johannesburg, South Africa Consulting Engineer Abraham Louis Menzin U 1907 San Francisco, Cal. Engineer, Tracy Engineering Company John Campbell Merriam F 1902\*† Berkeley, Cal. Associate Professor of Paleontology, University of California Charles Washington Merrill San Francisco, Cal. G 1910 Metallurgist William Ferdinand Meyer G 1908 Berkeley, Cal. Instructor in Astronomy, University of California Ellis Lercy Michael G 1908 La Jolla, Cal. Naturalist, Marine Biological Station

CALIFO	IKNIA CHAPIER	211
Irving Miller Instructor in Ma	G 1910 thematics, California	Los Angeles, Cal. School
Loye Holmes Miller Professor of Biology, Head of	G 1902 Science Department,	Los Angeles, Cal. State Normal School
Ralph Smith Minor Associate Professor of	F 1904* f Physics, University	Berkeley, Cal. of California
Ralph Thomas Mishler Mining Engineer	U 1905 r, Antimony Trust C	Mexico dompany
Herbert Charles Moffit	G 1910 Physician	San Francisco, Cal.
Robert Orton Moody Assistant Professor of		1901) Berkeley, Cal. of California
Wilber Ladde Moody	U 1911 Geologist	San Francisco, Cal.
Arthur Russell Moore Assistant Professor of	F 1911 Physiology, Universit	Berkeley, Cal. y of California
Fremont Morse	G 1910	Berkeley, Cal.
Fred Wellington Morse	G 1910 Physician	Oakland, Cal.
James Daniel Mortimer	G 1910 Electrician	New York City
William Conger Morgan Assistant Professor of	CF 1901*† (Yale U 1 Chemistry, Universit	896) Berkeley, Cal. y of California
Sanford Alexander Moss Mechanical Engineer	G 1910 General Electric C	West Lynn, Mass.
William Warner Mott	U 1905	Berkeley, Cal.
Albert Henry Mowbray Actuary, North	U 1904 Carolina Insurance (	Raleigh, N. C.
Charles Harper Munro	G 1910 Ining Engineer	San Francisco, Cal.
Arthur Charles Nahl General Manage	G 1910 r, Progreso Mining (	Triunfo, Baja Cal., Mex. Company
Nels Christian Nelson Assistant Curator, An	G 1908 nerican Museum of N	New York City atural History
Joseph Newfield Dr	U 1902 ug Manufacturer	San Francisco, Cal.
Burt Leroy Newkirk Assistant Professor of M		G 1898) Minneapolis, ty of Minnesota [Minn.
John Carroll Nichols	G 1910	Benoni, Transvaal
Maurice Barstow Nichols Teacher	G 1908 of Botany, High Scho	Oakland, Cal.
Charles Albert Noble Associate Professor of 2	F 1902* Mathematics, Univers	Berkeley, Cal. sity of California
Grover Chester Noble Assistant Professor of	U 1902 Engineering, Univers	Berkeley, Cal. ity of California

Robert Stewart Norris Cher	G 1910 nist, Sugar Planters' Association	Honolulu, H. I.
Perley Gilman Nutting Phys	G 1910 sicist, U. S. Bureau of Standards	Washington, D. C.
Edwin Letts Oliver	G 1910 Metallurgist	Grass Valley, Cal.
Ernest Warner Oliver	G 1910 Teacher, High School	Los Angeles, Cal.
Edmond O'Neill Professor	CF 1903*† of Chemistry, University of Cali	Berkeley, Cal. fornia
Harry Jonas Oser	U 1908 Engineer, Oser Brothers	San Francisco, Cal.
William Lincoln Oser	U 1909 Engineer, Oser Brothers	Berkeley, Cal.
Vance Craigmiles Osmon	t G 1903 Mining Engineer	San Francisco, Cal.
Winthrop John Vanleuver Assistant P	n Osterhout CF 1902* rofessor of Botany, Harvard Uni	Cambridge, Mass.
Karl Wolfgang Ostwald Priv	G 1906 vat Docent, University of Berlin	Berlin, Germany
Robert Wallace Pack Assistan	U 1908 at Geologist, U. S. Geological Sur	Washington, D. C. vey
Charles Palache Assistant Pro	A 1907* fessor of Mineralogy, Harvard (	Cambridge, Mass. University
Harold King Palmer Junior En	G 1902* gineer, U. S. Indian Irrigation S	Los Angeles, Cal. ervice
Theodore Sherman Palme Assista	er G 1910 ant Chief, U.S. Biological Surv	Washington, D. C.
George Cooper Pardee	G 1910 Oculist	Oakland, Cal.
William Bell Parker	U 1911 Entomologist	Berkeley, Cal.
Louis Alexander Parsons Profess	F 1905* or of Physics, Pennsylvania Coll	Gettysburg, Pa.
Vyacheslav Petrovsky Assistant	G 1911 in Physics, University of Califo	Berkeley, Cal.
William Charles Peyton	G 1911 Chemist	San Francisco, Cal.
Robert Dickson Pike	U 1907 C. W. Pike Company	Los Angeles, Cal.
Juan de la Cruz Posada	G 1910	Medellin, Colombia
Frederic Ward Putnam Professor Eme	F 1903*† ritus of Anthropology, Harvard	Cambridge, Mass.
Thomas Milton Putnam	F 1904* sor of Mathematics, University of	Berkeley, Cal.
Henry Josef Quayle Assistant Profes	F 1911 sor of Entomology, University	Berkeley, Cal. of California

279 Thomas Wells Ransom G 1910 San Francisco, Cal. Consulting Engineer Frederick Leslie Ransome A 1906\*† Washington, D. C. Geologist, U. S. Geological Survey Walter Harris Ratcliff U 1903 Berkeley, Cal. Architect, Ratcliff and Jacobs William James Raymond F 1905\* Berkeley, Cal. Associate Professor of Physics, University of California William Henry Rees G 1910 Alvarado, Cal. Chemist F 1909 Herman White Reynolds Berkeley, Cal. Associate Professor of Engineering, University of California Charles Pierce Richmond U 1902 Pomona, Cal. Mining Engineer Wallace Clifford Riddell U 1911 Berkeley, Cal. Chemist F 1902\*† Willard Bradley Rising (Deceased 1910) William Emerson Ritter CF 1901\*† La Jolla, Cal. Director, Marine Biological Station G 1910 San Francisco, Cal. **Edward Austin Rix** President, Rix Compressed Air and Drill Company G 1910 **Emmet Rixford** San Francisco, Cal. Surgeon Oswald Hope Robertson U 1910 Oakland, Cal. Thorburn Brailsford Robertson F 1906 Berkeley, Cal. Associate Professor of Chemistry, University of California John Wooster Robertson G 1910 Livermore, Cal. Physician, Owner of Livermore Sanitarium G 1909 Wendell Prescott Roop Berkeley, Cal. Assistant in Physics, University of California Frank Elmore Ross G 1910 Gaithersburg, Md. Astronomer, Internatonal Geodetic Association U 1905 Casapalco, Peru Herbert William Ross Metallurgist, Backus and Johnston Company Glanville Yeisley Rusk F 1911 Berkeley, Cal. Assistant Professor of Pathology, University of California Kurume, Japan Yasudiro Sakac U 1904 Mechanical Engineer Joseph A Sampson U 1910 San Francisco, Cal. F 1902 (Cornell G 1902) San Francisco, Cal. Augustus Valentine Saph Civil Engineer with John Leonard Berkeley, Cal. Wilbur Augustus Sawyer F 1911

Director, State Hygienic Laboratory

Mineralogist, U.S. Geological Survey

A 1908\*

Waldemar Theodore Schaller

Washington, D. C.

Andrew D Schindler	G 1910	San Francisco, Cal.
Carl Louis August Schmidt Chemist, M	U 1908 etropolitan Gas Company	San Francisco, Cal.
Walter August Schmidt Engineer, Wes	U 1906 stern Precipitation Comp	Los Angeles, Cal.
Fred Hanley Seares Astronomer	G 1910* , Mt. Wilson Observatory	Pasadena, Cal.
Fred Hanley Seares, Jr	U 1909 Astronomer	Pasadena, Cal.
William Albert Setchell Professor of Bo	CF 1901*† (Yale CF 189) stany, University of Califo	
Harold Gibbons Sharp Chief Engineer,	U 1906 Duncanson-Harrelson Co	San Francisco, Cal. mpany
Leslie Theodore Sharp Assistant in So	U 1911 oils, University of Califor	Berkeley, Cal.
Robert Guy Sharp Assistant in Zoo	U 1911 ology, University of Calif	Berkeley, Cal. fornia
William John Sharwood Chief Chemist,	F 1904 Homestake Mining Comp	Lead, S. D.
Edgar Raymond Shepard Instructor in Phys	G 1904 ics, Oregon Agricultural	Corvallis, Ore.
Robert Sibley Professor of Engi	U 1903 neering, University of M	Missoula, Mont. Iontana
William John Sinclair Instructor in G	G 1902 eology, Princeton Univer	Princeton, N. J.
Frederick Slate Professor of Phy	CF 1902* ysics, University of Califo	Berkeley, Cal.
Felix Teisseire Smith	U 1908 Attorney	Berkeley, Cal.
Ralph Elliott Smith Professor of Bo	F 1905* tany, University of Califo	Berkeley, Cal.
William Sydney Tangier Smith Professor of Go	G 1910 eology, University of Neva	Reno, Nev.
Harry Caesar Solomon	U 1910	Boston, Mass.
Frank Soulé Emeritus Professor of l	CF 1902 Engineering, University o	Berkeley, Cal. of California
James Clarence Sperry Field Mana	G 1910 ger, Crocker's Oil Wells	Coalinga, Cal.
Harry Edwin Squire Engineer, Erec	U 1906 ction Construction Compa	Bremerton, Wash.
Henry Walter Stager Instructor in Math	F 1909* tematics, Fresno Junior	Fresno, Cal.
Alva Walker Stamper Head of Mathe	G 1910* matics, State Normal Sch	Chico, Cal.
Charron Monell Staples	U 1911 ining Engineer	Ashland, Ore.

Urbana, Ill. Joel Stebbins G 1902\* (Nebraska, G 1899) Assistant Professor of Astronomy, University of Illinois G 1908 Keswick, Cal. Edward Lewis Stenger Mine Surveyor, The Mountain Copper Company, Ltd. John Maxson Stillman G 1910\* Palo Alto, Cal. Professor of Chemistry, Leland Stanford Junior University G 1910 Berkeley, Cal. Howard Stillman Mechanical Engineer Norman Caswell Stines U 1905 Berkeley, Cal. Engineer G 1910 Chicago, Ill. William Benson Storey Civil Engineer, Atchison, Topeka and Santa Fe Railroad Company George Malcolm Stratton F 1903\*† Berkeley, Cal. Professor of Psychology, University of California Irving Stringham CF 1901\*† (Deceased 1909) Arnold Valentine Steubenrauch F 1902 Washington, D. C. Bureau of Plant Industry San Francisco, Cal. Leslie Webb Symmes G 1910 Agricultural Engineer F 1900\*† Philadelphia, Pa. Alonzo Englebert Taylor Professor of Chemistry, University of Pennsylvania Henry William Taylor U 1906 Albany, N. Y. Sanitary Engineer, State Architect's Office Berkeley, Cal. U 1911 Walter Penn Taylor Assistant Curator of Mammals, University Museum of Vertebrate Zoology San Francisco, Cal. Wallace Irving Terry Assistant Professor of Surgery, University of California Medical School Bartlett Leo Thane G 1910 Juneau, Alaska Kensington Mining Company Paul Thelen TJ 1904 San Francisco, Cal. Expert, Southern Pacific Company Rolf Thelen Madison, Wis. U 1904 Engineer, U. S. Bureau of Forestry nomas . F 1903\*† (Cornell G 1895) M Professor of Engineering, University of Wisconsin Carl Clapp Thomas Madison, Wis. Frederick Horace Tibbetts G 1907 Berkeley, Cal. Assistant Professor of Engineering, University of California Lucius Moody Tolman G 1910 Washington, D. C. Chemist, U. S. Department of Agriculture F 1902\*

Berkeley, Cal. Harry Beal Torrey Associate Professor of Zoology, University of California Alphonso Walker Tower U 1905 Los Angeles, Cal. Head of Department of Physiology, Polytechnic High School F 1902\* (Stanford F 1907) Sidney Dean Townley Palo Alto, Cal. Associate Professor of Mathematics, Leland Stanford Junior University

TJ 1904 Eureka. Cal. Joseph Prince Tracy Belcher and Crane Company Salt Lake City, Utah Wilfred Charles Twiss G 1911 Instructor in Botany, University of Utah San Francisco, Cal. G 1910 Edwin Cooper VanDyke Physician San Francisco, Cal. Harry Chittenden Vensano U 1903 Civil Engineer, Pacific Gas and Electric Corporation Frederick Paul Vickery U 1905 Martinez. Cal. Peyton Chemical Works Manila, P. I. CF 1901\* (Cornell U 1898) Archibald Robinson Ward Dean, College of Veterinary Science, University of the Philippines Thomas Talbot Waterman Berkeley, Cal. F 1911 Instructor in Anthropology, University of California Wilbur Kemble Watkins U 1908 Halleck, Cal. Superintendent, Golden State Portland Cement Company Floyd Rowe Watson G 1910 Urbana, Ill. Assistant Professor of Physics, University of Illinois Charles Edwin Weaver G 1905 (Washington, F 1908) Seattle, Wash. Instructor in Geology, University of Washington G 1910 London, Eng. Harry Howard Webb Mining Engineer Yerington, Nev. Charles Albert Weck G 1910 Superintendent, Bluestone Mining and Smelting Company Harry Valentine Welch G 1911 San Francisco, Cal. Assistant Physical Chemist, U. S. Bureau of Mines Chester Albert Garfield Weymouth U 1902 Berkeley, Cal. Cement Contractor Clarence Raymond Weymouth G 1910 San Francisco, Cal. Chief Engineer, Charles C. Moore and Company Ralph Archibald White Berkeley, Cal. Instructor in Civil Engineering, University of California Albert Wurts Whitney F 1906\* Berkeley, Cal. Associate Professor of Mathematics, University of California Charles Abel Whitton U 1910 Oakland, Cal. William Wakefield Whitton U 1905 Oakland, Cal. Mining Engineer Edward James Wickson F 1905\*† Berkeley, Cal. Dean of Agriculture, University of California Ernest Julius Wilczynski F 1902\* Chicago, Ill. Associate Professor of Mathematics, University of Chicago Alpheus Fuller Williams G 1910 Kimberley, South Africa General Manager, De Beers Consolidated Mines Gardner Fred Williams G 1910 Washington, D. C. Engineer, retired John Winkler G 1910 Berkeley, Cal. Assistant in Chemistry, University of California

James Hugh Wise U 1903 San Francisco, Cal. Engineer, Pacific Gas and Electric Corporation

Harry Lincoln Wollenberg U 1908 Juneau, Alaska Miner

Harry Oscar Wood F 1909 Berkeley, Cal. Instructor in Geology, University of California

Baldwin Munger Woods G 1910 Berkeley, Cal. Instructor in Mathematics, University of California

Charles William Woodworth F 1903\* Berkeley, Cal.
Associate Professor of Entomology, University of California

Albert Eugene Wright U 1907 Provo, Utah Fruit Grower

Carey Thomas Wright G 1911 Oakland, Cal.
Head of Science Department, John C. Freeman High School

William Hammond Wright F 1902\*† Mt. Hamilton, Cal. Astronomer, Lick Observatory

George Joseph Young G 1910\* Reno, Nev.
Professor of Mining, University of Nevada

Carl Gotthelf Zschockelt U 1908 Quincy, Cal.
Operator of Power Station

## COLUMBIA CHAPTER

COLUMBIA UNIVERSITY, NEW YORK CITY

Charter Dated December 1, 1902 Chapter Installed December 19, 1902

## HISTORICAL SKETCH

For more than a year before the charter was granted to the Chapter of Sigma Xi at Columbia University, the matter of petitioning the Council of the Society was under discussion. The subject was especially agitated by Lucien M. Underwood, Professor of Botany, and James F. Kemp, Professor of Geology, the latter having been initiated at Cornell during the first year of the Society's existence. Columbia was by this time well established at its new site and the conditions were ripe to carry the petition through. It was finally drawn up and signed by the following members of the faculty in the order given-

James F. Kemp, (Cornell Chapter) Henry E. Crampton William J. Gies, (Yale Chapter) James H. McGregor Edmund B. Wilson George A. Lawrence Gary N. Calkins Henry Fairfield Osborn Robert S. Woodward Alfred J. Moses Lucien M. Underwood Bashford Dean William Hallock Marston T. Bogert Walter S. Sutton (Kansas Chapter) James McKeen Cattell Livingston Farrand Charles Zeleny (Minnesota Chapter) Charles F. Chandler Austin F. Rogers (Kansas Chapter)

A. H. Blanchard (Brown Chapter) The first meeting was held on December 19, 1902, in the library of the Department of Zoology. Almost all the signers of the petition were present and several additional officers or students of the University who were members of other chapters. The Charter which had been granted by the Council of the Society on December 1 was presented to the new group by Professor Edward L. Nichols of Cornell University, Chairman of the Council, and by him the Chapter was duly installed. The Chapter thereupon organized by electing the following officers:

President: James F. Kemp

John K. Rees

Vice-President: Lucien M. Underwood

Recording Secretary: George Alfred Lawrence Corresponding Secretary: Marston T. Bogert

Treasurer: William Hallock

Member of the Council: Henry E. Crampton

In the evening a dinner was given by the members of the Chapter in honor of Professor Edward L. Nichols who had installed the new branch of the Society.

In 1905 the Chapter appointed a committee to select representatives from former classes among the alumni to be recommended for membership in the Society. A conservative canvass was made which resulted in the Chapter electing forty-three alumni.

It is the custom of the Columbia Chapter to recruit its membership chiefly from senior classes in the Schools of Engineering and Chemistry, from graduate students in pure science and from the instructional staff

in all scientific and engineering departments.

The Chapter has confined its regular activities to a few scientific meetings each year at which times some provision is usually made for a social hour. A good deal of care is taken in planning the initiation ceremonies and these have grown to be rather formal affairs. There are usually delegates from two or three neighboring chapters whose presence adds much to the dignity of the occasion. At the last initiation (1911) the Cornell, the University of Pennsylvania, and the Yale Chapters were represented.

At regular scientific meetings there is never more than one title on the program. The object is to secure the presentation of some investigation or research or a comprehensive summary of some special field. The following list will serve to indicate the scope of these discussions:

Protozoa and Disease by Professor Gary N. Calkins.

Radium and its Relations to the Structure of the Atom by Professor William Hallock.

The Panama Canal by Professor William H. Burr.

Perilous First Ascents in the Selkirks of British Columbia by Professor Herschel C. Parker.

Microscopic Examination of Opaque Substances by Professor

William Campbell.

Use of Denatured Alcohol as a Fuel by Professor Charles E. Lucke.
A Zoologist's Visit to the Society Islands by Professor Henry E.
Crampton.

Recent Aspects of Plant Breeding and Variation by Doctor George

H. Shull.

Recent Improvements in Incandescent Lighting by Professor Her-

schel C. Parker and Mr. Walter G. Clark.

The Selective Reflection in the Infra-red Charasteristic of Carbonates and its Relation to the Atomic Weights of the Bases by Doctor Leighton B. Morse.

Recent Progress in Electro-Chemistry by Professor Charles F.

Chandler.

The Genesee River and its Bearing on the Problems of the Great Lakes by Professor Amandeus W. Grabau.

Modern Practice in Color Photography by Mr. Alfred Norton Gold-

smith.

The Quebec and the Blackwell's Island Cantilever Bridges by Professor William H. Burr.

The Sanitary Protection of Tidal Waters by Doctor George A. Soper. Exploratory Travels in the Olympic Mountains of Washington by Professor Herschel C. Parker.

Additional Water Supply from the Catskill Mountains by Professor

William H. Burr.

Heredity and the Cell by Professor Edmund B. Wilson.

Electric Lighting of a Great City by Professor George F. Sever. Many addresses of a less formal nature designed especially to add to the enjoyment or entertainment of the Chapter have been delivered in

the enjoyment or entertainment of the Chapter have been delivered in connection with the initiation ceremonies and other special occasions.

The Chapter is firmly established at Columbia. To be elected to its membership is considered a special honor. In an institution where there are so many other channels for announcing and publishing scientific investigations and where societies in every branch of science and engineering are maintained in active operation there has seemed to be no immediate call for Sigma Xi to undertake the burden of publication or to place much emphasis on the fostering of the scientific spirit. It is rather a scientific fellowship in which all branches and all interests unite and find encouragement.

C. P. B.

### **PUBLICATIONS**

Columbia Chapter (Kappa) of the Society of the Sigma Xi. Founded 1903. Constitution and By-Laws of the General Society, list of Officers and Members, titles of papers read at meetings. May 1907. Lancaster, Pa. pp. 49.

#### OFFICERS FOR 1911-12

President	GEORGE FRANCE	s Sever
Vice-President	ARTHUR LUCIAN	WALKER
Recording Secretary	SAMUEL ALFREI	MITCHELL
Corresponding Secretary		
Treasurer		
Councilor	CARLTON CLARE	NCE CURTIS

#### MEMBERSHIP ROLL

Hanford Curtis Adam	s U 1908 Electrical Engineer	West Palm Beach, Fla.
Arthur Aigeltinger Electrical	U 1907 Engineer, Manganese Steel	New York City Rail Company
Carl Gustave Amend	G 1909 Chemist	New York City

Morton Arendt G 1905\* New York City

Assistant Professor of Electrical Engineering, Columbia University

Huntington Clark Atwater U 1907 Denver, Col.

Civil Engineer

Frank Ashton Ayer U 1911 Morenci, Ariz.
Mining Engineer, Detroit Copper Company

George Baehr U 1908 New York City
Assistant in Pathology, Mt. Sinai Hospital

Joseph Hershey Bair G 1903\* (Colorado CF 1905) Philadelphia, Pa. Private Research

Walter Loring Barrows G 1909 Hartford, Conn.
Professor of Geology, Trinity College

George Denton Beal G 1910 (Illinois F 1911) Urbana, Ill.
Instructor in Chemistry, University of Illinois

Hal Truman Beans G 1903 New York City Instructor in Organic Chemistry, Columbia University

Harold Mairs Beattie U 1907 Chicago, Ill.
Superintendent, Hills Linseed Oil Company

George Erle Beggs U 1910 New York City Civil Engineer

Marcus Benjamin A 1905\*† Washington, D. C. Editor, United States National Museum

Henry Kreitzer Benson G 1907\* (Washington CF 1907) Seattle, Wash. Associate Professor of Chemistry, University of Washington

William Nathan Berg G 1906\* Washington, D. C. Chemist, Bureau of Animal Industry

Charles Peter Berkey G 1904\* (Minnesota F 1906) New York City Assistant Professor of Geology, Columbia University

Albin H Beyer U 1905 Brooklyn, N. Y. Civil Engineer

Maurice Alpheus Bigelow G 1905\*† New York City Professor of Biology, Teachers College, Columbia University

Paul Billingsley G 1910 Butte, Mont. Geologist, Anaconda Copper Mining Company

Adolph Black G 1903 New York City
Assistant Professor of Civil Engineering, Columbia University

Frederic Columbus Blake G 1904\* Columbus, Ohio Assistant Professor of Physics, Ohio State University

Arthur Horace Blanchard CF 1903\* (Brown CF 1900) New York City Professor of Engineering, Columbia University

Franz Boas G 1903\*† New York City Professor of Anthropology, Columbia University

Richard Frederick Böhler G 1907 Vienna, Austria Metallurgical Engineer, Böhler Steel Company

Marston Taylor Bogert CF 1903\*† New York City Professor of Organic Chemistry, Columbia University

Myrick Nathaniel Bolles G 1904\* Monterey, Mexico Metallurgist, American Smelting and Refining Company

Stanley Frank Bond U 1907 Long Island City, N. Y. Electrical Engineer, Queens County Electric Light and Power Company

Kitchell Monckton Boorman U 1910 New York City Civil Engineer, F. de P. Hone and Company

Albert Clarence Boyle, Jr G 1908 Laramie, Wyo.
Professor of Geology, University of Wyoming

Clement S Brainin G 1909 New York City Assistant in Physics, Columbia University

Clinton Brettell U 1911 Bridgeport, Conn.

Mechanical Engineer

SIGMA XI 288 Robert Wesley Briggs U 1911 New York City Assistant in Civil Engineering, Columbia University G 1905\*† New York City Nathaniel Lord Britton Director, New York Botanical Garden, Bronx Park Thomas Clachar Brown G 1906\* State College, Pa. Assistant Professor of Geology, Pennsylvania State College TI 1910 New York City Kenneth Caulfield Browne Mining Engineer G 1903\* Cambridge, Mass. Charles Thomas Brues Instructor in Economic Entomology, Harvard University G 1903\*† New York City William Hubert Burr Professor of Civil Engineering, Columbia University G 1903\*† New York City Russell Burton-Opitz Associate Professor of Physiology, College of Physicians and Surgeons CF 1903\*+ New York City Gary Nathan Calkins Professor of Zoology, Columbia University William Campbell New York City G 1904\* Associate Professor of Metallurgy, Columbia University Frederick A Canfield A 1905 Dover, N. J. Mining Engineer Edgewater, N. J. Robert Andrew Wood Carleton U 1904 Civil Engineer Albany, N. Y. William Morgan Carpenter U 1909 Civil Engineer, New York Central Railroad New York City U 1910 Victor Hugo Carples Sales Manager, L. J. Wing Manufacturing Company New York City Homer Lyman Carr U 1910 Mining Engineer New York City Alfred Ellsworth Carter U 1904 Civil Engineer, Rapid Transit Subway Construction Company Albert Hermon Case G 1906 Acting Manager, Tennessee Copper Company Jules Catherinet G 1904 CF 1903\*† James McKeen Cattell Professor of Psychology, Columbia University Reginald Wadsworth Cauchois U 1907

Copper Hill, Tenn.

New York City

New York City Electrical Engineer, Johnson and Higgins

U 1909 Peter Bragio Cerussi New York City Electrical Engineer

Victor John Chambers G 1903\* Rochester, N. Y.

Professor of Chemistry, University of Rochester Charles Frederick Chandler CF 1903\*† New York City

Professor of Chemistry, Columbia University

John Parke Channing New York City Consulting Mining Engineer

Elihu Cunyngham Church G 1910 New York City Civil Engineer, City Department of Water, Gas and Electric Supply

New York City

Riverdale, N. Y.

COLUMBIA CHAPTER. John Adams Church Great Falls, Mont. U 1906† Engineer, Anaconda Copper Mining Company Lawrence Ripley Clapp U 1910 Silverton, Col. Superintendent, Silver Lake Mines Ernest Dunbar Clark G 1910 New York City Instructor in Biological Chemistry, College of Physicians and Surgeons Frederick Huntington Clark U 1907 New York City Mining Engineer Sidney Milton Clark U 1911 New York City Assistant Manager, Engineering Supervision Company Edward Bernard Coburn G 1903 (Union G 1888) New York City Physiclan Jules Auguste Coelos U 1904 New York City Civil Engineer Albert Ladd Colby A 1905\*† South Bethlehem, Pa. Iron and Steel Metallurgist U 1909 George Frederick Comstock Pittsburgh, Pa. Metallurgical Engineer, Crucible Steel Company of America Frederick Stephen Cook U 1905 Joplin, Mo. Mining Engineer Melville Fuller Coolbaugh G 1905 Rapid City, S. D. Professor of Chemistry, South Dakota School of Mines U 1903 (Yale U 1900) William Wakefield Corbet Brookville, Pa. Mining Engineer Henry Edward Crampton CF 1903\* New York City Professor of Zoology, Columbia University Francis Bacon Crocker G 1903\*† New York City Professor of Electrical Engineering, Columbia University Burrill Bernard Crohn U 1907 New York City Physician, Mt. Sinai Hospital U 1905 Francis Sterling Crowell Mechanicville, N. Y. Assistant Engineer, Barge Canal Office Frederick Van Dyke Cruser G 1904 Barberton, Ohio Chemist, Diamond Match Company G 1903\*† New York City Carleton Clarence Curtis Associate Professor of Botany, Columbia University John Greenleaf Curtis G 1903\* New York City Professor of Physiology, College of Physicians and Surgeons Joseph Louis Danziger G 1903 Montreal, Canada Chemist. Behrend Concentrators Bergen Davis G 1903\* New York City Assistant Professor of Physics, Columbia University

G 1906\*

CF 1903\*

Lecturer in Physics, Columbia University

Professor of Zoology, Columbia University

William Schofield Day

Bashford Dean

Carl Henry Decker	U 1904 Mining Engineer	La Moille, Ill.
Arthur Isadore Dehuff	U 1907 Mining Engineer	Metaline, Wash.
Norman Arthur Deiser	U 1911 Civil Engineer	Brooklyn, N. Y.
Frederick S Dellenbaugh, J	r U 1910 Electrical Engineer	East Orange, N. J.
Walter Taubert Derleth	U 1904 Civil Engineer	New York City
Ernest Hesthcote Dickenso	n U 1911 Mining Engineer	
Charles William Dickson Lecturer	G 1903* in Chemistry, School o	Kingston, Ont.
Norman Edward Ditman	G 1909 Physician	New York City
Francis Despard Dodge The	A 1905 Dodge and Olcott Comp	Bayonne, N. J.
Richard Elwood Dodge Professor of Geograp	G 1905* hy, Teachers College,	New York City Columbia University
Percy Williams Donovan Mining Engineer and	U 1905 I Superintendent, E. J.	Brainerd, Minn. Longyear Company
Clarence Gibson Dresser Mining Enginee	G 1906 er, Ray Consolidated Co	Hayden, Ariz. opper Company
Gano Sellick Dunn President, Amer	A 1905*† rican Institute of Electr	New York City rical Engineers
Charles Eustace Dwyer	U 1911 Mining Engineer	Mullan, Idaho
Walter Hollis Eddy Head of Biology	G 1908 New York High School	New York City of Commerce
Henry Drew Egbert Engineer, (	U 1910 Guarantee Construction	New York City
Richard Hermann Ernest Engineer, I	U 1905 Round Mountain Mining	Round Mountain, Nev. Company
Alfred Winter Evans	U 1906 Mining Engineer	Durban, Natal
Francis Gordon Fabian	U 1907 Real Estate	Cincinnati, Ohio
Kaufman George Falk Chemist, Harriman	G 1907* Research Laboratory, I	New York City Roosevelt Hospital
Milton J Falk	G 1905 mist, G. Falk and Broth	New York City
Myron Samuel Falk	G 1903 Civil Engineer	New York City
Livingston Farrand Professor of	CF 1903*† Anthropology, Columbia	New York City a University

COLUMBIA CHAPTER 291 G 1907\* Herman Waldo Farwell New York City Instructor in Physics, Columbia University G 1906 Albert Hill Fay Pittsburgh, Pa. Mining Engineer, United States Bureau of Mines Clarence Norman Fenner G 1908 Washington, D. C. Investigator, Geophysical Laboratory, Carnegie Institution William C Ferguson A1905Flushing, N. Y. Chemist Albert Fiedler TJ 1908 Brooklyn, N. Y. Chemical Engineer James Kip Finch U 1906 New York City Instructor in Civil Engineering, Columbia University G 1903\* George Irving Finlay Colorado Springs, Col. Professor of Geology, Colorado College Harry Linn Fisher G 1910 New York City Instructor in Chemistry, Cornell University Medical School William Benjamin Fite F 1911 (Cornell G 1899) New York City Professor of Mathematics, Columbia University Arthur Bansford Fletcher U 1911 Vancouver, B. C. Mining Engineer, Canadian Pacific Railroad Mico Militiades Achilles Fontrier G 1906 Smyrna, Asia Minor Francis S Foote, Jr G 1908 (Illinois F 1910) Urbana, Ill. Associate in Railway Engineering, University of Illinois G 1904\* Brooklyn, N. Y. William Horatio Freedman Head of Department of Applied Electricity, Pratt Institute Mortimer Freund U 1906 New York City Electrical Engineer, Percival R. Moses Conrad Edwin Frudden U 1910 Mechanical Engineer Charles Herman Fulton A 1905 (Case F 1911) Cleveland, Ohio Professor of Metallurgy, Case School of Applied Science U 1907 Charles Rockwell Gardiner Muscatine, Ia. Manager, Amsterdam Button Company Frazer Walker Gay U 1906 Newark, N. J. Electrical Engineer, Crocker-Wheeler Electric Company G 1910 West Orange, N. J. George Augustus Geiger Chemist CF 1903\* William John Gies New York City Professor of Biological Chemistry, Columbia University Frederick Edward Gibert, Jr U 1906 New York City Architectural Engineer Charles Buxton Going A 1905† New York City

Editor of Engineering Magazine G 1907\*

Instructor in Zoology, College of City of New York G 1905

Poultry Investigator, Carnegie Institution

New York City

Cold Spring Harbor, L. I., N. Y.

Abraham Jules Goldfarb

Hubert Dana Goodale

Professor of Geology and Zoology, Massachusetts Agricultural College

Amherst, Mass.

G 1905\*

Clarence Everett Gordon

G 1909 Cold Spring Harbor, L. I., N. Y. Ross Aiken Gortner Chemist, Carnegie Experiment Station Amadeus William Grabau G 1903\*† New York City Professor of Paleontology, Columbia University A 1905\*† Louis Pope Gratacap New York City Curator, American Museum of Natural History Russell DeCosta Greene U 1906 New York City Assistant Engineer, Rapid Transit Commission Kenneth Sproat Guiterman U 1911 Denver, Col. William Hallock CF 1903\*† New York City Professor of Physics, Columbia University New York City Zachariah Power Halpin U 1907 Electrical Engineer Chris Andrew Hartnagel G 1905\* Albany, N. Y. Geologist, New York State Education Department G 1903\* (Illinois F 1907) Philip Bovier Hawk Urbana, Ill. Professor of Physiological Chemistry, University of Illinois Herbert Edwin Hawkes F 1911 New York City Professor of Mathematics, Columbia University John Hawkesworth TJ 1904 New York City Civil Engineer G 1903 New York City Harold Melvin Hays Physician and Surgeon Tracy Elliott Hazen G 1905\* New York City Assistant Professor of Botany, Barnard College, Columbia University Vivian Allen Charles Henmon G 1907\* (Colorado F 1906) Madison, Wis. Associate Professor of Education, University of Wisconsin Michael Heidenberger G 1910 New York City Chemist Edward Hess U 1906 New York City Metallurgist G 1905\* (Michigan F 1905) Ann Arbor, Mich. Henry Harold Higbie Assistant Professor of Electrical Engineering, University of Michigan Eric Berkeley Higgins G 1908 Liverpool, England Chemist Alfred Hoffman G 1905\* Brooklyn, N. Y. Chemist Charles Arthur Hollick A 1905\* New York City Curator of Paleo-Botany, New York Botanical Garden, Bronx Park Henry Marion Howe G 1903\*† New York City Professor of Metallurgy, Columbia University Marshall Avery Howe G 1904\*† New York City Curator, New York Botanical Garden, Bronx Park Frederick Learoyd Humphrey U 1905 Mesa, Ariz. Engineer, United States Reclaim Survey

COLUMBIA CHAPTER 293 G 1903\* George Sumner Huntington New York City Professor of Anatomy, College of Physicians and Surgeons Frederick Remsen Hutton G 1903\*† New York City Emeritus Professor of Mechanical Engineering, Columbia University Magnus Colbiarn Ihlseng A 1905\*† Blairsville, Pa. President, Blairsville College A 1904\* John Duer Irving New Haven, Conn. Professor of Geology, Yale University Royal Preston Jarvis G 1907 Knoxville, Tenn. Professor of Mining, University of Tennessee Walter Proctor Jenney A 1905\* Washington, D. C. Consulting Geologist Arthur Michael Johnson U 1906 Franklin Furnace, N. J. Mining Engineer, New Jersey Zinc Company Douglas Wilson Johnson G 1903\* Cambridge, Mass. Assistant Professor of Physiography, Harvard University Herman Norton Johnson U 1906 Binghamton, N. Y. Mining Engineer Edward Crosby Jones U 1908 Troy, N. Y. Assistant in Electrical Engineering and Physics, Rensselaer Polytechnic Lewis Meredith Jones U 1908 Cleveland, Ohio Mining Engineer Farel Louis Jouard G 1908 New York City Professor of Chemistry, New York Homoepathic Medical College Cavalier Hargrave Joüet G 1903\* New York City Instructor in Chemistry, Columbia University Edward Knight Judd F 1911 New York City Instructor in Mining, Columbia University G 1903\* Alexis Anastay Julien South Harwich, Mass. Retired Albert Carl Kaestner U 1910 New York City Civil Engineer Frederick Rowe Keller U 1911 New York City Assistant in Electrical Engineering, Columbia University William Erskine Kellicott G 1903\* Baltimore, Md. Professor of Biology, Goucher College Lee Olds Kellogg U 1906 Temascallepec, Est., Mexico Mining Engineer, American Kincon Mining Company James Furman Kemp CF 1903\*† (Cornell F 1887) New York City Professor of Geology, Columbia University Burton Warren Kendall G 1909 Instructor in Physics, Columbia University

New York City

Edward Calvin Kendall U 1908 New York City Research Chemist, St Luke's Hospital

New York City Edward Frank Kern G 1905\* Assistant Professor of Metallurgy, Columbia University

San Francisco, Cal.

Schenectady, N. Y.

Urbana, Ill.

Auburn, Ala.

G 1907

Joseph Waldo Kingsbury

Mining Engineer Richard Ellard Kinsman U 1911 New York City Electrical Engineer, American Telegraph and Telephone Company Washington, D. C. U 1907\* Assistant Geologist, United States Geological Survey G 1907 New York City William Klaber Chemist. TJ 1908 Salt Lake City, Utah Luther Lycurgus Kirtley Mining Engineer Montreal, Canada U 1909 John Edward Klein Electrical Engineer G 1905 Toronto, Canada Cyril Workman Knight Geologist, Ontario Geological Survey U 1909 El Paso, Tex. Herbert S Kohlberg Mining Engineer A 1905\*† 1 Philadelphia, Pa. Henry Kraemer Professor of Botany, Philadelphia College of Pharmacy Arthur Kraus U 1908 New York City Civil Engineer U 1906 New York City Otto Kress Instructor in Chemistry, Columbia University G 1908 New York City Alfred Hemmer Kroff Chemist TI 1907 New York City Frederick Kruse, Jr Mining Engineer Schenectady, N. Y. Frederick Thurlow Lacy U 1911 Mechanical Engineer, American Locomotive Company Maurice Allison Lamme G 1906 New York City Instructor in Mineralogy, Columbia University George Alfred Lawrence CG 1903 New York City Adjunct Professor, New York Post-Graduate Medical School Frederic Schiller Lee G 1903\*† New York City Professor of Physiology, College of Physicians and Surgeons Montrose Lucius Lee U 1910 Montevideo, Uruguay Mining Engineer and Geologist Ferdinand Leiser, Jr U 1911 Brooklyn, N. Y. Civil Engineer Albert Buell Lewis G 1904 Chicago, Ill. Assistant in Anthropology, Field Columbian Museum

Electrical Engineer, General Electric Company

Associate in Mining Engineering, University of Illinois G 1907\*†

Professor of Botany, Alabama Polytechnic Institute

G 1906\* (Illinois F 1911)

J Chester Alan Arthur Lichtenberg G 1907

Francis Church Lincoln

Francis Ernst Lloyd

Wharton, N. J.

U 1908 Elyria, Ohio Karl Ernest Lloyd Mining Engineer U 1911 Grover Cleveland Loening New York City Civil Engineer Preston Erie Locke U 1909 Ray, Ariz. Mining Engineer, Ray Consolidated Copper Company, Alfred Pierce Lothrop G 1908 New York City Instructor in Biological Chemistry, Columbia University Earle Brink Lovell CF 1903 (Cornell U 1891) New York City Professor of Civil Engineering, Columbia University U 1907 Daniel Ralph Lucas New York City Physician Charles Eduard Lucke G 1906 New York City Professor of Mechanical Engineering, Columbia University G 1903\* New York City Lea McIlvaine Luquer Assistant Professor of Mineralogy, Columbia University Henry Hudson Edwin Lynn U 1907 New York City Civil Engineer U 1904 George John Lyon Schenectady, N. Y. Assistant Professor of Civil Engineering, Union College U 1905 Alfred Sidney Malcomson Freeport, N. Y. Civil Engineer, Smith and Malcomson TI 1905 Ralph Marble Duluth, Minn. Mining Engineer Henry Howard Marvin G 1911 Boston, Mass. Instructor in Physics, Massachusetts Institute of Technology John Alexander Mathews A 1905\*† Syracuse, N. Y. Managing Director, Halcomb Steel Company A 1905\*† New York City William Diller Matthew Palaeontologist, American Museum of Natural History Bloomington, Ind. G 1908 Assistant Professor of Chemistry, Indiana University Bayonne, N. J. Almer McDuffie McAfee G 1911 Chemist, The Texas Company U 1910 Virginia City, Mont. Robert Earll McConnell Mining Engineer CF 1903\* (Ohio A 1911) New York City James Howard McGregor Assistant Professor of Zoology, Columbia University G 1905 Charles Searing Mead Evanston, Ill. Instructor in Zoology, Northwestern University U 1905 New York City Harry Levi Mead Engineer Houghton, Mich. Albert Mendelsohn U 1911

Mining Engineer, Superior Copper Company

Assistant Superintendent, Mt. Hope Mines

U 1910

Arthur B Menefee

Benjamin Lindley Murray

Frederick James Hamilton Merrill A 1905\*† Nogales, Ariz. Consulting Geologist U 1910 Marion Hawthorne Merriss Perth Amboy, N. J. Assistant Superintendent, American Smelting and Refining Company G 1906 Arthur J Mettler Orangeburgh, N. J. Chief Chemist, Fibre Conduit Company G 1904 Floyd Jay Metzger New York City Instructor in Chemistry, Columbia University G 1908 Arnold William Meyer (Deceased 1910) Louis Guy Michael G 1904 Kishinev, Russia U 1908 New York City Benjamin Michailovsky Physician Edmund Howd Miller G 1903\*† (Deceased 1906) U 1907 Newburgh, N. Y. Kenneth Ballard Millett Mechanical Engineer G 1903\* (Illinois G 1903) Minneapolis, Minn. James Burt Miner Assistant Professor of Psychology, University of Minnesota U 1911 (Yale 1909) Britannia Beach, B. C. Clark Godell Mitchell Engineer, Britannia Mining and Smelting Company Samuel Alfred Mitchell F 1907\* New York City Assistant Professor of Astronomy, Columbia University Fred Howard Moffit G 1903 Washington, D. C. Geologist, United States Geological Survey John Harold Morecroft, Jr F 1910\* (Syracuse G 1907) New York City Assistant Professor of Electrical Engineering, Columbia University John Livingston Rutgers MorganG 1903\*† New York City Professor of Physical Chemistry, Columbia University New York City Charles Virgin Morrill G 1906 Instructor in Anatomy, New York University Medical College G 1909 Frederick Kuhne Morris New York City Teacher, New York City Schools Charles Edward Morrison G 1905 New York City Civil Engineer Leighton B Morse G 1906 New York City Instructor in Physics, Columbia University G 1905 New York City Max Morse Assistant in Zoology, College of the City of New York CF 1903\*† New York City Alfred Joseph Moses Professor of Mineralogy, Columbia University U 1909 Wilford Barber Mucklow McGill, Nev. Mining Engineer New York City Henry Smith Munroe G 1903† Professor of Mining, Columbia University G 1905

Chemist, Merck and Company

Rahway, N. J.

297 William Stockton Nelms G 1909 New York City Assistant in Physics, Columbia University John Maurice Nelson G 1907 New York City Tutor in Chemistry, Columbia University Andrew White Newberry Sandusky, Ohio Metallurgist, Portland Cement Company William Newell U 1907 Montclair, N. J. Mechanical Engineer David Hale Newland A 1905\* Albany, N. Y. Assistant State Geologist, State Department of Education Edmund Newton U 1911 Arkville, N. Y. Mining Engineer F 1904\*† (Cornell G 1902) Ernest Fox Nichols Hanover, N. H. President, Dartmouth College Henry William Nieman U 1911 Schuyler, Neb. Mining Engineer Leonard D Norsworthy U 1909 Grinnell, Ia. Assistant Professor of Mathematics, Grinnell College Malcom Lindsay O'Neale U 1910 Coal City, Ala. Superintendent of Mines, Seaboard Coal and Coke Company Henry Fairfield Osborn CF 1903\*† New York City Da Costa Professor of Zoology, Columbia University Raymond Carroll Osburn G 1903\* New York City Assistant Professor of Zoology, Columbia University Leonard Flagge Otten U 1907 New Rochelle, N. Y. Mechanical Engineer Reuben Ottenberg U 1905 New York City Assistant Physician in Microscopy, Mt. Sinai Hospital John Bagot Overbeck U 1907 Cape Town, South Africa Mining Engineer Frederick James Pack G1905 Salt Lake City, Utah Professor of Geology, University of Utah Herschel Clifford Parker G 1903\*† New York City Professor of Physics, Columbia University F 1908 Harry Lilienthal Parr New York City Instructor in Mechanical Engineering, Columbia University A. 1905\*† William Barclay Parsons New York City Consulting Engineer A 1905\* Frederick Malling Pedersen New York City Assistant Professor of Mathematics, College of the City of New York George Braxton Pegram G 1903\* New York City

Assistant Professor of Physics, Columbia University

William Richmond Peters U 1911 (Deceased 1911)

Robert Early Phelan U 1910 Mining Engineer John Bonsall Porter A 1905\* Montreal, Canada Professor of Mining, McGill University G 1905 Des Moines, Ia. Edward R Posner Professor of Medicine, Drake University U 1905 Frederick James Powell New York City Lawyer, Mining Engineer Herman A Prosser A 1905 New York City Metallurgist, United States Smelting Company G 1904\*† New York City Michael Idvorsky Pupin Professor of Electro-Mechanics, Columbia University Thomas Thornton Read G 1905\* San Francisco, Cal. Associate Editor, Mining and Scientific Press John Krom Rees CF 1903\* (Deceased 1907) Raemer Rex Renshaw G 1907\* Middletown, Conn. Instructor in Chemistry, Wesleyan University Leandro Jose Ricarda U 1904 Comaguey, Cuba Civil Engineer, Francisca Sugar Company Alfred Newton Richards G 1903\* (Yale G 1898) Philadelphia, Pa. Professor of Pharmacology, University of Pennsylvania Herbert Maule Richards G 1903\* New York City Professor of Botany, Columbia University U 1910 Henry Alsop Riley New York City Wells Littlefield Riley U 1911 New York City Mechanical Engineer, Columbia University U 1905 Ambrose Ely Ring Flat River, Mo. Chief Engineer, Federal Lead Company John Thomas Roberts, Jr. U 1907 Buffalo, N. Y. Manager, Wanakah Mining Company Charles Budd Robinson G 1906\* Manila, P. I. Botanist, Bureau of Science Austin Flint Rogers CF 1903\* Palo Alto, Cal. Associate Professor of Mineralogy, Leland Stanford Junior University Gaillard Sherburne Rogers G 1909 Washington, D. C. Junior Geologist, United States Geological Survey Jacob Rosenbloom G 1910 New York City Associate in Chemistry, College of Physicians and Surgeons Walter Louis Rothschild U 1907 New York City Civil Engineer John Joseph Ryan U 1909 New York City Electrical Engineer William Salant G 1905\* Washington, D. C. Pharmacologist, United States Department of Agriculture William Jay Schieffelin A 1905\*† New York City Manufacturing Chemist Walter Irvine Schlichter F 1911 New York City Professor of Electrical Engineering, Columbia University

New York City

Hermann von Wechlinger Schulte F 1910 New York City Assistant Professor of Anatomy, College of Physicians and Surgeons David Burnet Scott Miami, Ariz. U 1911 Mining Engineer, Miami Copper Company Harvey Ambrose Seil G 1906 Perth Amboy, N. J. Chemist New York City George Francis Sever G 1903† Consulting Electrical Engineer Willard Lesly Severinghaus G 1909 New York City Instructor in Physics, Columbia University Frank Houghton Sewall U 1906 New York City Civil Engineer, Brooklyn Union Gas Company Charles Harmonas Shamel G 1905 Seattle, Wash. Lawyer U 1910 East Pittsburgh, Pa. Conway Wing Shearer Engineer, Westinghouse Electric and Manufacturing Company Henry Clapp Sherman G 1903\*† New York City Professor of Chemistry, Columbia University Hervey Woodburn Shimer G 1903\* Boston, Mass. Assistant Professor of Paleontology, Massachusetts Institute of Technology G 1908 Newark, N. J. J Edwin Sinclair Instructor in Physics and Chemistry, Barringer High School U 1908 Brooklyn, N. Y. Marco Carmelich Smith, Jr Civil Engineer Charles Henry Smyth, Jr A 1905\*† Princeton, N. J. Professor of Geology, Princeton University New York City G 1906 George Albert Soper Metropolitan Sewage Commission Charles B Spencer U 1910 New York City Civil Engineer G 1905\*† Philadelphia, Pa. Edward Anthony Spitzka Physician and Professor of Anatomy, Jefferson Medical College G 1908 (Missouri F 1910) Columbia, Mo. Assistant Professor of Dairy Husbandry, University of Missouri New York City G 1908 Reston Stevenson Instructor in Chemistry, College of the City of New York Charles Arthur Stewart G 1907\* Moscow, Ida. Associate Professor of Geology, University of Idaho Ralph Randles Stewart U 1911 Rawal Pindi, India Professor of Biology, Gordon College William Warren Stifler G 1911 (Illinois G 1910) New York City Assistant in Physics, Columbia University New York City U 1907 Joseph Whitla Stinson

> Architect G 1905\*

Professor of Anatomy, Cornell Medical School

Charles Rupert Stockard

A 1905 New York City George Cameron Stone Metallurgist, New Jersey Zinc Company G 1903\* New York City Bradley Stoughton Consulting Metallurgical Engineer G 1903\* New York City Oliver Smith Strong Instructor in Anatomy, College of Physicians and Surgeons New York City A 1905 Assistant Secretary, American Institute of Mining Engineers Walter Stanborough Sutton CF 1903 Rosedale, Kan. Associate Professor of Surgery, University of Kansas Medical School G 1903 (Yale 1900) South Norwalk, Conn. Charles C Swartz Consulting Mining Engineer U 1906 New York City Isadore Tanz Engineer, New York Telephone Company TI 1910 New York City Peter Louis Tea Electrical Engineer Harold Allen Thomas U 1908 Terre Haute, Ind. Instructor in Civil Engineering, Rose Polytechnic Institute John Fairfield Thompson G 1904 Bayonne, N. J. Superintendent, Monel Metal Manufacturing Company G 1910 New York City Edgar George Thomasen Chemist, Columbia University Edward Lee Thorndike F 1911 New York City Professor of Educational Psychology, Columbia University G 1908 Edward Day Thurston, Jr New York City Instructor in Mechanical Engineering, Columbia University Roger Wolcott Toll TJ 1906 Denver, Col. Assistant Engineer, Denver City Tramway Company Carl Tombo U 1905 New York City Civil Engineer Fitzhugh Townsend G 1903 (Deceased 1906) Frank Weiss Traphagen A 1905\*† Golden, Col. Professor of Metallurgy, Colorado School of Mines Amasa Trowbridge G 1904 Hartford, Conn. Manager, Veeder Manufacturing Company Charles Christopher Trowbridge G 1903\* New York City Instructor in Physics, Columbia University Samuel Auchmuty Tucker G 1907\* New York City Adjunct Professor of Electro-chemistry, Columbia University Frank Leo Tufts G 1903\* (Deceased 1909) Lucien Marcus Underwood CF 1903\* (Deceased 1907) William Erastus Upham G 1906 Ocean Park, Cal.

Mining Engineer

New York City

Lillian Lee Vaughan U 1911 West Raleigh, N. C. Instructor, North Carolina College of Agriculture and Mechanic Arts U 1909 Harold Edwin Vehslage New York City Assistant Mechanical Engineer, American Cotton Oil Company Trifon von Schrenk U 1909 Kansas City, Mo. Secretary, Arkansas Bridge Company G 1905 Herman T Vulte New York City Adjunct Professor of Chemistry, Teachers College, Columbia University Arthur L Walker F 1909 New York City Professor of Metallurgy, Columbia University Chung Yu Wang G 1904 London, England Mining Engineer Harold Worthington Webb G 1906 New York City Instructor in Physics, Columbia University Walter Harvey Weed A 1908\*† New York City Consulting Mining Geologist, Weed and Probert Frederick Seymour Weingarten U 1907 New York City Physician William Henry Welker G 1905\* Philadelphia, Pa. Demonstrator in Physiological Chemistry, University of Pennsylvania Ching Yu Wen G 1911 Canton, China Metallurgist George Vincent Wendell F 1911 New York City Professor of Physics, Columbia University Harry Wessler U 1908 New York City Physician Doris William Whipple U 1908 New York City Chemist Herbert Perey Whitlock G 1904\* Albany, N. Y. Mineralogist, New York State Museum Milton C Whitaker F 1911 New York City Professor of Industrial Chemistry, Columbia University Ferdinand Gerhard Wiechmann A 1905\*† New York City Consulting Chemical Engineer Ira Abraham Williams G 1904\* Ames, Ia. Associate Professor of Geology, Iowa State College New York City Jacov Paul Jones Williams F 1911 Assistant Professor of Civil Engineering, Columbia University Roland Hugh Williams G 1905 New York City Head of Science, Horace Mann School U 1908 George Williamson East Orange, N. J. Electrical Engineer Bailey Willis A 1905\*† Washington, D. C. Geologist, United States Geological Survey

G 1906\*

Professor of Physics, Columbia University

Albert Potter Wills

Edmund Beecher Wilson CF 1903\*† New York City Professor of Zoology, Columbia University

Herbert Michael Wilson A 1905\*† Pittsburgh, Pa. Civil Engineer and Geologist, United States Bureau of Mines

J Howard Wilson G 1906\* Geologist Castine, Me.

Philip Danforth Wilson U 1911 Campas, Sonora, Mex. Mining Engineer, Transvaal Copper Mining Company

Louis Elsberg Wise G 1910 Research Chemist New York City

Sidney Leo Wise U 1911

U 1911 New York City School of Mines, Columbia University

Leon Elmer Woodman G 1906\* Orono, Me. Assistant Professor of Physics, University of Maine

Lorande Loss Woodruff G 1903\* (Yale F 1905) New Haven, Conn. Assistant Professor of Biology, Yale University

Robert Simpson Woodward CF 1903\*† Washington, D. C. President, Carnegie Institution

Charles Boyd Woticky U 1908 New York City Electrical Engineer

Albert Allen Wright A 1905 (Deceased 1905)

Charles Rapelyia Wyckoff, Jr G 1903 Brooklyn, N. Y. Civil Engineer

Nachide Yatsu G 1903\* Tokyo, Japan Assistant Professor of Zoology, Tokyo Imperial University

Harlan Harvey York G 1906 Providence, R. I. Assistant Professor of Botany, Brown University

Charles Zeleny G 1903\* (Minnesota U 1898) Urbana, Ill. Associate Professor of Zoology, University of Illinois

Frederick William Zons G 1911 Long Island City, N. Y. Chemist

## CHICAGO CHAPTER

University of Chicago, Chicago, Illinois
Charter Dated May 1, 1903 Chapter Installed May 8, 1903

### HISTORICAL SKETCH

Steps leading to the organization of a Chapter of the Sigma Xi Society at the University of Chicago were taken early in December, 1902, as a result of a conference of resident members of the Society among the faculty and students of the University. The petition, signed by thirty-seven of the faculty, was transmitted by the President of the Society, who was one of the signers of the petition, to the Chairman of the Council in December. Unanimously recommended by the Council, it received the assent of the chapters, and the charter, duly signed by the President and Secretary, was received early in May. The first meeting, called by Professor Williston, was held on May 8, with nearly all the signers present, and President Harper of the University, who was an invited guest.

After the objects and aims of the Society, with a brief history of it, had been given by Professor Williston, and a few words of encouragement had been spoken by President Harper, officers of the Chapter were A committee, composed of Professors Williston, Weller and Wells, was appointed to draft the by-laws of the Chapter. The report of the committee on by-laws was presented at a called meeting on May 22, with a large attendance of members, and others eligible for membership. Those of the faculty eligible for membership were invited to become charter members, all of whom accepted the invitation. The Chapter began its active membership with more than one hundred members, and has since never fallen below that number. Meetings are held quarterly, at which, attendance varies between sixty and one hundred. At these meetings it has been the invariable custom, after the transaction of necessary business, to listen to an address by some speaker of note, after which a social entertainment has been provided. From the beginning it has been the policy of the Chapter to admit only graduate students to membership, students who have actually accomplished or are doing research work of merit.

s. w. w.

## OFFICERS FOR 1911-12

President	John Merle Coulter
Vice-President	Albert Prescott Matthews
Recording Secretary	HERMAN IRVING SCHLESINGER
Corresponding Secretary	Julius Stieglitz
Treasurer	HERMAN IRVING SCHLESINGER
Councilor	Julius Stieglitz

John Raymond Barber

MEMBERSHIP ROLL G 1908\* (Illinois F 1908) Charles Christopher Adams Urbana, Ill. Associate in Animal Ecology, University of Illinois Charles Frederick Adams G 1903\* (Kansas G 1902) Fayetteville, Ark. Dean of Agriculture, University of Arkansas G 1908 Ann Arbor, Mich. Henry Foster Adams Instructor in Psychology, University of Michigan CF 1903\* Walter Sydney Adams Pasadena, Cal. Assistant Astronomer, Carnegie Institute G 1911 Chicago, Ill. Warder Clyde Allee Assistant in Zoology, University of Chicago Bennett Mills Allen C 1903\* (Wisconsin CF 1907) Madison, Wis. Instructor in Anatomy, University of Wisconsin George D Allen G 1909 Chicago, Ill. Jessie Blount Allen G 1904 (Missouri F 1908) Columbia, Mo. (Mrs Werrett Wallace Charters) G 1909 Chicago, Ill. Harriett M Allyn Fellow in Zoology, University of Chicago Ernest Anderson G 1908 Chicago, Ill. Research Instructor in Chemistry, University of Chicago James Rowland Angell CF 1903\*† Chicago, Ill. Dean of Arts, Literature and Science, University of Chicago Charles Orval Appleman College Park, Md. Plant Physiologist, Maryland Agricultural College Harold DeForest Arnold G 1907 New York City Research, Western Electric Company George Cromwell Ashman G 1907 Peoria, Ill. Professor of Chemistry, Bradley Polytechnic Institute Kenneth Noel Atkins G 1911 Chicago, Ill. Graduate Student, University of Chicago Wallace Walter Atwood CF 1903\* Chicago, Ill. Associate Professor of Geology, University of Chicago Winfred McKenzie Atwood G 1911 Chicago, Ill. Graduate Student, University of Chicago Samuel Henry Ayres G 1906 Washington, D. C. Bacteriologist, Dairy Division, U. S. Department of Agriculture G 1903 Raymond Foss Bacon Pittsburgh, Pa. Associate Director, Department Industrial Research, University of Pittsburgh G 1903 Kankakee, Ill. J L Baer Harry Foster Bain F 1904\*† (Illinois CF 1904) San Francisco. Editor, Mining and Scientific Press [Cal. Charles Laurence Baker G 1909 Berkeley, Cal. Geologist Ernest Everett Ball G 1905 Fresno, Cal.

Captain, Medical Corps, U. S. Army

Portland, Ore.

George A. Barker G 1905 Normal, Ill. Instructor in High School Lewellys Franklin Barker CF 1903\*† Baltimore, Md. Professor of Medicine, and Physician, Johns Hopkins University Williams Bay, Wis. Edward Emerson Barnard CF 1903\*† Professor of Astronomy, University of Chicago and Yerkes Observatory Edith Ethel Barnard  $G_{1905}$ Chicago, Ill. Instructor in Chemistry, University of Chicago CF 1903\* Charles Reid Barnes (Deceased 1910) Harlan Harland Barrows G 1903 Chicago, Ill. Assistant Professor of Geology, University of Chicago George William Bartelmez G 1908 Chicago, Ill. Instructor in Anatomy, University of Chicago Edson Sunderland Bastin G 1903 Washington, D. C. Geologist, U. S. Geological Survey William Jacob Baumgartner G 1903 Lawrence, Kan. Assistant Professor of Zoology, University of Kansas Frank Christian Becht G 1907 (Illinois F 1910) Urbana, Ill. Assistant Professor of Physiology, University of Illinois William Porter Beck G 1904 Pittsburgh, Pa. Secretary and Treasurer, Frankstown Realty Company James Edgar Bell G 1910 (Illinois G 1911) Urbana, Ill. Assistant in Chemistry, University of Illinois Robert Russell Bensley CF 1903\* Chicago, Ill. Professor of Anatomy, University of Chicago Robert Louis Benson G 1907 Chicago, Ill. Student, Rush Medical College Walter VanDyke Bingham G 1906 Hanover, N. H. Assistant Professor of Psychology, Dartmouth College George David Birkhoff G 1907 Princeton, N. J. Professor of Mathematics, Princeton University Edwin Sherwood Bishop G 1909 Chicago, Ill. Instructor in Physics, School of Education, University of Chicago Frederic Lendall Bishop G 1904 Pittsburgh, Pa. Dean of Engineering, University of Pittsburgh Eliot Blackwelder CG 1903 (Wisconsin CF 1907) Madison, Wis. Associate Professor of Geology, University of Wisconsin Charles Scofield Blair G 1906 (Northwestern G 1906) Washington. Assistant Geologist, U. S. Geological Survey William Richards Blair G 1904 Bluemont, Va. Director of Observatory, U. S. Weather Bureau

Associate Professor of Mathematics, University of Chicago

Physician

G 1907

CF 1903\* (Minnesota F 1901) Chicago, Ill.

Three Rivers, Mich

Gilbert Ames Bliss

Guy L Bliss

Instructor in Zoology, University of Chicago High School G 1906

Instructor in Chemistry, Vassar College CF 1903\*

Honorary Professor of Mathematics, University of Freiburg

Associate in Mathematics, University of Illinois

Professor of Pathology, University of Kansas

G 1904

G 1911 Professor of Biology, Dean of College of Arts, University of North Dakota

G 1904 (Illinois F 1908)

Chicago, Ill.

Urbana, Ill.

Lawrence, Kan.

Grand Forks, N. D.

Poughkeepsie, N. Y.

Freiburg, Germany

G 1906

Mary Blount

Oskar Bolza

Katherine Blunt

Robert Lacey Borger

Thomas Harris Boughton

Melvin Amos Brannon

G 1904\* (Kansas U 1903; Missouri F 1910) Edwin Bayer Branson [Oberlin, Ohio Professor of Geology, Oberlin College Joseph Kumber Breitenbecker G 1911 Tucson, Ariz. Research Assistant, Desert Laboratory Albert Dudley Brokaw G 1909 Chicago, Ill. Assistant in Geology, University of Chicago Charles Brookover G 1907 Akron, Ohio Professor of Natural Science, Buchtel College Clyde Brooks G 1908 Pittsburgh, Pa. Assistant Professor of Physiology, University of Pittsburgh Medical School G 1903\* (Kansas G 1901) Orville Harry Brown St. Louis, Mo. Assistant Professor of Medicine, St. Louis University G 1904 Roy H Brownlee Pittsburgh, Pa. Professor of Industrial Chemistry, University of Pittsburgh Daniel Buchanan G 1909 Kingston, Ontario Assistant Professor of Mathematics, Queens University Herbert Earle Buchanan G 1908 Knoxville, Tenn. Professor of Mathematics, University of Tennessee Robert Earle Buchanan G 1908 Ames, Ia. Professor of Bacteriology, Iowa State College Thomas Buck G 1909 (Illinois F 1910) Berkeley, Cal. Instructor in Mathematics, University of California Herbert Horace Bunzell G 1907 Washington, D. C. Chemical Biologist, Bureau of Plant Industry William H Burger F 1911 Evanston, Ill. Assistant Professor of Civil Engineering, Northwestern University G 1907 (Stanford F 1908) Leonas Lancelot Burlingame Palo Alto, Cal. Assistant Professor of Botany, Leland Stanford Junior University G 1903\* (Minnesota F 1908) Minneapolis. William Henry Bussey Assistant Professor of Mathematics, University of Minnesota [Minn. Hortense Butler G 1905 Peterson, Ia. Joseph Stuart Caldwell G 1911 Chicago, Ill. Fellow in Botany, University of Chicago

Manila, P. I.

A 1903\*† Otis William Caldwell Chicago, Ill. Associate Professor of Botany, University of Chicago R D Calkins G 1907 Mt. Pleasant, Mich. Instructor in Geography, Central State Normal School G 1906 Washington, D. C. Stephen Reid Capps, Jr Assistant Geologist, U. S. Geological Survey F 1904\*† (Stanford G 1903) Anton Julius Carlson Chicago, Ill. Associate Professor of Physiology, University of Chicago G 1904 Joel Ernest Carman Cincinnati, Ohio Assistant Professor of Geology, University of Cincinnati Clifford Daniel Carpenter G 1911 Chicago, Ill. Associate in Chemistry, University of Chicago High School G 1908 South Hadley, Mass. Emma Perry Carr Associate Professor of Chemistry, Mt. Holyoke College Harvey Carr G 1904 Chicago, Ill. Assistant Professor of Psychology, University of Chicago G 1906 New York City Alexis Carrel Associate, Rockefeller Institute G 1904 Rockford, Ill. Matilde Castro Professor of Philosophy, Rockford College CF 1903\*† Charles Joseph Chamberlain Chicago, Ill. Associate Professor of Botany, University of Chicago G 1909 East Orange, N. J. Ethel Chamberlin (Mrs Ethel Chamberlin Porter) Rollin Thomas Chamberlin G 1904 Chicago, Ill. Assistant Geologist, U. S. Geological Survey, University of Chicago Thomas Chrowder Chamberlin CF 1903\*† Chicago, Ill. Professor of Geology, University of Chicago G 1905 Los Angeles, Cal. Elbert E Chandler Professor of Chemistry, Occidental College Edgar K Chapman G 1909 Crawfordsville, Ind. Professor of Physics, Wabash College Grace Miriam Charles G 1909 Lawrence, Kan. Instructor in Botany, University of Kansas G 1904 (Missouri F 1908) Columbia, Mo. Jessie Blount Allen Charters (Mrs Werrett Wallace Charters) New Brunswick, N. J. Floyd Earle Chidester G 1909 Instructor in Zoology, Rutgers College CF 1903\* Chicago, Ill. Charles Manning Child Associate Professor of Zoology, University of Chicago G 1903 Orono, Me. Mintin Asbury Chrysler Professor of Biology, University of Maine Chicago, Ill. Grace Lucretia Clapp G 1909 Fellow in Botany, University of Chicago

> G 1909 Associate Professor of Anatomy, University of the Philippines

Elbert Clark

Joseph Franklin Clevenger G 1909 State College, Pa. Instructor in Botany, Pennsylvania State College

Oliver Charles Clifford Assistant Professor of Eng	G 1904 ineering, Armour Institute of	Chicago, Ill. Technology
J Harry Clo Assistant Profess	G 1908 Nor of Physics, Tulane Univer	New Orleans, La rsity
Benson Ambrose Cohoe Assistant Resident	F 1903* Physician, Johns Hopkins Ho	Baltimore, Md. spital
John S Collier Expert	G 1909 in Rice Investigations	Champaign, Ill.
William S Cooper Fellow in Bo	G 1909 tany, University of Chicago	Chicago, Ill.
Harry John Corper Graduate Stu	G 1909 dent, University of Chicago	Chicago, Ill.
John Merle Coulter Professor of B	CF 1903*† otany, University of Chicago	Chicago, Ill
Edmund Vincent Cowdry Assistant in A	G 1911 natomy, Universty of Chicago	Chicago, Ill.
Henry Chandler Cowles Assistant Professor	CF 1903*† of Botany, University of Ch	Chicago, Illi
Wallace Craig Professor of Ph	G 1903 dilosophy, University of Main	Orono, Me
William Crocker Assistant Professor of P	G 1905 lant Physiology, University o	Chicago, Ill.
Charles Benedict Davenport Head of Experimen	CF 1903*† Cold Spring Ha tal Evolution, Carnegie Instit	rbor, L. I., N. Y.
Benjamin Franklin Davis	G 1909 Physician	Chicago, Ill.
Bradley Moore Davis Assistant Professor of	CF 1903*† Botany, University of Penns	Philadelphia, Pa. ylvania
David John Davis Patholog	G 1903*† ist, St. Luke's Hospital	Chicago, III.
Wilmer Esla Davis Assistant Professor of	G 1909 Botany, Kansas Agricultural	Manhattan, Kan. College
Dudley Watson Day Physician, Superv	G 1905 isor of Hygiene, Public Scho	Rockford, Ill.
Charles Elijah Decker Instructor in Physic	U 1907 (Northwestern G 190 ography, Northwestern Univer	8) Evanston, Ill.
Willey Denis Research Chen	G 1907 nist, Harvard Medical School	Boston, Mass.
George F Dick Instructor in Pa	F 1910 thology, University of Chicag	Chicago, Ill.
Emily Elisabeth Dobbin Teacher of Mathem	G 1903 atics, Mechanic Arts High So	St. Paul, Minn.
Henry Herbert Donaldson Professor of 1	CF 1903*† (Pennsylvania F Veurology, Wistar Institute	1906) Philadel- [phia, Pa.

CHICAGO CHAPTER 309
Leonard G Donnelly G 1911 Chicago, Ill.  Instructor, University of Chicago
Sister Helen Angela Dorety G 1908 Convent Station, N. J. Teacher of Botany, College of St. Elizabeth
George Amos Dorsey F 1909 Chicago, Ill. Associate Professor of Anthropology, University of Chicago
Thomas Eaton Doubt G 1903* Chicago, Ill. Associate Professor of Physics, Armour Institute of Technology
June Etta Downey G 1906 Laramie, Wyo. Professor of Philosophy, University of Wyoming
Fred Miller Drennan G 1911 Chicago, Ill. Assistant in Physiology, University of Chicago
Elizabeth Hopkins Dunn G 1903 Chicago, Ill. Instructor in Anatomy, University of Chicago
Sophia H Eckerson G 1909 Chicago, Ill. Laboratory Assistant in Plant Physiology, University of Chicago
Oskar Eckstein G 1905* Peking, China Director of Metallurgy, Imperial Chinese University
Walter Crosby Ells G 1911 Tacoma, Wash. Professor of Mathematics, Whitworth College
William Harvey Emmons G 1903 Chicago, Ill. Assistant Professor of Geology, University of Chicago
Carl Robert Englund G 1911 Chicago, Ill. Graduate Student, University of Chicago
Saul Epsteen CF 1903 (Colorado F 1906) Boulder, Col. Professor of Mathematics, University of Colorado
William Lloyd Evans G 1904 (Ohio G 1905) Columbus, Ohio Associate Professor of Chemistry, Ohio State University
Oliver Cummings Farrington C 1903*† Chicago, Ill. Curator of Geology, Field Museum of Natural History
Nevin Melanchthon Fenneman A 1904* (Wisconsin CF 1907) Cincinnati, Professor of Geology, University of Cincinnati [Ohio
Grace Maxwell Fernald G 1906 Painesville, Ohio Professor of Psychology, Lake Erie College
Mabel Ruth Fernald G 1908 Chicago, Ill. Instructor in Psychology, Chicago Teachers College
Vernon Clifford Finch G-1911 Madison, Wis. Assistant in Geology, University of Wisconsin
Harvey Fletcher G-1909 Chicago, Ill. Fellow in Physics, University of Chicago
Thomas Bruce Freas F 1911 New York City Assistant Professor and Curator, Havemeyer Laboratory
Benjamin Ball Freud A 1907 Chicago, Ill. Instructor in Chemistry, Armour Institute of Technology
Fannie Cornelia Frisbie G 1903 Millburn, N. J. (Mrs Frank Baldwin Jewett)

Professor of Astronomy, University of Chicago, Director of Yerkes Observatory

Instructor in Botany, University of Chicago

Assistant Professor of Physics, University of Chicago

Botanical Laboratory, Imperial College of Science

CF 1903\*

F 1911 Assistant in Anatomy, Medical School, Northwestern University

> G 1911 Graduate Student, University of Chicago

G 1909

Williams Bay, Wis.

Chicago, Ill.

Chicago, Ili.

Evanston, Ill.

Chicago, Ill.

London, England

Edwin Brant Frost

George Damon Fuller

Reginald Ruggles Gates

Henry Gordon Gale

W Stanley Gibson

John W E Glattfeld

G 1909 Chicago, Ill. Thomas Haigh Glenn Instructor in Bacteriology, Northwestern University Medical School G 1907 Baltimore, Md. Emil Goetsch Assistant Resident Surgeon, Johns Hopkins University Hospital G 1903 Chicago, Ill. Robert Harold Goheen Rush Medical College Nellie Esther Goldthwaite G 1903 (Illinois F 1908) Urbana, Ill. Assistant Professor of Household Science, University of Illinois Manila, P. I Liborio Gomez G 1907 Pathologist, Bureau of Science, Philippine Government F 1903\*† Chicago, Ill. John Paul Goode Associate Professor of Geography, University of Chicago Herbert Marcus Goodman G 1907 Chicago, Ill. Interne, Cook County Hospital F 1907\* Chicago, Ill. Jesse More Greenman Assistant Professor of Botany, University of Chicago James Richard Greir G 1907 Chicago, Ill. Student, Rush Medical College Frank Loxley Griffin G 1904 Portland, Ore. Professor of Mathematics. Reed College Laurence Emery Gurney G 1905 Moscow, Ida Professor of Physics, University of Idaho Charles Claude Guthrie F 1904 Pittsburgh, Pa. Professor of Physiology, University of Pittsburgh George Ellery Hale CF 1903\*† Pasadena, Cal: Director, Mount Wilson Solar Observatory G 1905 (Washington F 1907) Amherst, Mass. Elliot Snell Hall Associate Professor of Chemistry, Amherst College Ernest M Hall G 1909 Chicago, Ill. William Ross Ham G 1907 State College, Pa. Professor of Physics, State College of Pennsylvania Walter Wile Hamburger U 1904 Chicago, Ill. Physician, Instructor in Medicine, Rush Medical College

Ann Arbor, Mich.

State College, Pa.

CHICAGO CHAPTER Francis Marion Hamilton G1905New York City Professor of Psychology, New York Training School for Teachers William Draper Harkins G 1904\* (Stanford A 1905) Missoula, Mont. Professor of Chemistry, University of Montana F 1903\* Norman MacLeod Harris Chicago, Ill Assistant Professor of Bacteriology, University of Chicago Basil Coleman Hyatt Harvey F 1904\* Chicago, Ill. Associate Professor of Anatomy, University of Chicago **Edward Maris Harvey** G 1911 Williamsburg, Va. Acting Professor Botany, William and Mary College LeRoy Harris Harvey G 1907 Kalamazoo, Mich. Professor of Biology, State Normal School Heinrich Hasselbring U 1908\*† (Cornell U 1899) Washnigton, D. C. Bureau of Plant Industry, U. S. Department of Agriculture Shinkishi Hatai CF 1903\* (Pennsylvania F 1908) Philadel-Associate in Neurology, Wistar Institute [phia, Pa. Evelyn Sherwell Hayden G 1904 Marquette, Mich. (Mrs Thomas Carlyle Hebb) Joseph William Hayes G 1906 Chicago, Ill. Instructor in Psychology, University of Chicago Mary Holmes Stevens Haves G 1905 Chicago, Ill. Evelyn Sherwell Hayden Hebb G 1904 Marquette, Mich. (Mrs Thomas Carlyle Hebb) Thomas Carlyle Hebb G 1904 Marquette, Mich. Professor of Physics and Chemistry, Northern State Normal Mary Hefferan G 1903\* Grand Rapids, Mich Paul Gustav Heinemann G 1905 Chicago, Ill. Associate in Bacteriology, University of Chicago Ludvig Hektoen CF 1903\*† Chicago, Ill. Professor of Pathology, University of Chicago Ansel Francis Hemenway G 1911 Chicago, Ill. Graduate Student, University of Chicago Albert Edward Hennings G 1909 Chicago, Ill. Teacher of Physics, University High School Gladys R Henry Chicago, Ill. G 1911 Graduate Student, University of Chicago Charles Judson Herrick F 1907\*† Chicago, Ill. Professor of Neurology, University of Chicago John Charles Hessler CF 1903\*† Decatur, Ill. Professor of Chemistry, James Millikin University William Weldon Hickman G1908Assuit, Egypt Professor of Chemistry, Assuit College

G 1907

G 1911

Instructor in Mathematics, University of Michigan

Instructor in Botany, Pennsylvania State College

Theophil Henry Hildebrandt

John Benjamin Hill

Thomas McDougall Hills G 1905 (Ohio F 1910) Columbus, Ohio Assistant Professor of Geology, Ohio State University
Willis Stose Hilpert G 1905 Chicago, Ill. Chemist, American Medical Association
Henry Hinds G 1907 Chicago, Ill. Fellow in Geology, University of Chicago
Glenn Moody Hobbs CF 1903* Chicago, Ill. Secretary, American School of Correspondence
Allen David Hole G 1905 Richmond, Ind. Professor of Geology, Earlham College
Harriet F Holmes G 1911 Chicago, Ill. Instructor in Pathological Technic, University of Chicago
Willis Boit Holmes CF 1903* (Illinois F 1907) Fremont, Ohio Superintendent, Ames Laboratories
Clifton Durant Howe G 1904 Toronto, Canada Professor of Forestry, University of Toronto
Walter Samuel Hunter G 1911 Chicago, Ill. Fellow in Psychology, University of Chicago
Joseph Paxson Iddings CF 1903*† Washington, D. C. Research, Smithsonian Institution
Charles Emerson Ingbert G 1903* (Deceased)
Louis Ingold G 1906 Columbia, Mo. Instructor in Mathematics, University of Missouri
Ernest Edward Irons G 1901 Chicago, Ill. Assistant Professor of Medicine, Rush Medical College
Clara Jacobson G 1910 Chicago, Ill. Student, Rush Medical College
Gerhard Hemming Jensen G 1902 (Cornell U 1899) Evanston, Ill. Assistant Professor of Botany, Northwestern University
Fannie Cornelia Frisbie Jewett G 1903 Millburn, N. J. (Mrs Frank Baldwin Jewett)
Frank Baldwin Jewett CG 1903 New York City Engineer, American Telephone and Telegraph Company
Albert Johannsen G 1911 Chicago, Ill. Assistant Professor of Petrology, University of Chicago
Jacob M Johlin, Jr F 1911 Ottawa, Ohio
Arden R Johnson G 1909 Lafayette, Ind. Instructor in Chemistry, DePauw University
Oscar Perry Johnston U 1901 (Cornell G 1903) Reno, Nev. Physician
J Claude Jones G 1907 Reno, Nev. Assistant Professor of Geology, University of Nevada
Lauder William Jones CF 1903† Cincinnati, Ohio Professor of Chemistry, University of Cincinnati
Wellington Downing Jones G 1909 Argentina Geological Survey

Chicago, Ill.

CF 1903\*† Edwin Oakes Jordan Chicago, Ill. Professor of Bacteriology, University of Chicago Herbert Edwin Jordan G 1904 (Kansas F 1911) Lawrence, Kan. Assistant Professor of Mathematics, University of Kansas William Henry Kadesch G 1909 Cedar Falls, Ia. Professor of Physics, Iowa State Teachers College Washington, D. C. Frank James Katz G 1907 Assistant Geologist, U. S. Geological Survey George Frederick Kay G 1903† (Kansas G 1904; Iowa F 1908) Iowa Professor of Geology, University of Iowa [City, Ia. Nielsine Johanna Kildahl G 1907 Chicago, Ill. Student, University of Chicago CF 1903\*† Carl Kinsley Chicago, Ill. Associate Professor of Physics, University of Chicago Edwin Garvey Kirk G 1903 Chicago, Ill. Instructor in Anatomy, University of Chicago Sidney Klein G 1903 Chicago, Ill. Ansel Alphonso Knowlton Salt Lake City, Utah G 1907 Associate Professor of Physics, University of Utah Fred Conrad Koch G 1909 Chicago, Ill. Assistant in Chemistry, University of Chicago CF 1903\* (Missouri F 1905) Waldemar Koch (Deceased 1912) John Matthias Kuehne G1906Austin, Tex. Instructor in Physics, University of Texas Preston Kyes F 1904\* Chicago, Ill. Assistant Professor of Pathology, University of Chicago William Jesse Goad Land G 1904 Chicago, Ill. Instructor in Botany, University of Chicago G 1904 Henry Higgins Lane Norman, Okla. Professor of Zoology, University of Oklahoma Thomas Large G 1903 Irving Falls, Ida. Teacher and Rancher **Kurt Laves** CF 1903\* Chicago, Ill. Associate Professor of Astronomy, University of Chicago James Wright Lawrie G 1905 Chicago, Ill. Chief Chemist, Pullman Company Edwin Raymond LeCount F 1904\* Chicago, Ill. Professor of Pathology, Rush Medical College Chicago, Ill. John Yiubong Lee G 1909 Assistant in Physics, University of Chicago O J Lee G 1910 Chicago, Ill. Graduate Student, University of Chicago G 1905 James Henry Lees Des Moines, Ia. Assistant State Geologist, Iowa Geological Survey

G 1904

Anglo-American Polar Exposition

Ernest DeKoven Leffingwell

Chicago, Ill.

Kewanee, Ill.

New York City

Bloomington, Ind.

G 1909

Harvey Brace Lemon

Florence Leland Manning

John N Martin

Wilfred Hamilton Manwaring

Assistant in Physics, University of Chicago Nels Johann Lennes G 1906 (Brown F 1906) New York City Instructor in Mathematics, Columbia University Heman Burr Leonard G 1904 Eugene, Ore. Assistant Professor of Mathematics, University of Oregon Albert Buell Lewis G 1907 (Nebraska G 1900; Columbia A 1904) Curator Field Museum of Natural History [Chicago, Ill. Winford Lee Lewis G 1907 Evanston, Ill. Instructor in Chemistry, Northwestern University Frank Rattray Lillie CF 1903\*† Chicago, Ill. Professor of Embryology, University of Chicago David Judson Lingle CF 1903\*† Chicago, Ill. Assistant Professor of Physiology, University of Chicago Burton Edward Livingston G 1904\*† Baltimore, Md. Professor of Plant Physiology, Johns Hopkins University Edwin Russell Lloyd G 1910 Washington, D. C. Junior Geologist, U. S. Geological Survey William Raymond Longley G 1905 (Yale F 1907) New Haven, Conn. Assistant Professor of Mathematics, Yale University Arno Benedict Luckhardt G 1907 Chicago, Ill. Associate in Physiology, University of Chicago Arthur Constant Lunn C 1903\* Chicago, Ill. Assistant Professor of Mathematics, University of Chicago Herbert O Lussky  $G_{1909}$ Chicago, Ill. Assistant in Physiology, University of Chicago Frank Eugene Lutz G 1904† New York City Curator, Invertebrate Zoology, American Museum of Natural History Carleton John Lynde G 1903 Ste-Anne de Bellevue, Quebec Professor of Physics, The Macdonald College Elias Potter Lyon CF 1903\*† St. Louis, Mo. Dean of Medical School, St. Louis University Donald Francis MacDonald G 1908 Washington, D. C. Geologist to Isthmian Canal Commission William Duncan MacMillan G 1906 Chicago, Ill. Instructor in Mathematics, University of Chicago Harris Franklin MacNeish G 1903 New Haven, Conn. Instructor in Mathematics, Yale University Charles Riborg Mann CF 1903\*† Chicago, Ill. Associate Professor of Physics, University of Chicago

G 1910

G 1905

G 1909

Teacher of Biology High School

Assistant in Pathology, Rockefeller Institute for Medical Research

Instructor in Botany, University of Indiana

Kirtley F Mather G 1911 Fayetteville, Art Instructor in Geology, University of Arkansas	k,
Albert Prescott Mathews F1905*† Chicago, II Professor of Chemistry, University of Chicago	11.
Samuel Alexander Mathews F 1906 Chicago, II Assistant Professor of Therapeutics, University of Chicago	11.
William Burnet McCallum G 1904 Tucson, Ari Professor of Botany, University of Arizona	z.
Florence A McCormick G 1909 Chicago, II Assistant in Botany, University of Chicago	11.
Herbert Newby McCoy CF 1903*† Chicago, II Professor of Chemistry, University of Chicago	11.
Hugh McGuigan G 1904 St. Louis, M. Medical School, Washington University	0.
Paul Stillwell McKibben G 1908 Chicago, II Associate in Anatomy, University of Chicago	[].
Franklin Chambers McLean G 1908 Portland, Or Professor of Medicine, University of Oregon	e.
Andrew Friedley McLeod G 1905 (Wisconsin CF 1907) Beloit, Wi Instructor in Chemistry, Beloit College	s.
Oscar E Meinzer G 1906 Washington, D. G Assistant Geologist, U. S. Geological Survey	C.
Axel Leonard Melander G 1904† Pullman, Wast Professor of Entomology, State College of Washington	h.
Alan Wilfrid Cranbrook MenziesF 1908 Chicago, Il Assistant Professor of Chemistry, University of Chicago	11.
Albert Eli Merrill G 1907 Cleveland, Ohi Teacher	io
Albert Abraham Michelson CF 1903*† Chicago, II Professor of Physics, University of Chicago	11.
Egbert J Miles G 1906 Ithaca, N. Young Instructor in Mathematics, Cornell University	₹.
Robert Andrews Millikan F 1902*† Chicago, Il Professor of Physics, University of Chicago	ı.
Charles Frederic Millspaugh F 1903*† Chicago, II Curator of Botany, Field Museum of Natural History	ll.
James Herbert Mitchell G 1909 Chicago, Il Student, Rush Medical College	l.
Roy Lee Moodie G 1905 (Kansas U 1905) Lawrence, Kan Assistant Professor of Zoology, University of Kansas	1.
Howard Wilson Moody G 1910 Chicago, III Fellow in Physics, University of Chicago	l.
Eliakim Hastings Moore CF 1903*† Chicago, II Professor of Mathematics, University of Chicago	1.
Elwood S Moore G 1908 State College, Pa Professor of Geology, Pennsylvania State College	<b>1.</b>

Edward James Moore G 1909 Oberlin, Olean Associate Professor of Physics, Oberlin College	hio
John Colin Moore G 1909 Chicago, Graduate Student in Paleontology, University of Chicago	111.
Everett C Moulton U 1911 Chicago, Student in Medical School, Northwestern University	m
Forest Ray Moulton CF 1903† Chicago, Professor of Astronomy, University of Chicago	111
George William Myers C 1903 Chicago, Professor of Mathematics, University of Chicago	m
Robert Kirkland Nabours G 1910 Manhattan, K Assistant Professor of Zoology, Kansas State Agricultural College	an
$\begin{array}{ccc} \mbox{John Ulric Nef} & \mbox{CF 1903} \dagger & \mbox{Chicago}, \\ \mbox{Professor of Chemistry, University of Chicago} & \end{array}$	Ili
Charles Hugh Neilson C 1903 St. Louis, I Director of Medical Department, St. Louis University	Мо
Horatio Hackett Newman G 1904 Chicago, Associate Professor of Zoology, University of Chicago	III
Roy Herbert Nicholl G 1908 New York C Professor Physiology and Biochemistry, Fordham University	City
John Foote Norton G 1909 Boston, Ma Instructor in Chemistry, Massachusetts Institute of Technology	ass
Joseph Antonius Nyberg G 1911 Madison, W Instructor in Mathematics, University of Wisconsin	Vis
Fred William Owens G 1907 (Cornell F 1908; Kansas U 19 Instructor in Mathematics, Cornell University [Ithaca, N.	
William Abbott Owens G 1911 Duluth, Mi Professor of Psychology and Director of Training Department, Minnesots State Normal	inn a
James Patterson G 1906 Chicago, Assistant in Anatomy, University of Chicago	111
John Thomas Patterson G 1906 Austin, T Adjunct Professor of Zoology, University of Texas	'ex
Flemming Allen Clay Perrin G 1911 Chicago, Graduate Student, University of Chicago	III
Harvey Andrew Peterson G 1908 Normal, Teacher, Illinois State Normal University	Ill
Joseph Peterson G 1907 Salt Lake City, UPP Professor of Psychology, University of Utah	tab
Peter Powell Peterson G 1908 Madison, V Research Assistant in Soil Analysis, University of Wisconsin	Vis
Loren Clifford Petry G 1911 Chicago, Fellow in Botany, University of Chicago	Ill
Roswell Talmadge Pettet G 1911 Chicago, Fellow in Pathology, University of Chicago	III
Norma Etta Pfeiffer G 1909 Chicago, Fellow in Botany, University of Chicago	Ill

G 1907 Wanda May Pfeiffer Chicago, Ill. Assistant in Botany, University of Chicago Frank Henry Pike G 1906 New York City Assistant Professor of Physiology, Columbia University Arthur Dunn Pitcher G 1908 (Kansas U 1905) Lawrence, Kan. Instructor in Mathematics, University of Kansas Ethel Chamberlin Porter G 1909 East Orange, N. J. Paul David Potter G 1911 Chicago, Ill. Fellow in Chemistry, University of Chicago Loran O Potterf Chicago, Ill. Graduate Student, University of Chicago G 1903\* (Missouri CF 1905) Hanover, N. H. Charles Albert Proctor Assistant Professor of Physics, Dartmouth College G 1905 Chicago, Ill. Professor of Ophthalmology, Northwestern Medical School Stephen Walter Ranson G 1903 Chicago, Ill. Professor of Anatomy, Northwestern University Medical School Isaiah March Rapp Collegeville, Pa. Assistant Professor of Physics, Ursinus College Guy A Reddick G 1911 Crawfordsville, Ind. G 1906 William John Reed Washington, D. C. Junior Geologist, U. S. Geological Survey F 1904\* Daniel Graisberry Revell Edmonton, Alberta Bacteriologist, Province of Alberta Florence Ella Richardson G 1906 Des Moines, Ia. Assistant Professor of Psychology, Drake University Howard Taylor Ricketts F 1903\* (Deceased 1910) Oscar Riddle G 1907 Chicago, Ill. Instructor in Therapeutics and Zoology, University of Chicago Elmer Samuel Riggs G 1903 (Kansas G 1896) Chicago, Ill. Assistant Curator, Field Museum of Natural History George Willis Ritchev C 1903† Pasadena, Cal. Astronomer, Mt. Wilson Solar Observatory José I del Rosario G 1908 Manila, P. I. Instructor in Chemistry, University of the Philippines Jessie M Speer Rose G 1909 Milwaukee, Wis. Marjory Scheel Rosing St. Louis, Mo. G 1908 Instructor in Botany, Central High School William Horace Ross Tucson, Ariz. F 1905 Assistant Chemist, Agricultural Experiment Station Gustav Ferdinand Ruediger G 1904\* Grank Forks, N. D. Professor of Bacteriology, University of North Dakota John Gaston Ryan G 1907 Taintor, Ia.

Physician

Teacher of Botany, Soldan High School CF 1903†

Dean of Ogden Graduate School of Science, University of Chicago

Fellow in Mathematics, University of Chicago

St. Louis, Mo.

Chicago, Ill.

Chicago, Ill.

Chicago, Ill.

G 1909

G 1911

G 1909

Clark Harold Sackett

Mildred Lenora Sanderson

Rollin D Salisbury

Carl Ortwin Sauer

Carl Ortwin Sauer Fellow in Geog	G 1909 graphy, University of Chica	Chicago, III. go
Hermann Irving Schlesinger Assistant Professor	G 1904 of Chemistry, University of	Chicago, Ill.
George L Schnable	G 1911	Chicago, Ill.
Daniel Martin Schoemaker Professor of Anatomy, S	G 1903 school of Medicine, St. Louis	St. Louis, Mo. University
Alfred Reginald Schultz Geologist,	G 1905 U. S. Geological Survey	Washington, D. C.
Arthur Richard Schweitzer	G 1907	Chicago, Ill.
John William Scott Instructor in Zoo	G 1903 logy, State Agricultural Co	Manhattan, Kan. illege
Lee Osborne Scott	G 1903 Physician	Rockford, Ill.
Lester Whyland Sharp Graduate Stu	G 1910 ident, University of Chicago	Chicago, Ill.
Charles Houston Shattuck Professor of 1	G 1907 Botany, University of Idaho	Moscow, Ida.
Eugene Wesley Shaw Assistant Geold	G 1906 ogist, U. S. Geological Surv	Washington, D. C.
Ralph Edward Sheldon Assistant Professor o	G 1907* (Cornell U 1905) f Anatomy, University of F	
Victor Ernest Shelford Instructor in Zo	G 1904 cology, University of Chica	Chicago, Ill.
Marian Lydia Shorey Professor of Biol	G 1906 (Brown G 1906) logy, Milwaukee-Downer Col	Milwaukee, Wis. lege
Charles Albert Shull Professor of Biology a	G 1905 and Geology, Transylvania U	Lexington, Ky. University
George Harrison Shull Botanical Investigator	G 1904† Cold Spring I , Carnegie Institution of W	Harbor, L. I., N. Y. ashington
Etoile Bessie Simons Botanist,	G 1905 Manual Training School	Indianapolis, Ind.
Burton Jesse Simpson Phys	G 1904 sician and Surgeon	Chicago, Ill.
John George Sinclair Assistant in Zoology	G 1911 Laboratory, University of	Chicago, Ill. Chicago
	G 1904 of Mathematics, Oberlin (	Oberlin, Ohio College
Herbert Ellsworth Slaught Associate Professor of	F 1904 Mathematics, University of	Chicago, Ill. f Chicago

James Rollin Slonaker CF 1903\*† (Stanford F 1905) Palo Alto, Cal. Assistant Professor of Physiology, Leland Stanford Junior University Maud Slye G 1909 Chicago, Ill. Fellow in Zoology, University of Chicago Alexander Smith CF 1903\*† New York City Professor of Chemistry, Columbia University Frances Grace Smith G 1903 Northampton, Mass. Associate Professor of Botany, Smith College George Bertrand Smith G 1903 Los Angeles, Cal. Physician Warren DuPré Smith G 1904 Manila, P. I. Chief, Division of Mines, Bureau of Science Laetitia Morris Snow A 1907 Wellesley, Mass. Associate Professor of Botany, Wellesley College G 1909 Jennie M Speer Milwaukee, Wis. (Mrs Jennie M Speer Rose) Teacher of Botany, Milwaukee-Downer Seminary Herman Augustus Spoehr G 1908 Tucson, Ariz. Chemist, Carnegie Institute, Desert Laboratory G 1909 Anna Morse Starr Chicago, Ill. Fellow in Botany, University of Chicago Frederick Starr CF 1903\*† Chicago, Ill. Associate Professor of Ethnology, University of Chicago G 1906 (Ohio G 1906) Clinton Raymond Stauffer Cleveland, Ohio Associate Professor of Geology, Western Reserve University Thomas Calderwood Stephens G 1904 Sioux City, Ia. Professor of Biology, Morningside College Joseph Clark Stephenson G 1909 Chicago, Ill. Fellow in Zoology, University of Chicago George Neil Stewart F 1904\*† Cleveland, Ohio Professor of Experimental Medicine, Western Reserve University CF 1903\*† Julius Stieglitz Chicago, Ill. Professor of Chemistry, University of Chicago Bloomington, Ill. Arthur Grant Stillhamer G 1904 Mechanical and Electrical Engineer James Palm Stober G 1910 Myerstown, Pa. Professor of Biology, Albright College South Hadley, Mass. Alma Gracey Stokey G 1907 Associate Professor of Botany, Mt. Holyoke College Ole O Stoland G 1911 Chicago, Ill. Graduate Student, University of Chicago Reuben Myron Strong F 1904\* Chicago, Ill. Instructor in Zoology, University of Chicago Colfax, Wash. Frank A St. Sure G 1907

Physician

Professor of Anatomy, University of Utah

Salt Lake City, Utah

G 1905

John Sundwall

Urbana, Ill.

Chicago, Ill.

Arthur Howard Sutherland G 1908 Associate in Psychology, University of Illinois

Charles Henry Swift G 1911 Chic Assistant, Department of Anatomy, University of Chicago

Katashi Takahashi	G 1904	Tokyo, Japan
William Arthur Tarr Instructor	G 1910 in Geology, Universi	Columbia, Mo. ty of Missouri
Shiro Tashiro Fellow in	G 1909 Physiology, Universi	Chicago, Ill.
Ethel M Terry Associate in	G 1909 n Chemistry, Univers	Chicago, Ill.
David Duke Todd	G 1908 Physician	Chicago, Ill.
William Laurence Tower Assistant Profe	CF 1903*† ssor of Zoology, Uni	Chicago, Ill. versity of Chicago
Elizabeth Towle Researc	G 1904 ch Assistant, Carnegi	Philadelphia, Pa. e Institute
Edward L Troxell	G 1911 cudent in Yale Unive	New Haven, Conn.
Charles Henry Turner Instructor	G 1906 in Biology, Summer	St. Louis, Mo. High School
Edith Minot Twiss Assistant Professor of	G 1909 f Botany, Dean of W	Topeka, Kas. omen, Washburn College
Joseph Edgar Tyree	G 1905 Physician	Salt Lake City, Utah
John Andreas Udden Illinois State Ge	G 1907 (Iowa ( eological Survey, Uni	
Joseph Bertram Umpleby Assistant in	G 1909 n Geology, U. S. Geo	Washington, D. C. logical Survey
Anthony Lispenard Underh Assistant Professo	ill G 1904* (Wisco r of Mathematics, Un	onsin F 1909) Minneapolis, niversity of Minnesota [Minn.
Eugene VanCleef Instructor i	G 1909 n Geography, State	Duluth, Minn. Normal School
Oswald Veblen Preceptor in	CF 1903*† Mathematics, Prince	Princeton, N. J. eton University
Timotoe Dar Juan y Veli Assista	illa G 1909 nt Chemist, Bureau	Manila, P. I. of Science
	G 1909 t in Psychology, Un	
	G 1910 Chemistry, Univers	
		Chicago, Ill. Northwestern University
	G 1909 erne, Cook County H	
Chester Wesley Washburne Geologis	e G 1906 st, Ministerio de Obra	Buenos Aires, Argentina as Publicas

Leslie Henry Ward G-1904 Kalamazoo, Mich. Head Department of Geography, Western Normal School

John Broadus Watson CF 1903\*† Baltimore, Md.

Professor of Psychology, Johns Hopkins University

Karl Tinsley Waugh G 1907 Beloit, Wis.

Professor of Psychology, Beloit College

LeRoy Samuel Weatherby G 1909 Los Angeles, Cal. Assistant Professor of Chemistry, University of Southern California

Ralph Waldo Webster CF 1903\*† Chicago, Ill.

Physician. Rush Medical College

Ada Louise Weckel G 1905 (Michigan U 1905) Oak Park, Ill.

Teacher of Biology, High School

Clara Jean Weidensall G 1909 Bedford Hills, N. Y. Director of Research, State Reformatory for Women

Stuart Weller CF 1903\*† (Cornell U 1894) Chicago, Ill. Associate Professor of Geology, University of Chicago

Harry Gideon Wells CF 1903\*† (Yale U 1895) Chicago, Ill. Associate Professor of Pathology, University of Chicago

Frank Howard Wescott G 1903 Hudson, Wyo.
Ranchman

Franklin Lorenzo West G 1911 Logan, Utah Professor of Physics, Utah Argicultural College

Marion Ballantyne White G 1910 Lawrence, Kan. Assistant Professor of Mathematics, University of Kansas

Harry Nichols Whitford G 1904\* Manila, P. I. Forester, U. S. Bureau of Forestry

Charles Otis Whitman CF 1903\*† (Deceased 1910)

Harry Lewis Wieman G 1908 Cincinnati, Ohio Assistant Professor of Zoology, University of Cincinnati

Oswin William Willcox G 1904 Dover, N. J. Consulting Chemist, U. S. Smokeless Powder Works

Samuel Wendell Williston CF 1903\*† (Kansas F 1893) Chicago, Ill.
Professor of Paleontology, University of Chicago

Herrick East Wilson G 1911 Chicago, Ill. Fellow in Paleontology, University of Chicago

John Gordon Wilson G 1903 Chicago, Ill. Professor of Osteology, Northwestern University Medical School

Norman Richard Wilson G 1904\* Winnipeg, Canada Professor of Mathematics, Wesley College, University of Manitoba

Thomas MacMaster Wilson G 1905 (Deceased 1908)

George Winchester G 1903 (Washington F 1906) Washington, Professor of Physics, Washington and Jefferson College [Pa.

Albert Woelfel G-1905 Chicago, Ill.

Instructor in Physiology, University of Chicago

Rollin Turner Woodyatt G 1908 Chicago, Ill.
Assistant Professor of Medicine, Rush Medical College

James Remus Wright G 1909 Manila, P. I.
Associate Professor of Physics, University of the Philippines

Robert Bradford Wylie A 1904\* (Iowa F 1907) Iowa City, Ia. Professor of Botany, Iowa State University

Shigeo Yamanouchi G 1905 Tokyo, Japan Professor of Botany, Tokyo Teachers College

Clarence Stone Yoakum G 1908 Austin, Tex.
Adjunct Professor of Philosophy, University of Texas

Mary Sophie Young G 1908 Chicago, Ill. Fellow in Botany, University of Chicago

## MICHIGAN CHAPTER

University of Michigan, Ann Arbor, Michigan

Charter Dated May 26, 1903

Chapter Installed June 4, 1903

## HISTORICAL SKETCH

The charter organizing this Chapter contains the names of thirty-five members of the faculty and graduates, who, as charter members, formed

the nucleus of the present Chapter.

The first meeting of the new Chapter was held on June 4, 1903, at which Professor S. W. Williston, of Chicago, was present and formally installed the officers-elect. Since that time the Society has held three meetings annually for the transaction of business and for scientific addresses. It was not deemed desirable to have a larger number of meetings owing to the existence of an organization known as "The Research

Club" which holds monthly meetings.

The first of the general addresses was given by Professor H. H. Donaldson, of Chicago, on March 24, 1904. The subsequent lectures have been May 19, 1904: Professor A. B. Prescott, on The Life of A. W. Hoffmann; December 14, 1904: Professor G. W. Patterson, on The Velocity of Sound; March 22, 1905: Professor E. W. Morley, Cleveland, on Recent Experiments on the Motion of the Earth Through the Luminiferous Ether; May 25, 1905: Professor F. G. Novy, on Recent Protozoal Researches; March 13, 1906: Professor W. F. Magie, Princeton, The Appli cation of the Theory of Probabilities; May 15, 1906: Professor J. P. McMurrich, Recent Theories of Brain Functions; December 12, 1906 Professor W. J. Hussey, New Studies of the Stars; March 22, 1907: Professor W. E. Castle, Harvard, The Experimental Study of Heredity; May 2, 1907: Professor W. H. Hobbs, The Grand Eruption of Vesuvious in 1906; December 5, 1907: Professor M. E. Cooley, Some Street Railway Problems; April 24, 1908: Professor S. W. Williston, Chicago, The Development of the Elephant; May 22, 1908: Professor V. C. Vaughn, The Chemistry of the Living Cell; December 14, 1908: Professor Filibert Roth, Forest Fires; April 29, 1909: Professor A. W. Hewlett, Irregularities of the Heart; December 9, 1909: Professor Karl E. Guthe, The Method of Science; March 23, 1910: Baron Dairoku Kikuchi, The New Japan; its Moral and Intellectual Development; May 23, 1910: Doctor Robt. B. Bean, Filipino Types; December 7, 1910: Professor Jacob Reighard, Adaptation.

The total number of those initiated in the University of Michigan Chapter up to January 1, 1912, is 501. The resident members for the

year 1910- 1911 number 106.

## OFFICERS FOR 1911-12

President	FREDERICK GEORGE NOVY
Vice-President	
Recording Secretary	
Corresponding Secretary	
Treasurer	
Councilor	WILLIAM HERBERT HOBBS

## MEMBERSHIP ROLL

Charles Christopher Adams F 1903\* (Illinois F 1908) Urbana, Ill Associate in Animal Ecology, University of Illinois

Lydia Maria Adams - F 1904\* St. Louis, Mo. (Mrs Alton D DeWitt) Assistant City Bacteriologist

Edward William Adamson U 1903 Douglas, Ariz.
Chief Surgeon and Physician, Cochise County Hospital

James Howard Agnew U 1910 Ann Arbor, Mich. Assistant Professor in Internal Medicine, University of Michigan

Harley Clifford Alger U 1907 Hillsdale, Mich. Engineer

William Thomas Alliger U 1909 Philadelphia, Pa. Chief Chemist, Harrison Safety Boiler Works

Whiting Alden U 1910 Ann Arbor, Mich.
Instructor in Forestry, University of Michigan

John Robins Allen F 1903\* Ann Arbor, Mich. Professor of Mechanical Engineering, University of Michigan

Courtney Derby Allington U 1906 Boston, Mass. Manager, Allington and Curtis Manufacturing Company

Henry Clay Anderson F 1903 Ann Arbor, Mich. Junior Professor of Engineering, University of Michigan

Francis Wirt Appleton U 1909 New York City Engineer, New York Telephone Company

James Rae Arneill CG 1903† Denver, Col. Associate Professor of Medicine, University of Colorado

Harry Loren Arnold U1911 Owosso, Mich.

Physician

Louis Evans Ayres U 1908 Detroit, Mich.
Engineer

Ellen Botsford Bach G 1903 Kalamazoo, Mich. Teacher of Biology, Central High School

Benjamin Franklin Bailey F 1903 Ann Arbor, Mich.
Junior Professor of Electrical Engineering, University of Michigan

Abel James Baker U 1904 Grand Rapids, Mich. Physician

Horace Burrington Baker U 1910 Ann Arbor, Mich.
Assistant in Zoology, University of Michigan

Reuben Wilfred Balcom F 1906\* Nashville, Tenn. Chief Chemist, U. S. Food and Drug Inspection Laboratory

MICHIGAN CHAPTER CF 1903\* Frederick Amos Baldwin St. Louis, Mo. Professor of Pathology, American Medical College Melvin Dana Baldwin TI 1908 Grand Rapids, Mich. Superintendent, Baldwin, Tuthill and Bolton Ralph Feiner Barker U 1910 Pueblo, Col. Joel Martin Barnes U 1905 Boston, Mass. Treasurer, Harpham and Barnes Company Albert Moore Barrett A 1904 Ann Arbor, Mich. Professor of Psychistry and Nervous Diseases G 1908 Floyd Earl Bartell Ann Arbor, Mich. Instructor in Chemistry, University of Michigan U 1911 Owen Werner Bauer Ann Arbor, Mich. Student, University of Michigan Harold Alexander Baxter U 1909 Philadelphia, Pa. Metallurgist, Midvale Steel Company Robert Bennett Bean F 1906\* New Orleans, La. Associate Professor of Anatomy, Tulane University Verner A Belcher U 1911 New York City Research Chemist. Western Electric Company Charles Holbrook Benedict U 1911 Perry, N. Y. Busrah, Turkish Arabia Anna Christine Iverson Bennett (Mrs Arthur K Bennett) Physician, Arabian Mission U 1908 Cleveland, Ohio Engineer, National Electric Lamp Association Walfred Benson TI 1907 Battle Creek, Mich. Teacher Samuel Lawrence Bigelow F 1903\* Ann Arbor, Mich. Professor of General and Physical Chemistry, University of Michigan U 1906 Grand Rapids, Mich. Elton Pope Billings Physician Marion Le Roy Billings U 1909 Mt. Pleasant, Mich. Teacher of Psychology and Education, Central State Normal School John Serenus Bordner Bristol, Ind. G 1907 Plant and Animal Breeding Station Harry Bouchard U 1911 New York City Assistant Engineer, The J. G. White Company Joseph Nicholas Bourg U 1909 CG 1903+ Wilbur Pardon Bowen Professor of Physical Education, State Normal College

Omaha, Neb.

Ypsilanti. Mich.

Bessie Emily Bowman U 1905 Duluth, Minn. (Mrs Lorin H Jones)

U 1906 Washington, D. C. Lawrence Ray Boyer Assistant, U. S. Bureau of Standards

Ann Arbor, Mich. Edward Milton Bragg Assistant Professor of Marine Engineering, University of Michigan

Cleveland, Ohio

Geneva, Ill.

U 1906

U 1911

U 1910

Teacher of Physics, Technical High School

Physician, State Training School

Samuel Craighead Brandon

(Deceased 1909)

Olga Louise Bridgman

Claude Brechner

Harvey Clayton Brill G 1911 Oxford, Ohio Assistant Professor of Chemistry, Miami University Glenn B. Britton U 1907 Toledo, Ohio Research Chemist, Guy G. Major Company U 1905 Roy Alton Brown Philippine Islands Physician G 1906 Warren David Brush Washington, D. C. Expert, United States Forest Service William Carr Bulmer U 1909 Franklin, Pa. Master Mechanic, American Steel Foundry James Dennis Burby U 1911 New York City Chemist, Electrical Testing Laboratories Edward Morris Burd U 1911 Jackson, Mich. Engineer, Commonwealth Power Company of Michigan William Allds Burnham U 1909 Chicago, Ill. Electrical Engineer F 1904\* George Plumer Burns Burlington, Vt. Professor of Botany, University of Vermont U 1907 Frank Burton Detroit, Mich. Consulting Chemist William Henry Buskirk U 1904 Miles City, Mont. Physician and Surgeon Carl Dudley Camp F 1911 Ann Arbor, Mich. Professor, Diseases of Nervous System, University of Michigan Edward DeMille Campbell F 1903\*+ Ann Arbor, Mich. Professor of Chemical Engineering, University of Michigan Myrtle Pearle Campbell U 1906 St. Louis, Mo. (Mrs Benjamin B Gould) U 1907 Ann Arbor, Mich. Robert John Carney Instructor in Analytical Chemistry, University of Michigan U 1907 Gail Luke Carver Macon, Ga. Professor of Biology, Mercer University F 1903\* (Kansas U 1893) Ann Arbor, Mich. Ermine Cowles Case Junior Professor of Geology and Paleontology, University of Michigan G 1903\* (Pennsylvania G 1902) Austin, Tex. Dana Brackenridge Casteel Adjunct Professor of Zoology, University of Texas Otto Leslie Castle U 1909 Kansas City, Mo. U 1906 Atlanta, Ga. Leroy William Childs

Physician

Earle Hart Clapp U 1905 Washington, D. C.
Inspector, U. S. Forest Service

Alva Benson Clark U 1911 New York City
Assistant Engineer, American Telephone and Telegraph Company

Robert Watson Clark U 1908 Ann Arbor, Mich.
Instructor in Petrography, University of Michigan

Arthur Brooks Clawson G 1905 (Wisconsin CF 1907) Lake Forest, Ili. Assistant Professor of Biology, Lake Forest University

Charles W Cobb G 1911 Amherst, Mass. Assistant Professor in Mathematics, Amherst College

William Thomas Lee Cogger U 1910 Fostoria, Ohio Engineer, National Electric Lamp Association

Walter Francis Colby G 1903 Ann Arbor, Mich. Instructor in Physics, University of Michigan

Harrie Newton Cole U 1906\* Ann Arbor, Mich. Instructor in Analytical Chemistry, University of Michigan

Lee Holt Cone CF 1903\* Ann Arbor, Mich.
Instructor in Chemistry, University of Michigan

Charles Wilfred Cook U 1906 Ann Arbor, Mich. Instructor in Economic Geology, University of Michigan

William George Cook U 1904 Chicago, Ill. Engineer

Mortimer Elwyn Cooley F 1903\*† Ann Arbor, Mich. Dean of Engineering Department, University of Michigan

Thomas Benton Cooley F 1903 Detroit, Mich.
Physician

Thurlow Emmett Coon U 1906 Detroit, Mich.
Engineer, The Coon-De Visser Company

Grace Beers Cooper U 1906 Kalamazoo, Mich.
Science Teacher, Portage Street High School

Otis Merriam Cope U 1904 Ann Arbor, Mich.
Instructor in Physiology, University of Michigan

David Murray Cowie F 1903\* Ann Arbor, Mich. Clinic Professor of Pediatrics, University of Michigan

Clyde Firman Craig U 1904 Ithaca, N. Y.
Instructor in Mathematics, Cornell University

Harry Wolven Crane G 1911 Ann Arbor, Mich.
Assistant in Sociology, University of Michigan

Howard Hasting Cummings U 1910 Ann Arbor, Mich. Instructor in Gynecology and Obstetrics, University of Michigan

George Morris Curtis G 1910 Ann Arbor, Mich. Instructor in Zoology, University of Michigan

Maynie Rose Curtis U 1905 Orono, Me. Assistant in Biology, Agricultural Experiment Station, University of Maine

Ralph Hamilton Curtiss G 1907\* (California G 1902) Ann Arbor, Mich. Assistant Professor of Astronomy, University of Michigan

Arthur Robertson Cushny CF 1903\* London, England Professor of Pharmacology, University College, University of London

Alfred Paul Dachnowski G 1905\* (Ohio F 1908) Columbus, Ohio Assistant Professor of Botany, Ohio State University

John Franklin Daniel F 1910\* Berkeley, Cal. Assistant Professor of Zoology, University of California

Leo Harvey Darrow U 1910 New York City Engineer, American Telephone and Telegraph Company

Raymond Cornwell Darrow U 1910 New York City Engineer, American Telephone and Telegraph Company

Wirt Edward Darrow U 1911 Newark, N. J. Plant Engineer, New York Telephone Company

Cassius Miles Davis G 1908 Schenectady, N. Y. Consulting Engineer, General Electric Company

Joseph Baker Davis F 1909\*† Ann Arbor, Mich. Emeritus Professor of Geodosy, University of Michigan

John R Davis U 1909 Physician

Harlow Noble Davock U 1909 Jackson, Mich. Engineer

Mexico City, Mex.

Jean Dawson G 1905\* Cleveland, Ohio Teacher of Biology, Cleveland Normal Training School

Arthur James Decker U 1905 Ann Arbor, Mich. Instructor in Civil Engineering, University of Michigan

Paul Edward Demmler U 1905 Charleston, W. Va.
Consulting Chemist, Testing Laboratory

Charles Beylard de Nancrede F 1904\* Ann Arbor, Mich. Professor of Surgery, University of Michigan

John Henry De Visser U 1907 Detroit, Mich. Engineer, The Coon-De Visser Company

Lydia Maria Adams DeWitt F 1904\* St. Louis, Mo. (Mrs Alton D DeWitt) Assistant City Bacteriologist

Stewart Lloyd DeWitt U 1911 Providence, R. I.
Interne, Rhode Island Hospital

Archibald Warren Diack G 1908 Detroit, Mich.

M Everett Dick U 1906 Cape Town, South Africa Chemist, Cape's Explosive Company

James Robert Dickson U 1908 Dauphin, Manitoba Assistant Inspector, Dominion Forest and Game Preserves

Robert Livingston Dixon U 1910 Lansing, Mich. Executive Officer, Michigan State Board of Health

George Dock F 1903\*† St. Louis, Mo. Professor of Medicine, Washington University Medical School

Fabian Bouton Dodds G 1907 Spokane, Wash. Lawyer, U. S. Land Office Albert Wilford Dorr CG 1903 Mt. Vernon, Ohio Teacher of Science, High School

James Edwin Duerden F 1904\* Grahamstown, Cape Colony Professor of Biology, Rhodes University College

Frances Jewett Dunbar G 1905 Ann Arbor, Mich.
Assistant in Zoology, University of Michigan

David Christie Duncan U 1911 (Purdue F 1911) Lafayette, Ind. Instructor in Physics, Purdue University

Frederick Levy Dunlap F 1903\* Washington, D. C. Associate Chemist, Bureau of Chemistry, Department of Agriculture

Lionel Herman Duschak U 1904\* Corning, N. Y. Research Chemist, Corning Glass Works

Richard d'Zeeuw U 1907 Lansing, Mich. Graduate Student, University of Michigan

Katharine Louise Eager U 1909 Salt Lake City, Utah Physician

Horace Matthew Edmands U 1909 Sault Ste. Marie, Mich. Electrician, U. S. Engineering Office

Charles Wallis Edmunds CF 1903 Ann Arbor, Mich. Professor of Materia Medica and Therapeutics, University of Michigan

John Edward Emswiler F 1908 (Ohio U 1903) Ann Arbor, Mich. Instructor in Engineering, University of Michigan

Frances Mary Eschenburg U 1907 Corning, N.Y. (Mrs Lionel Herman Duschak)

Edwin Walter Esslinger U 1907 Baltimore, Md,
Graduate Student, Johns Hopkins University

Edward King Evatt U 1910 Washington, D. C. Construction and Repair Department, Navy Yard

Harold Kniest Faber U 1911 New York City
Interne, New York Hospital

Lemuel William Famulener CG 1903 New York City Assistant Director, Research Laboratory, Department of Health

Frank Alexander Ferguson U 1908 Oshkosh, Wis.
Professor of Physics, State Normal School

Peter Field F 1903\* (Minnesota G 1897) Ann Arbor, Mich. Assistant Professor of Mathematics, University of Michigan

Frank Richard Finch U 1904 (Yale U 1904) Ann Arbor, Mich. Instructor in Descriptive Geometry, University of Michigan

Walter Turner Fishleigh U 1906 Detroit, Mich.
Instructor in Drawing, University of Michigan

Victor Benedict Fitzpatrick U 1907 New Castle, Pa. Engineer

Robert Stephenson Fleshiem U 1904 Detroit, Mich. Sales Engineer, Allis-Chalmers Company

U 1909 James Howard Flynn Detroit, Mich. Engineer, Michigan Central Railroad F 1903 Walter Burton Ford Ann Arbor, Mich. Junior Professor of Mathematics, University of Michigan U 1910 New York City Engineer, American Telephone and Telegraph Company Harry Henry Frost U 1908 Akron, Ohio Engineer John Gray Gage TT 1908 Linville, N. C. Physician Joseph K Gannett U 1910 Cleveland. Ohio Engineer, with Anton Burchard Vera Placida Gardner U 1911 Los Angeles, Cal. Assistant in Physiology, University of Southern California U 1907 John Carlyle Garrels Detroit, Mich. Expert, Solvay Process Company William Van Nest Garretson F 1910 (Yale G 1904) Ann Arbor, Mich. Instructor in Mathematics, University of Michigan Louis Merwyn Gelston CG 1903 (Deceased 1906) Edwin Leroy Gemmill U 1905 Pittsburgh, Pa. Structural Engineer, Jones and Laughlin Steel Company U 1911 Harry Myers George Leadville, Col. Chemist, American Smelting and Refining Company Quinter Olen Gilbert U 1909 Ann Arbor, Mich. Assistant in Zoology, University of Michigan F 1906\* Otto Charles Glaser Ann Arbor, Mich. Assistant Professor of Zoology, University of Michigan F 1910\*(Illinois G 1904) Ann Arbor, Mich. Henry Allen Gleason Assistant Professor of Botany, University of Michigan James Waterman Glover F 1903\*† Ann Arbor, Mich. Professor of Mathematics, University of Michigan G 1910 Henry Newell Goddard Superior, Wis. Professor of Biology, Normal School CF 1903\*+ Ann Arbor, Mich. Moses Gomberg Professor of Organic Chemistry, University of Michigan Thomas DeWitt Gordon U 1909 Grand Rapids, Mich. Physician Chicago, Ill. Alexander MacDonald Graver U 1905 Purchasing Agent, William Graver Tank Works Clarence Jasper Green U 1908 Portland, Ore. Power Salesman, Mount Hood Railway and Power Company F 1906 Ann Arbor, Mich. Albert Emerson Greene Professor of Civil Engineering, University of Michigan F 1905 Leslie, Mich. Arthur Emery Greene Physician Albion, Mich. Clarence Wilson Greene G 1910 Professor of Physics, Albion College

Charles Edward Griffin G 1909 San Bernardino, Cal. Head of Science Department, High School

John Howell Griffith F 1909 Pittsburgh, Pa. Engineer Physicist, Bureau of Standards

Herman John August Grossmann U 1911 Ann Arbor, Mich.
Student in Forestry, University of Michigan

Karl Eugen Guthe CF 1905\*† (Iowa F 1906) Ann Arbor, Mich. Professor of Physics, University of Michigan

William Jay Hale F 1905\* Ann Arbor, Mich. Assistant Professor of Chemistry, University of Michigan

William Worth Hale F 1908 Washington, D. C. Pharmacologist, United States Hygienic Laboratory

Arthur Graham Hall F 1908\* Ann Arbor, Mich. Professor of Mathematics, and Registrar, University of Michigan

Asaph Hall F 1903\*† Washington, D. C. Professor of Mathematics, Naval Observatory

Stuart McCune Hamilton U 1909 Ann Arbor, Mich. Instructor in Commerce, University of Michigan

Lucie Harmon U 1910 Milwaukee, Wis.

Teacher of Biology, West Division High School

Ruth Ellen Harrison U 1907 Olympia, Wash. (Mrs Parish Storrs Lovejoy)

Robert Henry Haskell U 1910 Syracuse, N. Y.
Instructor in Anatomy, Syracuse University

Donald Theodore Hastings U 1907 Detroit, Mich. Engineer, General Motors Company

Samuel Reese Haythorn U 1904 Pittsburgh, Pa. Assistant Professor of Pathology, University of Pittsburgh

Lewis Henry Hector U 1905 Pittsburgh, Pa.
Physician

Robert Wilhelm Hegner F 1909\* Ann Arbor, Mich. Assistant Professor of Zoology, University of Michigan

John Helfman U 1904 Detroit, Mich.
Parke Davis Company

William D Henderson F 1908\* Ann Arbor, Mich. Assistant Professor of Physics, University of Michigan

Albion Walter Hewlett F 1909\* Ann Arbor, Mich.
Professor of Internal Medicine, University of Michigan

Rufus Percival Hibbard G 1906\* East Lansing, Mich. Research Assistant in Plant Physiology, Michigan Agricultural College

Henry Harold Higbie F 1905\* (Columbia G 1905) Boston, Mass. Assistant Professor of Electrical Engineering, Wentworth Institute

George Oswin Higley F 1903\* Delaware, Ohio Professor of Chemistry, Ohio Wesleyan University

Theophil Henry Hildebrandt G 1907 Ann Arbor, Mich. Instructor of Mathematics, University of Michigan

F 1906\*+ William Herbert Hobbs Ann Arbor, Mich. Professor of Geology, University of Michigan U 1905 Edward Lawrence Hogan Chicago, Ill. Manager, Chicago Office, American Blower Company Ray Kingsbury Holland U 1908 Ann Arbor, Mich. With G. S. Williams, Consulting Engineer TI 1904 Syracuse, N. Y. Arthur Holmes Engineer, H. H. Franklin Manufacturing Company F 1903\*† (Wisconsin CF 1907) Madison, Wis. Samuel Jackson Holmes Assistant Professor of Zoology, University of Wisconsin TJ 1910 Raymond Barclay Hosken Chicago, Ill. Engineer Alexis Charles Houghton U 1905 Syracuse, N. Y. Chemist, Solvay Process Company Charles Kent Houston U 1905 Minneapolis, Minn. Manager, William B. Hough Company Horace John Howk U 1907 Mt. McGregor, N. Y. Physician, Tuberculosis Sanitarium CF 1903\*+ Ann Arbor, Mich. Gotthelf Carl Huber Professor of Histology and Embryology, University of Michigan George Augustus Hulett CF 1903\* Princeton, N. J. Professor of Physical Chemistry, Princeton University U 1905 (Ohio F 1907) Columbus, Ohio John Herman Hunt Associate Professor of Electrical Engineering, Ohio State University Ann Arbor, Mich. Walter Fred Hunt G 1906 Instructor in Mineralogy, University of Michigan Fred Walter Hunter G 1910 Rochester, N. Y. Instructor in Chemistry, Universty of Rochester Henri Th. Antoine de Leng Hus F 1910 Ann Arbor, Mich. Instructor in Botany, University of Michigan F 1906\*+ William Joseph Hussey Ann Arbor, Mich. Professor of Astronomy, University of Michigan

TI 1905 Brainerd. Minn. Arthur Wheaton Ide

Assistant Chief Surgeon, Northern Pacific Railway Hospital Anna Christine Iverson U 1907 Busrah, Turkish Arabia (Mrs Arthur K Bennett)

Medical Missionary

U 1910 Detroit, Mich. Andrew Douglas Jamieson Engineer, City Waterworks

Washington, D. C. Clara Octavia Jamieson G 1905 Assistant, United States Bureau of Plant Industry

TT 1904\* Madison. Wis. Cyril Methodius Jansky Associate Professor of Engineering, University of Wisconsin

CF 1903\*+ Baltimore, Md. Herbert Spencer Jennings Professor of Zoology, Johns Hopkins University

U 1908 Owensboro, Ky. Ralph Drury Jennison Engineer

Robert Lee Jickling U 1911 Ann Arbor, Mich. Graduate Student, University of Michigan

Clarence Thomas Johnston F 1911 Ann Arbor, Mich. Professor Surveying and Geodesy, University of Michigan

Laurence Crane Johnson U 1910 Ann Arbor, Mich.
Assistant in Chemistry, University of Michigan

Charles Willis Johnson CG 1903\* (Washington CF 1907) Seattle, Dean of College of Pharmacy, University of Washington [Wash.

William Demorest Johnston U 1906 Butler, Pa. Engineer, C. D. & P. Telephone Company

Albert Barnett Jones U 1910 Detroit, Mich.
Engineer, United States Lake Survey

Bessie Emily (Bowman) Jones U 1905 Duluth, Minn. (Mrs Lorin H Jones)

George Abel Paul Kamperman F 1911 Ann Arbor, Mich. Instructor in Obstetrics and Gynecology, University of Michigan

Clyde Fenworth Karshner U 1908 Big Rapids, Mich. Physician

Calvin Henry Kauffman F 1904\* (Cornell G 1903) Ann Arbor, Mich. Instructor in Botany, University of Michigan

Lloyd Marley Keller U 1911 Rochester, N. Y.
Assistant Engineer, Rochester Light and Power Company

William Herbert Kempfer U 1906 Madison, Wis.
Assistant, Forest Products Laboratory

George Eaton Kephart U 1908 South Bend, Ind. Engineer, Indiana and Michigan Electric Company

William Robertson Kepler U 1909 North Girard, Pa. Engineer

Peter Keplinger U 1908 Wagon Wheel Gap, Col.
Assistant, United States Bureau of Forestry

Virgil Morrison Kime U 1906 Indianapolis, Ind. Associate Actuary, American Central Life Insurance Company

Abraham Albert Klein U 1911 Pittsburgh, Pa.
Petrographer, Bureau of Standards, United States Government

Clarence Carl Knipmeyer U 1907 Terre Haute, Ind. Associate Professor of Engineering, Rose Polytechnic Institute

Edward Henry Kraus F 1905\* Ann Arbor, Mich. Professor of Mineralogy, University of Michigan

Clarence Henry Kremers U 1906 Salt Lake City, Utah Engineer

Julius Frank Kummel G 1907 Portland, Ore. United States Forest Service

The state of the s

Lucas Petron Kyriakides G 1909 (Illinois F 1909) Cambridge, Mass. Chemist.

Albee Lovejoy Ladd U 1908 St. Paul, Minn. Civil Engineer Fleeta Alberta Lamb

U 1911 Housekeeper Aspen, Col.

George William Lamke U 1906 (Washington CF 1910) St. Louis, Mo. Assistant Professor of Electrical Engineering, Washington University

George Rogers La Rue F 1911 (Nebraska G 1908; Illinois F 1909)
Professor of Zoology, University of Michigan [Ann Arbor, Mich.

Elmer Claud Lawton U 1907 Buffalo, N. Y.
Draftsman, Lackawanna Bridge Company

Mary Frances Leach G 1904\* Oxford, Ohio Professor of Chemistry, Western College for Women

Frank Leverett F 1909\*† Ann Arbor, Mich. United States Geological Survey, Lecturer at University of Michigan

David J Levy U 1906 Physician

U 1906 Detroit, Mich.
Physician

George W Cass Lightner U 1909 Toronto, Canada Bridge Engineer, Grand Trunk Railway

Samuel Colville Lind F 1906\* Ann Arbor, Mich.
Instructor in Chemistry, University of Michigan

George Allan Lindsay U 1905 St. Louis, Mo. Instructor in Physics, Washington University

Warren Plimpton Lombard F 1903\*† Ann Arbor, Mich. Professor of Physiology, University of Michigan

Carlos Pointon Long U 1905 Cincinnati, Ohio Chemist, Globe Soap Company

John Parker Loudon U 1908 North Yakima, Wash.
Physician

Clyde Elton Love U 1905 Ann Arbor, Mich. Instructor in Mathematics, University of Michigan

Alfred Henry Lovell U 1909 Ann Arbor, Mich. Instructor in Engineering, University of Michigan

Parish Storrs Lovejoy U 1907 Olympia, Wash. Supervisor, United States Forest Service

Ruth Harrison Lovejoy U 1907 Olympia, Wash. (Mrs Parish Storrs Lovejoy)

Nelson Ferris MacDuff U 1905 Albany, Ore.
Forester, United States Forest Service

Milber Marshall MacLean U 1909 Mishawaka, Ind. Chemist, Dodge Manufacturing Company

Ward J MacNeal CG 1903\* (Illinois F 1907) New York City Lecturer, New York Post-Graduate Medical School

Daniel Handley McAllister U 1908 Provo City, Utah Assistant Superintendent, Telluride Power Company

Edward Florince McCarthy U 1911 (Syracuse F 1911) Syracuse, N. Y. Assistant Professor in Forestry, Syracuse University

Carl C McClelland U 1910 Detroit, Mich. Physician

	1910 Milwaukee, Wis. s-Chalmers Company
	1910 Milwaukee, Wis. s-Chalmers Company
	T1903*† Toronto, Canada omy, Toronto University
	1908 Hastings, Mich. Botany, High School
Lawrence Ross McNamee U	1911 Gary, Ind.
	1907 Ann Arbor, Mich.
James Everingham MacChesney U Engineer, Riter-Conle	1910 Pittsburgh, Pa. ey Manufacturing Company
Herman William March F. Assistant Professor of Mat	1905 (Wisconsin CF 1907) Madison, Wis. hematics, University of Wisconsin
	1908 Ann Arbor, Mich. nd Grounds, University of Michigan
	1908 Ann Arbor, Mich. utics, University of Michigan
	1911 Detroit, Mich. heel and Foundry Company
	1908 Manila, P. I. e Forest Service
	1906 Fort Wayne, Ind. Life Insurance Company
	1909 Ann Arbor, Mich. es, University of Michigan
	1911 Richmond, Ind. ematics, Erlham College
	1906 Provo, Utah Knight Power Company
	1911 Phildelphia, Pa. struction and Repair, Navy Yard
	1909 Ithaca, N. Y. Engineering, Cornell University
	1909 La Grange, Ill. Retired
	1904 New York City ephone and Telegraph Company
	1904* St. Louis, Mo. ledicine, Washington University
	1908 Wallace, Ida. Forester
	1909 Detroit, Mich. Idren's Free Hospital
	3 1903 Norwalk, Ohio hysician

336 SIGMA XI G 1905\* (Cornell U 1901) Walter Mulford Ithaca, N. Y. Professor of Forestry, Cornell University James Frederick Munson CG 1903 Sonyea, N. Y. Physician, Craig Colony Ralph Murphy TJ 1908 Syracuse, N. Y. Traveling Engineer, H. H. Franklin Company Adrian John Neerken U 1906 Detroit, Mich. Engineer, Packard Motor Car Company Frederick Charles Newcombe CF 1903\*+ Ann Arbor, Mich. Professor of Botany, University of Michigan Byron Deloss Niles U 1903 Grand Ledge, Mich. Physician Carl Uno North U 1909 Cleveland. Ohio Engineer, Brown Hoisting Machinery Company Henry Hazard Norton U 1909 Detroit Mich. Engineer, Frederick Stearns Company Frederick George Novy CF 1903\*+ Ann Arbor, Mich. Professor of Bacteriology, University of Michigan Peter Olaus Okkelberg F 1909 (U 1906 Minnesota) Ann Arbor, Mich. Instructor in Zoology, University of Michigan Fredrick Arthur Osborn G 1907\* (Washington CF 1907) Seattle, Wash. Professor of Physics, University of Washington Olive E Outwater U 1910 River Rouge, Mich. Teacher of Mathematics, High School Frank Keehn Ovitz U 1905 Pittsburgh, Pa. Assistant Chemist, United States Bureau of Mines Charles Herbert Otis U 1910 Ann Arbor, Mich. Curator, Botanical Garden, University of Michigan Clifford Emmett Paine U 1911 Ambridge, Pa. Detailer, American Bridge Company Russel Burr Palmer U 1911 Saginaw, Mich. Engineer, Saginaw-Bay City Railroad Company Ralzemond Drake Parker U 1905 Ann Arbor, Mich. Assistant Professor of Electrical Engineering, University of Michigan Christopher Gregg Parnall U 1904 Jackson, Mich. Physician Clarence Elmar Partch U 1909 Des Moines, Ia. Instructor in Drawing, West High School Charles Lawson Patterson U 1909 Pueblo, Col. Engineer, Irrigating Lands Company George Washington Patterson F 1903\* Ann Arbor, Mich. Professor of Electrical Engineering, University of Michigan Charles Lanphier Patton G 1903 Springfield, Ill. Physician, Prince Sanitarium

CF 1903\*

Head of Department of Biology, Agricultural Experiment Station

Orono, Me.

Raymond Pearl

MICHIGAN CHAPTER Grace Darling Peele U 1904 Brooklyn, N. Y. Physician U 1906 (Syracuse F 1910) Syracuse, N. Y.Leigh H Pennington Assistant Professor of Botany, Syracuse University Alfred Emery Perkins U 1908 Niagara Falls, N. Y. Wendell LeRoy Perkins U 1911 Jackson, Mich. Instructor in Physiography, Jackson High School F 1903 Reuben Peterson Ann Arbor, Mich. Professor of Obstetrics and Gynecology, University of Michigan Frank Jay Phillips U 1906 (Deceased 1911) Archie Burton Pierce F 1910\* Ann Arbor, Mich. Assistant Professor of Engineering, University of Michigan Hugh Marion Pierce G 1911 Jackson, Mich. Detailer, W. G. Fargo, Consulting Engineer Adrian John Pieters G 1911 Hollister, Cal. Student, Heidelburg, Germany Walter Bowers Pillsbury CF 1903\*† (Cornell G 1894) Ann Arbor, Mich. Professor of Psychology, University of Michigan Roy Alfred Plumb U 1906 Detroit, Mich. Technical Director, Trussed Concrete Steel Company James Barkley Pollock Ann Arbor, Mich. Junior Professor of Botany, University of Michigan William Edward Post TJ 1904 Bridgeport, Conn. Salesman, Locomobile Company of America Elsie Seelye Pratt U 1904 Denver. Col. Physician Albert Benjamin Prescott CF 1903† (Deceased 1905) John Frederick Preston U 1906 Washington, D. C. United States Forest Service Horace Patton Ramey TI 1907 Assistant Engineer, City Sanitary District

Chicago, Ill.

F 1906\* Harrison McAllister Randall Ann Arbor, Mich. Junior Professor of Physics, University of Michigan

Webster Hamilton Ransom TJ 1909 Libby, Mont. Forester, United States Forest Service

Katherine Piatt Raymond U 1905 Wellesley, Mass. Physician, Wellesley College

F 1904\*+ John Oren Reed Ann Arbor, Mich. Dean of Science and Arts, University of Michigan

CG 1903\* (Missouri CF 1905) Blacksburg, Va. Howard Sprague Reed Professor of Bacteriology, Virginia Polytechnic Institute

Ralph John Reed U 1908 Los Angeles, Cal. Engineer, Union Oil Company

Jacob Ellsworth Reighard F 1909\*+ Ann Arbor, Mich. Professor of Zoology, University of Michigan

Instructor in Physics, University of Michigan

Assistant Professor of Engineering, University of Michigan

Chemist, Bureau of Science

Consulting Engineer

CG 1903

A 1899

Ann Arbor, Mich.

Manila, P. I.

Ann Arbor, Mich.

F 1908 (Rensselaer U 1895) Ann Arbor, Mich.

G 1908

Daniel Leslie Rich

Edward Dunbar Rich

Henry Earle Riggs

George Fletcher Richmond

Charles Adolph Robertson U 1907 Centreville, Ia. Charles Summers Robinson U 1907 East Lansing, Mich. Research Chemist, University of Michigan Experiment Station U 1907 Louis Francisco Ross Richmond, Ind. Physician Augustus Henry Halyard Roth CG 1903\* Erie, Pa. Physician and Surgeon, St. Vincent's Hospital F 1903\* (Cornell F 1900†) Ann Arbor, Mich. Filibert Roth Professor of Forestry, University of Michigan George Byron Roth G 1909 Ann Arbor, Mich. Instructor in Pharmacology, University of Michigan Sidney Rumney Russel U 1904 Detroit, Mich. Engineer, Great Lakes Engineering Department **U 1908** Alexander Stuart Russell Los Angeles, Cal. Engineer, El Segundo Oil Refinery Israel Cook Russell CF 1903\* (Deceased 1906) George Stanley Rutherford U 1910 Ann Arbor, Mich. Graduate Student, University of Michigan Alexander Grant Ruthven G 1904\* Ann Arbor, Mich. Assistant Professor of Zoology, University of Michigan Herbert Charles Sadler CF 1903 Ann Arbor, Mich. Professor of Naval Architecture, University of Michigan John Thomas Sample U 1908 Saginaw, Mich. Physician CF 1903\*+ Julius Otto Schlotterbeck Ann Arbor, Mich. Dean, School of Pharmacy, University of Michigan Harry Burke Schmidt U 1911 Ann Arbor, Mich. Interne, University of Michigan Hospital G 1907\* Ann Arbor, Mich. Irving Day Scott Instructor in Geology, University of Michigan TI 1909 Orville, Ohio Walter Glenn Scott Allis-Chalmers Company William James Shackelton TI 1909 New York City Laboratory Engineer, Western Electric Company William Day Shannon U 1907 Sumner, Wash. Assistant Superintendent, Stone and Webster Engineering Corporation Harold Hutchison Shearer U 1908 Brooklyn, N. Y. District Engineer, New York Telephone Company

Racine, Wis.

New York City

MICHIGAN CHAPTER F 1904\* John Frederick Shepard Ann Arbor, Mich. Assistant Professor of Psychology, University of Michigan Aaron Franklin Shull U 1908 Ann Arbor, Mich Instructor in Zoology, University of Michigan Harry Augustus Shuptrine U 1909 Mt. Vernon, Ohio Draftsman, Mt. Vernon Bridge Company U 1908 Ernest McPherson Sims Toronto, Canada Engineer Emory Walter Sink U 1911 Ann Arbor, Mich. Assistant in Zoology, University of Michigan F 1911 George Slocum Ann Arbor, Mich. Demonstrator in Ophthalmology, University of Michigan F 1906 William Gabb Smeaton Ann Arbor, Mich. Assistant Professor of Chemistry, University of Michigan Bertram Garner Smith U 1907 (Syracuse F 1907: Wisconsin F 1909) Graduate Student, Columbia University [New York City San Francisco, Cal. Charles Stowell Smith U 1905 Forester, United States Department of Agriculture Richard A Smith G 1911 Lansing, Mich. Assistant State Geologist, Michigan Geological Survey Seward Dwight Smith TJ 1910 Washington, D. C. Assistant, United States Forest Service Stephen Herbert Smith U 1905 Cleveland, Ohio Physician, Lakeside Hospital U 1909 Grand Rapids, Mich. Thomas Albert Smith City Engineer Frank William Smithies U 1904 Rochester, Minn. Physician, St. Mary's Hospital U 1908 Salt Lake City, Utah Clarence Snow Physician U 1911 Cleveland, Ohio Harry Alfred Snow Apprentice, National Electric Lamp Association G 1907 (Case F 1907) Cleveland, Ohio Robert Earle Snyder Instructor in Physics, Case School of Applied Science Thomas Claude Spaulding G 1909 St. Marie's, Ida. Forester, United States Forest Service U 1910 Lincoln, Neb. Olenus Lee Sponsler Associate Professor of Forestry, University of Nebraska Ann Arbor, Mich. U 1906 Charles Willett Spooner Engineer with Henry E. Riggs U 1911 Erie, Pa. Benjamin William Sprau Superintendent, Erie City Boiler Company

> U 1905 General Manager, Racine Steel Castings Company

G 1910 Research Laboratory, City Board of Health

Sherwood Hubbard Standish

Edna Steinhardt

Charles Earl Turner

Alviso Burdett Stevens, Jr F 1907+ Ann Arbor, Mich. Junior Professor of Pharmacy, University of Michigan Norman Hamilton Stewart G 1910 Professor of Organic Science, Bucknell College Morris Henry Stimson U 1903 Flint, Mich. Manager, Buick Motor Company Wilfred Napoleon St. Peter U 1905 Big Rapids, Mich. Instructor in Physics, Ferris Institute George Linius Streeter F 1911 Ann Arbor, Mich. Professor of Anatomy, University of Michigan F 1907 George Gottlieb Stroebe Manila, P. I. Engineer, Bureau of Public Works Sidney Davis Strong U 1907 Sault Ste. Marie, Mich. Junior Engineer, United States Engineering Department Eliot William Studer Detroit, Mich. Engineer, American Car and Foundry Company Harry Laurence Tanner U 1908 Ann Arbor, Mich. Instructor in Engineering, University of Michigan Joseph Luther Thalman G 1908 Oak Park. Ill. Teacher of Botany, High School Crystal Thompson G 1910 Ann Arbor, Mich, Scientific Assistant, University of Michigan Museum Robert Richardson Thomas U 1904 Battle Creek, Mich. Local Manager, Commonwealth Power Company Isaac Jay Thorp U 1906 Newark, N. J. Engineer Lambert Thorp G 1911 Ann Arbor, Mich. Assistant in General Chemistry, University of Michigan Charles Joseph Tilden F 1907\* Ann Arbor, Mich. Professor of Civil Engineering, University of Michigan Ralph Russell Tinkham G 1906 Detroit. Mich. Engineer, Eleventh Lighthouse District, United States Government Leroy Tileston U 1911 Louisville, Ky. Student, Louisville College of Dentistry U 1906 Arturo Torregrosa Aguadilla, Porto Rico Physician East Watertown, Mass. Nelson Elbridge Tousley U 1904 Chemist, Hood Rubber Company U 1910 Reuben Simkin Tour New York City Assistant Superintendent, Consolidated Gas Company Kenneth William Tracy G 1911 Detroit, Mich. Manager, Formula and Cost Department, Frederick Sterns and Company Edgar Nelson Transeau CG 1903\* Charleston, Ill. Professor of Botany, State Normal School

U 1909

Hydrographer, State Engineer

Denver, Col.

MICHIGAN CHAPTER 341 U 1909 Benjamin Sayre Tuthill (Deceased 1910) Don Orville Tylee U 1910 East Pittsburgh, Pa. Special Apprentice, Westinghouse Machine Company U 1907 Jay DeWitt Utley, Jr Winthrop Harbor, Ill. Engineer U 1905\* Donald Dexter Van Slyke New York City Associate Chemist, Rockefeller Institute for Medical Research James Gerritt Van Zwaluwenburg U 1907 Ann Arbor, Mich. John Walter Vaughan CG 1903 Detroit, Mich. Physician CF 1903\*+ Victor Clarence Vaughan Ann Arbor, Mich. Dean of Department of Medicine, University of Michigan G 1903\* Victor Clarence Vaughan, Jr Detroit, Mich. Physician Frank Vaughn U 1907 Hamilton, Ohio Engineer Warren Jay Vinton U 1911 Detroit, Mich. Secretary, Vinton Company U 1907 Oswald Martin Wagenseil Brooklyn, N. Y. Engineer U 1911 Allison Walker Claremont, N. H. Mechanical Engineer, Sullivan Machinery Company Howard George Walker U 1908 New York City Research Chemist, Western Electric Company James Herbert Walker Detroit, Mich. Engineer, Central Heating Company Ralph Eric Walker U 1907 Montclair, N. J. Physician, United States Navy Department (Retired) Erwin Van Doren Wallace U 1907 St. Louis, Mo. Hiram Lessiter Walton U 1908 Detroit, Mich. Assistant Engineer, Smith, Hinchman and Grylls U 1910 Roy Elsen Ward Massena, N. Y. Engineer, Long Sault Development Company Luther Fiske Warren U 1909 Ann Arbor, Mich. Instructor in Microscopy, University of Michigan

CF 1903\*+ Aldred Scott Warthin Ann Arbor, Mich.

Professor of Pathology, University of Michigan

Ada Louise Weckel U 1905 Oak Park, Ill. Teacher of Biology, High School

U 1907 Rockford, Ill. Edward Howland Weld Physician

Gertrude Webster Welton U 1910 Waterbury, Conn. Physician, New York Infirmary for Women and Children

Westgate, Ia. Edward Christopher Wente U 1911

Clarence Jay West G 1910 Ann Arbor, Mich. Assistant in Chemistry, University of Michigan George Benson Wheeler U 1908 Brooklyn, N. Y. Chemical Engineer Harold Sayre Wheeler G 1910 Tacoma, Wash. Vice President, Far West Lumber Company Sybil May Wheeler G 1904 North Yakima, Wash. (Mrs Charles Edgar Keeler) Alfred Holmes White F 1909\* Ann Arbor, Mich. Professor of Engineering, University of Michigan U 1905 Lyle Antrim Whitsit Massena, N. Y. Engineer Carl John Wiggers U 1906\* New York City Instructor in Physiology, Cornell University Medical College Ralph Benjamin Wiley U 1906 Lafayette. Ind. Assistant Professor of Engineering, Purdue University Frederic Wilson Willard U 1906 Newark, N. J. Chemist, Western Electric Company Hobart Hurd Willard CG 1903\* Ann Arbor, Mich. Assistant Professor of Chemistry, University of Michigan Vernon Justice Willey U 1909 Kalamazoo, Mich. Gardner Stewart Williams F 1903\*+ (Cornell F 1901) Ann Arbor, Mich. Consulting Engineer Warren Benjamin Williams U 1908 Table Mound, Kan. Engineer, United Kansas Portland Cement Company Levi Philip Ray Willoughby G 1909 Jeffersonville, Ind. George William Winslow U 1911 Phillipsburg, N. J. Draftsman, Ingersoll-Rand Company U 1905 Harro Woltmann Mansfield, Ohio Physician Neal Naramore Wood U 1908 Washington, D. C. First Lieutenant, United States Medical Corps G 1906 John Joseph Woolfenden Detroit, Mich. Draftsman Paul Bartholomew Work U 1911 Tri-Mountain, Mich. Interne, Copper Range Hospital U 1908 Earl N Worth Kalamazoo, Mich. Principal, Central High School Clarence George Wrentmore F 1905 Manila, P. I. Engineer, Bureau of Public Works Winthrop Robins Wright U 1909 Atlanta, Ga. Instructor, Georgia School of Technology G 1911 Ann Arbor, Mich. Elizabeth Dorothy Wuist Assistant in Botany, University of Michigan Oscar Herman Wurster Toronto, Canada

Assistant Manager, Lever Brothers, Ltd.

- Leigh Jarvis Young G 1911 Ann Arbor, Mich. Instructor in Silviculture, University of Michigan
- Charles Christian Zabriskie U 1907 Walkerville, Ont. Engineer, Canadian Bridge Company
- Karl Wilhelmj Zimmerschied U 1904 Detroit, Mich. Chief Metallurgist, General Motors Company
- Alexander Ziwet CF 1903\*† Ann Arbor, Mich. Professor of Mathematics, University of Michigan
- Stanislaus Jan Zowski-Zwierzchowski F 1909 Ann Arbor, Mich. Junior Professor of Engineering, University of Michigan

# ILLINOIS CHAPTER

University of Illinois, Urbana, Illinois.

Charter Dated Dec. 17, 1903

Chapter Installed May 16, 1904

### HISTORICAL SKETCH

Application for a Charter for the establishment of a Chapter of Sigma Xi at the University of Illinois was made in the spring of 1903, and the Charter was granted December 17, 1903. The Illinois Chapter was organized February 10, 1904. The public installation of the Chapter was held on May 16, 1904, at which time Professor Samuel W. Williston, then President of the National Society, delivered an address on Scientific Research. What may well be called the first regular scientific meeting of the Chapter was held November 28, 1904, and since that time there have been held annually from four to eight regular scientific meetings. At these scientific meetings there are presented, in general, the results of investigations that have considerable general scientific interest.

One of the regular features of our Commencement Week Exercises at the University, since the Commencement of 1906, is the annual address given under the joint auspices of the chapters of Phi Beta Kappa and

Sigma Xi.

The Illinois Chapter has not neglected altogether the social element in its meetings. After the more or less formal business or scientific part of a meeting refreshments are very often served and a social hour is enjoyed.

H. L. R.

#### PUBLICATIONS

By-Laws of the Illinois Chapter of the Society of the Sigma Xi, Urbana, Illinois, 1907. pp. 8.

## OFFICERS FOR 1911-12

Descridant	C
President	
Vice-President	THOMAS EDMUND SAVAGE
Recording Secretary	· JAMES HARVEY PETTIT
Corresponding Secretary	HENRY LEWIS RIETZ
Treasurer	· EDWARD NIGHT NASHBY
Councilor	STEPHEN ALEPED FORRES

# MEMBERSHIP ROLL

Edwina Eunice Abbott G 1909 Poughkeepsie, N. Y.
Assistant in Physiology, Vassar College

William Lamont Abbott A 1909† Chicago, Ill. Engineer, Chicago Edison Company

Milwaukee, Wis.

Santa Barbara, Cal.

ILLINOIS CHAPTER 345 **Duff Andrew Abrams** F 1909 Urbana, Ill. Associate in Engineering Experiment Station, University of Illinois Charles Christopher Adams F 1908\* (Michigan F 1903) Associate in Animal Ecology, University of Illinois Milton Kent Akers U 1905 Pullman, Wash. Assistant Professor of Electrical Engineering, Washington State College William Fitch Allen F 1910 (Stanford A 1907) Minneapolis, Instructor in Histology, University of Minnesota [Minn. Wynfred Emory Allen F 1910 (Nebraska G 1905) Venice, Cal. Teacher, High School F 1909 Fred Gray Allison Fillmore, Sask. Farmer Harry Orson Allison U 1906 Columbia, Mo. Assistant Professor of Animal Husbandry, University of Missouri Thomas Hamer Amrine U 1906 Harrison, N. J. Engineer, General Electric Company Arvid Robert Anderson U 1911 Urbana, Ill. Graduate Scholar in Electrical Engineering, University of Illinois Samuel Herbert Anderson G 1911 Urbana, Ill. Fellow in Physics, University of Illinois F 1910 (Indiana F 1909) George Frederick Arps Champaign, Ill. Assistant Professor of Psychology, University of Illinois Joseph Paul Aumer U 1908 Urbana, Ill. Assistant in Chemistry, Agricultural Experiment Station, University of Illinois Irwin Woodward Bach G 1909 Chicago, Ill. Student, Rush Medical College F 1907\*† Appleton, Wis. Rufus Mather Bagg Professor of Geology, Lawrence College F 1908\*† (Cornell G 1900) William Chandler Bagley Urbana, Ill. Director, School of Education, University of Illinois G 1909\* Urbana, Ill. Ernest Winfield Bailey Associate in Horticulture, University of Illinois F 1905\*† (Chicago CF 1904) San Fran-Harry Foster Bain [cisco, Cal. Editor, Mining and Scientific Press F 1906\* (Cornell G 1902) Worcester, Mass. John Wallace Baird Professor of Psychology, Clark University CF 1903\*† Urbana, Ill. Ira Osborn Baker Professor of Civil Engineering, University of Illinois Madison, Wis. Ray Luzerne Baker U 1907 Instructor in Experimental Engineering, University of Wisconsin F 1907 (Pennsylvania G 1905) Urbana, Ill. Clarence William Balke Assistant Professor of Chemistry, University of Illinois Washington, D. C.

U 1904 Assistant Pathologist, Bureau of Plant Industry G 1909

U 1906

Teacher in Public Schools

William Salisbury Ballard

George John Balzer Susan Jessie Barr

Frank Walker Bliss

Harry Clow Boardman

James Theophilus Barrett F 1908 Urbana, Ill. Associate and Chief Assistant in Botany, University of Illinois F 1905\*† (Kansas F 1898) Edward Bartow Urbana, Ill. Director of State Water Survey, University of Illinois U 1911 John Besler Bassett Schenectady, N. Y. Student Engineer, General Electric Company Stuart Jeffrey Bates G 1911 Urbana, Ill. Fellow in Physical Chemistry, University of Illinois Frank Stanley Bauer U 1911 Boulder, Col. Instructor in Mechanical Engineering, University of Colorado Florence Gabrielle Baxter U 1911 Urbana, Ill. Scholar in Mathematics, University of Illinois William Shirley Bayley F 1907\*† Urbana, Ill. Associate Professor of Mineralogy and Economic Geology George Denton Beal F 1911 (Columbia G 1910) Urbana, Ill. Instructor in Chemistry, University of Illinois Frank Christian Becht F 1910\* (Chicago G 1907) Urbana, Ill. Assistant Professor of Physiology, University of Illinois ell G 1911 (Chicago G-1909) Assistant in Chemistry, University of Illinois James Edgar Bell Urbana, Ill. Rodney Linton Bell U 1909 West York, Ill. Alfred Rittscher Bench TI 1906 Galena, Ill. Sales Office, Taylor Iron and Steel Company Claudius Edmund Bennett G 1910 (Nebraska U 1909) Urbana, Ill. Fellow in Electrical Engineering, University of Illinois Elizabeth Ruth Bennett G 1908 Urbana, Ill. Scholar in Mathematics, University of Illinois Ernst Julius Berg F 1910\* Urbana, Ill. Professor of Electrical Engineering, University of Illinois Charles Hugh Bethel II 1907 Pittsburgh, Pa. Apprentice, Westinghouse Electric and Manufacturing Company CF 1903\* Isabel Bevier Urbana, Ill. Professor of Household Science, University of Illinois Lewis Isaac Birdsall G 1909 Rock Island, Ill. Chemist and Superintendent of Filtration Plant Joseph Cullen Blair CF 1903\*† Urbana, Ill. Professor of Pomology, Chief of Horticulture, University of Illinois Raymond Silliman Blatchley F 1908 Urbana, Ill. Assistant Geologist, Illinois State Geological Survey Albert Victor Bleininger F 1910\* (Ohio U 1901) Urbana, Ill. Professor of Ceramics, University of Illinois

> er Bliss G 1909 Minne Instructor in Chemistry, University of Minnesota

> > U 1910

Draftsman, Chicago Bridge and Iron Works

Minneapolis, Minn.

Chicago, Ill.

ILLINOIS CHAPTER 347			
Julius Valentine Bopp U 1908 New Memphis, Ill.			
Robert Lacey Borger F 1908* (Chicago G 1904) Urbana, Ill. Associate in Mathematics, University of Illinois			
Napoleon Hiram Boynton U 1909 Cleveland, Ohio With National Electric Lamp Association			
Herbert Amery Brand U 1908 Urbana, Ill.			
Royden Earl Brand U 1909 Urbana ,Ill. Associate in Dairy Husbandry, University of Illinois			
Walter Charles Emil Braum U 1904 (Deceased 1905)			
Lester Paige Breckenridge CF 1903*† New Haven, Conn. Professor of Mechanical Engineering, Yale University			
Charles F Briscoe F 1911 Urbana, Ill. Instructor in Botany, University of Illinois			
Ira Sanford Brooks U 1908 Brandywine, Md. Manager, Deere Farm			
John Pascal Brooks F 1907 Potsdam, N. Y. Director, Clarkson School of Technology			
Morgan Brooks CF 1903*† (Nebraska F 1899) Urbana, Ill. Professor of Electrical Engineering, University of Illinois			
Briggs Odd Brown U 1908 Urbana, Ill.			
Fay Cluff Brown G 1905* (Iowa F 1910) Iowa City, Ia. Assistant Professor of Physics, State University of Iowa			
John Howard Brown G 1909 Cambridge, Mass.			
Avery Brundage U 1909 Chicago, Ill.  Architect, Holabird and Roche			
John Myron Bryant F 1907* Urbana, Ill. Assistant Professor of Electrical Engineering, University of Illinois			
John Lee Buchanan U 1904 Chicago, Ill. Transformer Specialist, General Electric Company			
Thomas Buck F 1910* (Chicago G 1909) Berkeley, Cal. Instructor in Mathematics, University of California			
Jessie Jane Bullock G 1906 Tacoma, Wash. (Mrs Herbert Kastner)			
George Francis Burch U 1909 Springfield, Ill. State Highway Commission			
Laurie Lorne Burgesc F 1910 Urbana, Ill. Associate in Chemistry, University of Illinois			
Paul Steere Burgess G 1911 Urbana, Ill. Assistant in Bacteriology, University of Illinois			
Charles Eldrid Burke G 1911 Brantford, Ont.			
Deane Burns U 1907 Cleveland, Ohio Director, Research Laboratories, National Carbon Company			
Josephine Elizabeth Burns G 1911 Madison, Wis. Fellow in Mathematics, University of Wisconsin			

Opal Burres Fellow in Zoo	G 1909 ology, University of Illinois	Urbana, Ill.
Thomas Jonathan Burrill Vice-President and Prof	CF 1903*† essor of Botany, University of	Urbana, Ill. Illinois
Horace Leland Bushnell Plan Inspector	U 1908 c, City Building Department	Seattle, Wash.
Archie Stanton Buyers Instructor in Eng	U 1908 fineering, University of Illinoi	Urbana, Ill.
Gilbert Haven Cady Assistant Geolog	F 1910 (Northwestern G 1907) ist, Illinois State Geological Su	Urbana, Ill.
Will Carleton Caldwell . Superintendent of Constr	U 1911 uction, Holabird and Roche,	Chicago, Ill. Architects
Albert Pruden Carman Professor of P	CF 1903*† hysics, University of Illinois	Urbana, Ill.
Berton Eugene Carmichael In charge of Animal Husban	U 1905* dry, Ohio Agricultural Experi	Wooster, Ohio nent Station
Orson Allen Carnahan Instructor, U	U 1910 Piniversity of Pennsylvania	niladelphia, Pa.
Frederic Walton Carpenter Assistant Professor	F 1906* of Zoology, University of Illi	Urbana, Ill.
Maurice Leroy Carr Engineer, National l	U 1905 Board of Underwriters' Labora	Chicago, Ill.
William Ernest Carroll	G 1911	Oderville, Utah
John Watrous Case	F 1909 Architect	Detroit, Mich.
Orlo Dorr Center Superintendent, I	U 1905 Illinois State Farmers' Institu	Springfield, Ill.
Henry Livingston Coar Professor of M	CF 1903* (athematics, Marietta College	Marietta, Ohio
Walter Castella Coffey Assistant Professor of S	U 1906 heep Husbandry, University o	Urbana, III. of Illinois
Byron Kemp Coghlan Professor of Civil Engi:	U 1908 neering, New Mexico School o	Sacarro, N. M. of Mines
Clyde Bestor Coleman	U 1907 No	w Windsor, III.
Ray Arthur Collins Chief of Surv	U 1909 vey Party, Bureau of Lands	Manila, P. I.
Stephen Sheldon Colvin Professor of Ps	F 1907* ychology, University of Illinoi	Urbana, Ill.
Allen Burton Cooke	U 1907	Danville, Ill.
Charles Spencer Crandall Professor of Po	CF 1903 omology, University of Illinois	Urbana, Ill.
Arthur Robert Crathorne Associate in Mat	F 1908* chematics, University of Illinoi	Urbana, Ill.
Clifford Crosby	U 1905	Kewanee, Ill.
Lawrence Everett Curfman	U 1905 City Engineer	Pittsburg, Kan.

Richard Sydney Curtiss F 1904 (Union F 1901) Pasadena, Cal. Professor of Chemistry, Throop Institute
Stanley Gardner Cutler U 1908 Manila, P. I. Bureau of Public Works
Eugene Davenport CF 1903*† Urbana, Ill. Dean of the College of Agriculture and Professor of Thremmatology
Ralph Emerson Deets U 1908 Sterling, Ill. With International Harvester Company
William Maurice Dehn
William Wells Denton F 1909 Urbana, Ill. Fellow in Mathematics, University of Illinois
Clarence George Derick F 1909* Urbana, Ill. Associate in Chemistry, University of Illinois
James Ansel Dewey U 1904 Armstrong, Ill. Farmer
Frank Walbridge DeWolf F 1908 Urbana, Ill. Director, Illinois State Geological Survey
William Dietrich F 1909 Urbana, Ill. Assistant Professor of Swine Husbandry, University of Illinois
Henry Bernhard Dirks U 1904 Chicago, Ill.  Mechanical Engineer, National Machine Works
Edward Lewis Dodd F 1906 (Yale G 1904) Austin, Tex.  Professor of Mathematics, University of Texas
Robert Ernest Doherty U 1909 Schenectady, N. Y. With General Electric Company
Frederick William Doolittle F 1908 (Colorado F 1909) Madison, Wis.  Assistant Professor of Engineering, University of Wisconsin
Herman Douthitt G 1911 Urbana, Ill. Fellow in Zoology, University of Illinois
Edgar Dwight Doyle U 1910 New York City Technical Assistant, Electrical Testing Laboratories
Frank Oliver Dufour F 1908* Urbana, Ill. Assistant Professor of Engineering, University of Illinois
William Watson Earnest G 1909 Champaign, Ill. Superintendent of Schools
Edward Murray East G 1904* Cambridge, Mass. Assistant Professor of Plant Breeding, Harvard University
Willard Clark Eells U 1911 Urbana, Ill. Research Fellow, Engineering Experiment Station
Willard Leo Egy G 1909 Pittsburgh, Pa. Assistant Physicist, United States Bureau of Mines
Torris Eide U 1904 New York City Assistant Engineer, New York Terminals, New York Central Railroad
Walter Elmer Ekblaw U 1910 Urbana, Ill. Assistant in Geology, University of Illinois

Ralph Waldo Elden U 1905 Elburn, Ill. Elburn Coal and Lumber Company
Arthur Jackson Ellis U 1908 Washington, D. C. Junior Geologist, United States Geological Survey
Evar Emanuel Elm U 1911 Gary, Ind. Chemist, Coke Plant, Indiana Steel Company
Arnold Emch F 1911*† (Colorado CF 1905; Kansas F 1895) Assistant Professor of Mathematics, University of Illinois [Urbana, Ill.
Arthur Donaldson Emmett G 1905* Urbana, Ill. Assistant Chief in Animal Nutrition, University of Illinois
Arthur Ludvig Enger U 1911 Brooklyn, N. Y. Instructor in Civil Engineering, Brooklyn Polytechnic Institute
Melvin Lorenius Enger U 1906 Urbana, Ill. Assistant Professor of Engineering, University of Illinois
Roy Victor Engstrom U 1904 Seattle, Wash. In Business
Thomas Reuben Ernest G 1910 Champaign, Ill.
William Alonzo Etherton U 1904 Stillwater, Okla. Architect
John Marcus Evvard U 1907 (Missouri F 1908) Ames, Ia. Experimentalist in Animal Husbandry, Iowa State College
Daniel Cleveland Faber U 1908 Madison, Wis. Instructor in Engineering, University of Wisconsin
Stanley Prince Farwell U 1907 Instructor in Mechanics, University of Illinois Urbana, Ill.
Forest Addison Fisher U 1911 Urbana, Ill. Assistant in Soil Physics, University of Illinois
Francis Seeley Foote, Jr F 1910 (Columbia G 1908) Urbana, Ill. Associate in Railway Engineering, University of Illinois
Stephen Alfred Forbes CF 1903*† Urbana, Ill. Director, State Laboratory of Natural History, University of Illinois
Carlotta Marks Ford U 1911 Manhattan, Kan. Assistant, State Agricultural College
Chester Charles Fowler U 1909 Ames, Ia. Assistant Professor of Chemistry, Iowa State College
Harry Bert Fox G 1905 Monmouth, Ill. Superintendent of Brick and Tile Works
Wilbur John Fraser CF 1903† Urbana, Ill. Professor of Dairy Husbandry, University of Illinois
Walter Lee Gaines U 1908 Urbana, Ill. Associate in Dairy Husbandry, University of Illinois
Bradley Charles Gardner U 1906 Chicago, Ill. Assistant Chemist, State Food Laboratory
Claud Mallory Garland F 1906 Collingswood, N. J. Engineer, Camden Iron Works
Frank Caleb Gates U 1910 Ann Arbor, Mich. Assistant in Botany, University of Michigan

Charles Bayard Gibbons U 1907 Seattle, Wash. John Philo Gilbert U 1905 Carbondale, Ill. Professor of Biology, Southern Illinois Normal School Frederick William Gill U 1906\* New York City Research Chemist, General Electric Company James Herbert Gill F 1906 (Minnesota G 1896) Columbus, Ohio Director, Columbus Trade School Hugh Glasgow U 1908 Urbana, Ill. Assistant in Entomology, University of Illinois Robert Douglas Glasgow TJ 1908 Urbana, Ill. Fellow in Entomology, University of Illinois U 1904 Paul Bond Glassco Mount Clare, Col. Henry Allen Gleason G 1904\* (Michigan F 1910) Ann Arbor, Mich. Assistant Professor of Botany, University of Michigan F 1911\* (Kansas F 1908) Pressley Adams Glenn General Assistant, State Entomologist's Office Harry Frederick Godeke U 1905 Instructor in Mechanical Engineering, University of Illinois F 1908\* (Chicago G 1903) Urbana, Ill. Nellie Esther Goldthwaite Associate in Household Science, University of Illinois Harrison Frederick Gonnerman U 1908 Urbana, Ill. Instructor in Theoretical and Applied Mechanics, University of Illinois Arturo V Gonzalez U 1907 Monterey, Mexico Architectural Engineer George Alfred Goodenough CF 1903\* Urbana, Ill. Professor of Thermodynamics, University of Illinois F 1908 New York City Ernest Elisha Gorsline Chemist William Freeman Myrick Goss F 1907\*† Urbana, Ill. Dean of College of Engineering, University of Illinois Culebra, C. Z. Sylvester Henry Grauten U 1907 Testing Engineer, Isthmian Canal Commission G 1905 Urbana, Ill. Daniel Thomas Gray Chicago, Ill. Harry Davett Grigsby U 1906 Chemist, Testing Department, Rock Island Railroad Urbana, Ill. CF 1903\*† Harry Sands Grindley Professor of Animal Chemistry, University of Illinois Cambridge, Mass. U 1908 Alfred Otto Gross Edward Austin Scholarship at Harvard Baton Rouge, La. Antonio Guell Instructor in Engineering, Louisiana State University Urbana, Ill. U 1907 Axel Ferdinand Gustafson Associate in Soil Physics, University of Illinois Chicago, Ill. John Christopher Gustafson U 1905

Manager, Angert Wire and Iron Works

U 1904 Frank Stanley Hadfield Cincinnati, Ohio Engineer, Globe Soap Company John George Haeffner U 1911 Chicago, Ill. Inspector, Universal Portland Cement Company CF 1903\* (Michigan F 1908) Ann Arbor, Arthur Graham Hall Registrar and Professor of Mathematics, University of Michigan [Mich. Louis Dixon Hall F 1909 Urbana, Ill. Assistant Professor of Animal Husbandry, University of Illinois Howard Spurr Hammond G 1909 (Ohio U 1908) Goshen, Conn. U 1910 James Thomas Hanley Chicago, Ill. Chicago Representative, Corrugated Bar Company U 1907 Denver, Col. Ivan Guy Harmon F 1907\* Charles Arthur Hart Urbana, Ill. Entomologist, State Laboratory of Natural History, University of Illinois Winchester, Va. William Edward Hart U 1911 Orchardist Charles Nelson Haskins F 1906 Hanover, N. H. Assistant Professor of Mathematics, Dartmouth College F 1907\*† (Pennsylvania F 1903) Urbana, Ill. Philip Bovier Hawk Professor of Physiological Chemistry, University of Illinois Cassius Clay Hayden F 1909 Urbana, Ill. Assistant Professor of Dairy Husbandry, University of Illinois U 1908 Rock Island, Ill. Lee Herbert Hazard Howard Spencer Hazen IJ 1905 Boston, Mass. Draftsman in Architect's Office II 1908 Enid. Okla. Arthur Noble Heaney U 1906 Urbana, Ill. Leonard Hegnauer Professor of Crop Production, University of Illinois U 1906 Washington, D. C. Carl August Hellman Examiner, United States Patent Office Donald Alison Henry U 1909 Pittsburgh, Pa. With Westinghouse Electric and Manufacturing Company U 1904 Cleveland, Ohio Smith Tompkins Henry District Manager, Engineering Record U 1907 Urbana, Ill. Nelson William Hepburn Associate in Dairy Manufacturing, University of Illinois Hersman, Ill. Francis Craig Hersman U 1909 Farmer U 1910 Peoria, Ill. Eugene Stewart Hight Operating Engineer, Illinois Traction System Nashville, Tenn. G 1909 Jonas Ewing Hight Norman Haden Hill U 1909 Davenport, Ia. Superintendent and Engineer, Temple and Burrows, Architects U 1904 St. Louis, Mo. Frank Wyman Hilliard Salesman, General Electric Company

ILLINOIS CHAPTER Roy Wilson Hilts U 1904 Philadelphia, Pa. Inspection Chemist, United States Appraiser's Stores Paul Alexander Hoffman U 1909 Urbana, Ill. Fellow in Animal Nutrition, University of Illinois Vernon Leo Hollister U 1907 Lincoln, Neb. Adjunct Professor of Electrical Engineering, University of Nebraska F 1907\* (Chicago CF 1903) Willis Boit Holmes Fremont, Ohio Chemist Superintendent, Ames Laboratories Alfred Wilhelm Homberger G 1910 Bloomington, Ill. Professor of Chemistry, Illinois Wesleyan University Cyril George Hopkins CF 1903\*† (Cornell G 1894) Urbana, Ill. Professor of Agronomy, University of Illinois CF 1903 Herbert Andrew Hopper Ithaca, N. Y. Farmer John Wesley Hornbeak F 1911 (Cornell) Urbana, Ill. Instructor in Physics, University of Illinois U 1909 Ezekiel Edward Hoskins Norris City, Ill. Charles Frederick Hottes CF 1903\* Urbana, Ill. Assistant Professor of Botany, University of Illinois Paul Edward Howe U 1906 New York City Assistant Professor of Biological Chemistry, Columbia University Claude Silbert Hudson F 1906\* Washington, D. C. Chemist, Bureau of Chemistry, United States Department of Agriculture Harold DeMott Hughes U 1907 (Missouri F 1908) Ames, Ia. Professor of Crop Production, Iowa State College Albert Nash Hume Brookings, S. D. Professor of Agronomy, State College of Agriculture Adam Albert Hummel G 1908 Los Angeles, Cal. Teacher of Science, State Normal School Agnes Hunt U 1908 East Lansing, Mich. Professor of Domestic Science, Michigan Agricultural College Thomas Forsyth Hunt A 1909\*† Dean of the School of Agriculture, Pennsylvania State College Helen Isham F 1907\* (Cornell U 1903) Associate in Chemistry, University of Illinois

State College, Pa.

Urbana, Ill.

G 1909 Washington, D. C. Cora Anna Jacobs Assistant in Seed Testing, United States Department of Agriculture

Windsor, Ont. Carl James TJ 1907 Assistant Engineer, Pennsylvania Tunnel under East River

Charles Austin James U 1909 Danville, Ill. Superintendent, M. Yeager and Son, Contractors

U 1909 Hershey, Pa. Delas Lawrence James Agriculturist, Hershey Chocolate Company

Valley City, N. D. U 1909 McNeal Cole James Head of Department of Agriculture, State Normal School

George Emile Jaquet U 1908 Minneapolis, Minn. Salesman, General Electric Company

er U 1911 Engineer, Alvord and Burdick

Chicago, Ill.

Thomas McLean Jasper

	_ ***
George Leonard Jensen U 1909 Architectural Engineer, Chicago E	Chicago, Ill.
William Chance Johnson U 1909 Construction Engir	Salem, Ill.
Grinnell Jones F 1908* Instructor in Physical Chemistry,	Cambridge, Mass. Harvard University
Oliver Kamm U 1911 Assistant in Chemistry, Unive	Urbana, Ill.
Truman Lee Kelley U 1909 Teacher of Mathematics, I	Fresno, Cal.
George Theophilus Kemp CF 1903* Physician	Baltimore, Md.
Josephine Ellrod Kerr G 1909 Graduate Student, Universit	Urbana, Ill.
Albert Franklin Kidder U 1906 Professor of Agronomy, Louisiana	Baton Rouge, La. a State University
Paul Kircher U 1911 Student, University of	Urbana, Ill.
Terŭo Kishi G 1909	
David Klein U 1906 (Wisc Instructor in Chemistry, Univers	consin F 1908) Madison, Wis.
Willard Alfred Knapp U 1907 Instructor in Engineering, Pur	West Lafayette, Ind.
Lee Irving Knight F 1908* Assistant in Plant Physiology, Uni	Chicago, Ill.
Charles Tobias Knipp CF 1903* (Co Assistant Professor of Physics, Un	rnell G 1899) Urbana, Ill.
Carl Fred Knirk U 1908 Head of Geography Department, West	Cleveland, Ohio
	State G 1906) Pittsburgh, Pa.
Alfred Richard Koch U 1907 Chemist, Electro Metallurgio	Glen Ferris, W. Va.
Lily Gavit Kollock F 1908* (Mrs Louis John Paetow)	Berkeley, Cal.
John Anton Kostalek G 1909 Instructor in Chemistry, Univer	Moscow, Ida.
Alonzo Plumsted Kratz G 1909 Assistant, Engineering Experiment	Urbana, Ill. Station, University
Henry Kreisinger U 1904 Fuel Engineer, Churchfield	Spartanburg, S. C.
Fred William Kressman U 1909 Chemist, Forest Products 1	Madison, Wis. Laboratory
Lucas Petron Kyriakides F 1909 (Michi Chemist	igan G 1909) Cambridge, Mass.

ILLINOIS CHAPTER 355 **Burritt Samuel Lacy** G 1908\* Sewaren, N. J. Assistant Manager, Perth Amboy Chemical Works George Roger LaRue F 1909 (Nebraska G 1908; Michigan F 1911) Instructor in Zoology, University of Michigan Ann Arbor, Mich. Robert Louis Latzer U 1908 Highland, Ill. In Business Carl Emil Lee F 1909 Madison, Wis. Assistant Professor of Dairy Husbandry, University of Wisconsin Oscar Adolph Leutwiler F 1906 Urbana, Ill. Assistant Professor of Machine Design, University of Illinois Burt A Lewis U 1906 Tacoma, Wash. Architect, Dugan and Lewis Azariah Thomas Lincoln CF 1903\* Troy, N. Y. Assistant Professor of Chemistry, Rensselaer Polytechnic Institute F 1911\* (Columbia G 1906) Champaign, Ill. Francis Church Lincoln Associate in Mining Engineering, University of Illinois Ralph Corson Llewellyn U 1906 Chicago, Ill. Architectural Engineer, Joseph C Llewellyn John William Lloyd F 1907 Urbana, Ill. Professor of Olericulture, University of Illinois Robert Clinton Lloyd G 1905 Canton, Ill. Harry Stephen Lofquist U 1909 Cleveland, Ohio Engineer, National Electric Lamp Association Arthur Russell Lord G 1911 Consulting Structural Engineer, Leonard Construction Company Robert James Love U 1908 Urbana, Ill. Instructor in Architecture, University of Illinois Edward Roy Ludwig U 1911 Champaign, Ill. Graduate Student, University of Illinois G 1904\* Ernest Barnes Lytle Urbana, Ill. Associate in Mathematics, University of Illinois F 1911\*† (Cornell G 1900) Alexander Dyer MacGillivray Champaign, Ill. Assistant Professor of Systematic Entomology, University of Illinois Hazel Hope MacGregor G 1909 (Kansas F 1910) Lawrence, Kan. Instructor in Mathematics, University of Kansas G 1909 Duncan Arthur MacInnes Urbana, Ill. Instructor in Physical Chemistry Ward J MacNeal F 1907 (Michigan CG 1903) New York City Lecturer in Bacteriology, New York Post-Graduate Medical School U 1911 Irwin Arthur Madden Professor of Agriculture, Illinois State Normal University Roscoe Conkling Main G 1907 Boston, Mass. Student, Harvard Medical School Charles Wesley Malcolm F 1908 Urbana, Ill.

Assistant Professor of Structural Engineering, University of Illinois

Professor of Architecture, University of Illinois

Urbana, Ill.

F 1910

Frederick Maynard Mann

Earl Bowman Millard

Floyd Hays Millard

William Albert Manning F 1909 (Stanford G 1902) Palo Alto, Cal. Assistant Professor of Mathematics, Leland Stanford Junior University
Warren Moore Mansfield U 1909 Abingdon, Ill.
Frankiin Wales Marquis U 1905 Urbana, Ill. Associate in Railway Engineering, University of Illinois
Roger Dearborn Marsden U 1908 Washington, D. C. Engineer, Drainage Investigations, United States Department of Agriculture
William Christoph Marti U 1909 East Lansing, Mich. Assistant Chemist, Michigan Agricultural College
Arselia Bessie Martin U 1909 Chicago, Ill. Architectural Drafting
Mayne Seguine Mason U 1911 Urbana, Ill. Fellow in Electrical Engineering, State Engineering Experiment Station
John Warne Mathewson U 1909 Elburn, Ill.
Henry Albright Mattill G 1909 Salt Lake City, Utah Associate Professor of Physiological Chemistry, University of Utah
David Thorpe May U 1905 New York City
Ellen S McCarthy F 1909 (Cornell U 1907) Urbana, Ill. Instructor in Chemistry, University of Illinois
Lawrence Justin McCarty U 1907 Sioux City, Ia. Architectural Draftsman
John Hancock McClellan F 1908 Chicago, Ill. Physician, Presbyterian Hospital
William Thompson McClenahan U 1909 Salem, Ill. City Engineer
Marcus Sanders McCollister U 1910 Madison, Wis.
Elmer Massey McDonald U 1910 Urbana, III. Instructor in Crop Production, University of Illinois
Lewis McDonald U 1908 Chicago, Ill. Chief Draftsman, Chicago Bridge and Iron Works
David Ford McFarland F 1910 (Kansas U 1899; Yale F 1909) Assistant Professor of Chemistry, University of Illinois [Urbana, Ill.
Donald McIntosh CF 1903*† Urbana, Ill. Professor of Veterinary Science, University of Illinois
Eugene Campbell McMillan U 1909 Chicago, Ill.
Brainerd Mears F 1908* Williamstown, Mass. Assistant Professor of Chemistry, Williams College
Edward John Mehren Ü 1906 New York City

Millard F 1911 (Colorado U 1910) Champaign, Ill. Assistant in Chemistry, University of Illinois

G 1910 (Colorado U 1910)

George Abram Miller F 1908\* (Cornell F 1898; Stanford CF 1902)
Professor of Mathematics, University of Illinois [Urbana, Ill.

Urbana, Ill.

Wilford Stanton Miller F 1911 (Indiana F 1910) Champaign, Ill.
Instructor, School of Education, University of Illinois

Martin Lawrence Millspaugh U 1907 Sault Ste. Marie, Ont.
Assistant Superintendent of Construction, Algoma Steel Company, Ltd.

James Burt Miner CG 1903\* (Columbia F 1903) Minneapolis, Assistant Professor of Psychology, University of Minnesota [Minn.

Harold Hanson Mitchell U 1909 Urbana, Ill.

Assistant in Chemistry, University of Illinois

Nolan Dickson Mitchell U 1910 Chicago, Ill.

Architectural Engineer

Herbert Fisher Moore F 1908\* (Cornell U 1899; Wisconsin A 1907) Assistant Professor of Mechanics, University of Illinois [Urbana, Ill.

Joseph K Moore U 1908 Portland, Ore. Assistant Manager, Western Clay Company and Columbia Clay Company

Llewellyn Alexander Moorehouse G 1906 Stillwater, Okla.
Professor of Agronomy, Agricultural College

Raymond Kurtz Morley F 1911 Champaign, Ill.
Instructor in Mathematics, University of Illinois

Charles Robert Moulton U 1907\* (Missouri G 1907) Columbia, Mo. Assistant Professor of Chemistry, University of Missouri Experiment Station

Clyde Leroy Mowder U 1907 Los Angeles, Cal. Chief Engineer, Los Angeles Investment Company

Herbert Windsor Mumford CF 1903\*† Urbana, Ill.
Professor of Animal Husbandry, University of Illinois

George Harold Myrick U 1910 Chicago, Ill.
General Electric Company

Charles Anson Nash U 1909 Schenectady, N. Y.

John Harland Nelson G 1909 (Case F 1910) Cleveland, Ohio Professor of Mechanics, Case School of Applied Science

Lewis Irving Neikirk F 1903\* (Pennsylvania G 1903) Seattle, Wash. Instructor in Mathematics, University of Washington

Lloyd Francis Nickell U 1909 Urbana, Ill.
Assistant in Chemistry, University of Illinois

Ingo Charles Nitz U 1908 Chicago, Ill.

Clarence Eugene Noerenberg G 1909 Champaign, Ill.
Instructor in Theoretical and Applied Mechanics, University of Illinois

William Atkinson North U 1910 St. Louis, Mo. Engineer, Laclede Gas Light Company

William Albert Noyes F 1907\*† Urbana, Ill.
Director of Chemical Laboratory, University of Illinois

John Nydegger U 1907 Detroit, Mich. Structural Engineer

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Charles Hubert Oathout U 1907 Piper City, Ill.

Henry Dickson Oberdorfer U 1910 Urbana, Ill. Superintendent of Construction, University of Illinois

F 1909 Topeka, Kan. Rufus Chauncey Obrecht Expert Horse Judge Frank Keehn Ovitz F 1905 (Michigan U 1905) Pittsburgh, Pa. Assistant Chemist, U. S. Bureau of Mines F 1908 Urbana, Ill. Ellery Burton Paine Assistant Professor of Electrical Engineering, University of Illinois Arthur William Palmer CF 1903 (Deceased 1904) U 1909 John Ira Parcell Minneapolis, Minn. CF 1903\*† Urbana, Ill. Samuel Wilson Parr Professor of Applied Chemistry, University of Illinois Lura Elizabeth Parsons U 1909 Orion. III. (Mrs Erwin B Jordan) Austin McDowell Patterson F 1909\* Columbus, Ohio Editor, Chemical Abstracts, University of Ohio F 1905\* Amos William Peters Boston, Mass. Harvard Medical College James Harvey Pettit CF 1903 (Cornell U 1900) Urbana, Ill. Professor of Soil Fertility, University of Illinois Thomas Elmer Phipps U 1906 Seattle, Wash. Locating Engineer, Southern Pacific Airline and Lower California Railway G 1906 Durham, N. H. Bethel Stewart Pickett Professor of Horticulture, New Hampshire College Raymond Clark Pierce U 1908 Eugene, Ore. Hydraulic Engineer, United States Forest Service Charles Stephen Pillsbury U 1908 Chicago, Ill. Engineer, Chicago Bridge and Iron Company Willard Lacy Pollard U 1906 Washington, D. C. United States Bureau of Patents U 1910 Ethel Claire Pond Sycamore, Ill. Science Teacher, High School Amy Poorman U 1909 East Auburn, Cal. Head of Household Science, Placer County High School Jesse Roy Powell U 1904 Chicago, Ill. Chief Chemist, Armour Glue and Soap Works John Lossen Pricer F 1910 Normal, Ill. Professor of Biology, Illinois State Normal University Seattle, Wash. Loring Harvey Provine F 1909 William James Putnam II 1910 Decatur, Ill. Electrical Foreman, Illinois Traction System Charles Ernest Ramser U 1909 Chilhowee, Tenn. Engineer, Knoxville Power Company Chicago, Ill. Frank Alfred Randall U 1905

Chief Engineer, Morey, Newgard and Company

TI 1904 Superintendent of Soil Experiment Fields, University of Illinois

Jerome Edward Readhimer

Urbana, Ill.

	SIGMA AI	อยอ
Harry Wilfred Reddick Instructor	G 1906* r in Mathematics, Columbia	New York City University
Frank Walker Reed Instructo	G 1908* or in Astronomy, University	Urbana, Ill. of Illinois
Augustus Joseph Reef	U 1904 With Victor Fuel Company	Denver, Col.
Miriam Ursula (Welles) (Mrs G J Reeves) C	Reeves U 1904 collaborator, United States Bu	Salt Lake City, Utah ireau of Entomology
Edwin Theodore Renne Engine	er, South Halsted Street Iron	Chicago, Ill. n Works
Ernest Shaw Reynolds Associate Professo	F 1908 A or of Botany, North Dakota A	gricultural College, N. D. Agricultural College
John Lyon Rich Instruc	F 1911 (Cornell U later in Geology, University of	
Charles Russ Richards Professor of Mo	F 1911*† (Nebraska echanical Engineering, Unive	
Burt Ransom Rickards Associate Professor of I	F 1911 Municipal and Sanitary Dairy	Urbana, Ill. ing, University of Illinois
Ethel Ricker	U 1904	Urbana, Ill.
Nathan Clifford Ricker Professor	CF 1903*† r of Architecture, University	Urbana, Ill.
Henry Lewis Rietz Assistant Pro	CF 1903* (Cornell of fessor of Mathematics, University)	
Charles Trescott Ripley	U 1909	Oak Park, Ill.
Ruric Creegan Roark Chemist, Bureau of C	G 1908 Chemistry, United States Dep	Washington, D. C. artment of Agriculture
Shelby Sandfley Robert Division Engine	ts F 1908 eer of Construction, Illinois (	Louisville, Ky. Central Railroad
Charles Jason Robinson	n U 1909	Rockford, Ill.
Kendall Edward Robins Survey	son U 1910 yor, United States Bureau of	Manila, P. I. Lands
Ward Reid Robinson	U 1906 City Building Department	Chicago, Ill.
Charles Wesley Rolfe Profess	CF 1903*† sor of Geology, University of	Urbana, III. IIlinois
Susan Farley Rolfe (Mrs Horace Graham	G 1909 Butler)	Evanston, Ill.
Frank Louis Roman Che	U 1911 mist, State Highway Laborat	Springfield, Ill.
Henry Perly Rusk Associate in Beef	F 1910 (Missouri U Cattle, University of Illinois	1908) Urbana, Ill. Experiment Station
George Silas Russell	U 1909 Field Engineer for Sewers	Kansas City, Mo.
Thomas Arthur Ruther	ford G 1907 (Pennsylvan Physician, Hillside Home	da G 1907) [Clark Summit, Pa.

George Rutledge U 1910 Urbana, Ill Assistant in Mathematics, University of Illinois
George Webster Saathoff U 1906 Joplin, Mo Assisitant General Superintendent, Empire District Electric Company
Edwin William Sanford U 1906 Scranton, Pa Assistant Engineer, Delaware, Lackawanna and Western Railway
Thomas Edmund Savage F 1907* Urbana, Ill Assistant Professor of Geology, University of Illinois
George Pillsbury Sawyer U 1911 Chicago, Ill With General Electric Company
Alvin Louis Schaller U 1907 Wellsville, N. Y Chief Draftsman, McEwen Brothers
Edward John Schell U 1911 Kansas City, Mo Civil Engineer, Waddell and Harrington
Edward Charles Schmidt F 1907* Urbana, Ill. Professor of Railway Engineering, University of Illinois
Herman Albert Scholz U 1907 Burlington, Ia.
William Frederick Schulz F 1908* Urbana, Ill Assistant Professor of Physics, University of Illinois
Ramon Schumacher U 1909 Kansas City, Mo. With Howe and Holt
Samuel Walker Shattuck CF 1903*† Urbana, Ill. Comptroller and Professor of Mathematics, University of Illinois
Eugene Wesley Shaw F 1910* Urbana, Ill Assistant Geologist in Co-operative Survey
James Byrnie Shaw F 1911 Urbana, Ill Assistant Professor of Mathematics, University of Illinois
James William Shaw U 1908 New York City Engineer, Allis-Chalmers Company
James Ricketts Shinn U 1904 Nampa, Ida Retired
John Earl Shoemaker U 1905 Pueblo, Col. With Pueblo Rocky Ford Irrigation Company
Glenn Alfred Shook F 1911 (Purdue F 1911) Urbana, Ill. Instructor in Physics, University of Illinois
Frank Kay Shrader U 1909 Chicago, Ill. Statistician, N. W. Halsey and Company
Harold Hoyt Simmons U 1909 Chicago, Ill. On Editorial Staff, Railway Age Gazette
Charles Herschel Sisam F 1906* (Cornell G 1904) Urbana, Ill. Assistant Professor of Mathematics, University of Illinois
Willis Appleford Slater U 1906 Urbana, Ill. First Assistant, Engineering Experiment Station, University of Illinois
Edwin Raymond Smith U 1905 (Wisconsin CF 1907) State College, Assistant Professor of Mathematics, Pennsylvania State College [Pa.
Frank Smith CF 1903* Urbana, Ill. Associate Professor of Zoology, University of Illinois

George McPhail Smith Associate in	F 1906 Chemistry, Univer	Urbana, Ill.
Kenneth Gardner Smith Extension Repr	U 1905 esentative, Univer	Milwaukee, Wis
Louie Henry Smith Professor of P	F 1907* lant Breeding, Uni	Urbana, Ill
Paul Ardell Smith Draftsman, A	U 1911 merican Steel and	Wire Company DeKalb, Ill
John McBeath Snodgrass Assistant Professor of	F 1908 Steam Engineeri	Urbana, Ill. ng, University of Illinois
Bartholomew John Spence Assistant Professor	F 1907 of Physics, Unive	Grand Forks, N. D rsity of North Dakota
John Clyde Spitler	U 1907 Farmer	Montrose, Ill
Jacob Leander Stair Salesman, N	U 1908 ational X-Ray Refi	Chicago, III.
Howard Russell Stanford	U 1908 Farmer	Chatsworth, Ill
Joel Stebbins Assistant Professo		oraska G 1899) — Urbana, Ill. University of Illinois
Milton Frederick Stein	U 1909	Chicago, Ill.
Herbert Coles Stephens	U 1908	Sycamore, Ill.
Edward Beattie Stephenson Instructor in F	U 1909 Physics, University	Grand Forks, N. D. of North Dakota
Harold Wilson Stewart Assistant in	U 1909 Soil Survey, Unive	Urbana, Illersity of Illinois
Robert Stewart Assistant Pro	F 1908* ofessor of Chemistr	Logan, Utah ry, Utah College
William Warren Stifler Assistant i	F 1909 n Physics, Columb	New York City oia University
Harry Harkness Stock Professor of Mini	F 1910 ing Engineering, U	Urbana, Ill University of Illinois
Ellis Bagley Stouffer Instructor in	G 1910 Mathematics, Univ	Urbana, Ill versity of Illinois
Frank Lewis Stout	U 1911	Glenarm, Ill
Earl Kenneth Strachan Assistant in	F 1911 Chemistry, Unive	Urbana, Ill.
Halver Rufus Straight Superintendent,	U 1907 Dallas County Bri	Adel, Ia
Samuel Wesley Stratton Director,	A 1909*† National Bureau o	Washington, D. C
George Mauritz Strombeck With Root and	U 1907 Vandervoort Engi	East Moline, Ill neering Company
Walter Gottfried Stromquis Assistant	t U 1910 Engineer, State V	Urbana, Ill Water Survey

Associate in Ceramics, University of Illinois

Associate in Psychology, University of Illinois U 1911

In Office of State Architect Zimmerman U 1909

Instructor in Physics, Grinnell College

Professor of Municipal and Sanitary Engineering, University of Illinois U 1909

Assistant Engineer, Universal Portland Cement Company U 1904

Engineer, F. S. Postel and Company

F 1909 (Yale G 1909)

CF 1903\*†

F 1910 (Chicago G 1908)

Urbana, Ill.

Urbana, Ill.

Chicago, Ill.

Grinnell, Ia.

Urbana, Ill.

Oak Park, Ill.

Chicago, Ill.

Urbana, Ill.

F 1908

Ray Thomas Stull

Arthur Howard Sutherland

Percy Weston Swern

Charles Lee Swisher

Arthur Newell Talbot

Thomas Smith Taylor

John Orlo Taylor

Kenneth Hammett Talbot

Instructor in Physics, University of Illinois	
John Charles Thorpe F 1907 Illinois Motor Car Sales Company	Urbana, III.
Edgar Jerome Townsend CF 1903* Dean of the College of Science, University of Illinoi	Urbana, Ill.
Henry George Treichel U 1907 With Arnold Company	Chicago, Ill.
Perry Fox Trowbridge G 1905* (Missouri F 1907) C Professor of Agricultural Chemistry, University of Mis	
Jon Andreas Udden G 1906 (Iowa G 1905) Birr Assistant Geologist, Tennessee Coal and Iron Compa	
George Athol Van Brunt G 1909 Mo Engineer of Methods, Western Electric Company	rton Park, Ill.
Harley Jones Van Cleave G 1910 Assistant in Zoology, University of Illinois	Urbana, Ill.
Jameson VanDervort U 1911 With Coats and Burchard Company	Chicago, Ill.
Frank Van Inwagen U 1908 Secretary, Illinois Engineering Company	Hinsdale, Ill.
Bernard Carlyle van Pappelendam U 1910 Draftsman, Ingalls Shepard Forging Company	Harvey, Ill.
Arthur Gibson Vestal U 1911 Instructor in Biology, University of Colorado	Boulder, Col.
Claude L Wagner U 1910 Cape Compan Chemist, Cape Girardeau Portland Cement Compan	lirardeau, Mo. 1y
Gustaf Eric Wahlin F 1908 Instructor in Mathematics, University of Illinois	Urbana, Ill.
Francis William Walker, Jr G 1911 Bea Engineer and Assistant Superintendent, Beaver Falls Art Ti	ver Falls, Pa. le Company
Jesse Jacobson Walledom U 1909 Engineer, American Bridge Company	Chicago, Ill.
James Henri Walton, Jr CF 1903* (Wisconsin F 1907) Associate Professor of Chemistry, University of Wisc	Madison, Wis. onsin
	ø

Henry Baldwin Ward F 1909\*† (Nebraska CF 1897) Urbana, Ill. Professor of Zoology, University of Illinois

Edward Wight Washburn F 1908\* Urbana, Ill.
Assistant Professor of Chemistry, University of Illinois

Leslie Abram Waterbury G 1905 Tucson, Ariz. Professor of Civil Engineering, University of Arizona

Floyd Rowe Watson CF 1903\* (Cornell G 1901) Urbana, Ill. Assistant Professor of Physics, University of Illinois

Drury Lee Weatherhead U 1908 Bozeman, Mont. Instructor in Chemistry, Montana College of Agriculture

Samuel Harvey Webster U 1906 Kingston, R. I. Professor of Civil Engineering, Rhode Island State College

Paul Smith Welch G 1911 Urbana, Ill. Fellow in Zoology, University of Illinois

Miriam Ursula Welles G 1904 Salt Lake City, Utah (Mrs G J Reeves) Collaborator, United States Bureau of Entomology

Newton Alonzo Wells F 1909 Urbana, Ill. Professor of Architectural Decoration, University of Illinois

Edgar I Wenger F 1909 Regina, Sask.

Consulting Engineer

Carl Joseph West F 1909 (Ohio State U 1908) Columbus, Ohio Assistant Professor of Mathematics, Ohio State University

Arthur Wayne Wheeler U 1911 Gary, Ind.

Draftsman, American Bridge Company

Edmund Burke Wheeler U 1905 New York City Telephone Engineer, Western Electric Company

Wilfred Forest Wheeler (Deceased 1909) F 1908 (Kansas U 1908)

Earl Archibald White U 1908 Madison, Wis. Graduate Student, University of Wisconsin

James McLaren White CF 1903 Urbana, Ill. Professor of Architectural Engineering, University of Illinois

Herbert Lucius Whittemore F 1910 Watertown, Mass.
Government Testing Laboratory

Burton B Wilcox U 1904 Chicago, Ill. Chemist, State Food Commission Laboratory

Carroll Carson Wiley U 1904 Urbana, Ill.
Instructor in Civil Engineering, University of Illinois

Charles Julius Willard U 1910 Bradford, Kan. Farmer

Clement Clarence Williams U 1907 (Colorado F 1908) Boulder, Col. Assistant Professor of Civil Engineering, University of Colorado

Djalma Downey Williams U 1907 Wichita, Kan. Assistant Engineer, Missouri, Kansas and Texas Railway

Elmer Howard Williams F 1909 Urbana, Ill.
Associate in Physics, University of Illinois

Ernest Julius Wilszynski F 1907 (California F 1902) Chicago, Ill. Professor of Mathematics, University of Chicago

Margaret Boynton Windsor A 1909 (Cornell U 1895) Urbana, Ill. (Mrs Phineas Lawrence Windsor)

James Renwick Withrow F 1906 (Ohio 1907) Columbus, Ohio Associate Professor of Chemistry, Ohio State University

John Emerson Wolf
U 1909
Supervisor of Manual Training
Whiting, Ind.

Henry Clay Wood U 1910 DeKalb, Ill.
Assistant Cashier, Commercial Trust and Savings Bank

Harry Ray Woodrow G 1911 New York City Electrical Engineer, New York Edison Company

Thomas Judson Wright, Jr U 1909 Charlotte, N. C. Assistant to Chief Engineer, Piedmont and Northern Lines

August Frank Daniel Wussow U 1909 Hospital, Ill.
Chemist, State Psychopathic Institute

Trygve D Yensen U 1907 Urbana, Ill. Assistant, Engineering Experiment Station, University of Illinois

John Wesley Young F 1908\*† (Cornell G 1901) Hanover, N. H. Professor of Mathematics, Dartmouth College

Charles Zeleny F 1909\* (Minnesota U 1898; Indiana F 1909) Associate Professor of Zoology, University of Illinois [Urbana, Ill.

James Zetek U 1911 Ancon, C. Z. Entomologist, Isthmian Canal Commission

William Douwes Zoethout F 1908\* Chicago, Ill.

# CASE CHAPTER

CASE SCHOOL OF APPLIED SCIENCE, CLEVELAND, OHIO
Charter Dated October 1, 1904 Chapter Installed November 21, 1904

#### HISTORICAL SKETCH

In the spring of 1904, through the efforts of Charles S. Howe, President of Case School of Applied Science, application was made for the establishment of a chapter of the Society of the Sigma Xi at Case School. The charter was granted under the date of October 1, 1904, for the "Case Chapter," no chapter letter being assigned. The Chapter was installed by a formal meeting for organization, held on November 21, 1904, there being sixteen members, all from the faculty of Case School of Applied Science.

Elections to active membership were made from the faculty, and from the senior class only at the end of the senior year. In the six years, from 1904 to 1910, sixty-three seniors have been elected, being thirteen per cent of the eligible seniors. From the alumni there have been elected forty-two; and faculty elections and transfers from other Chapters make the total Chapter enrollment one hundred and forty. In January, 1911, there were twenty-two active faculty members.

In the six and one-half years of Chapter life, there have been held thirty-six meetings, at sixteen of which there were scientific papers and discussions. The annual addresses, given at Commencement time, have been by Edward C. Orton, State Geologist of Ohio; President C. R. Van Hise of the University of Wisconsin; Doctor H. W. Wiley, Chief Chemist of the United States Department of Agriculture; Doctor L. O. Howard, Chief of the United State Bureau of Entomology; Doctor Dayton C. Miller of our Department of Physics; and Professor A. A. Michelson of the University of Chicago.

D. C. M.

### OFFICERS FOR 1911-12

President	DAYTON CLARENCE MILLER
Vice-President	
Recording Secretary	Norman Armin Dubois
Corresponding Secretary	John Harland Nelson
Treasurer	Clarence Leroy Eddy
Councilor	Charles Sumner Howe

### MEMBERSHIP ROLL

Robert Rowell Abbott F 1907 Cleveland, Ohio Metallurgical Engineer, The Peerless Motor Car Company

Comfort Avery Adams F  $1905*\dagger$  Cambridge, Mass. Professor of Electrical Engineering, Harvard University

Harry Fleishman Affelder A 1909 Allegheny, Pa.
Sales Department, Allis-Chalmers Company

Harry Lee Allen A 1907 Cleveland, Ohio Mechanical Engineer, The Bruce-Macbeth Engine Company

William Ambler CF 1904 (Cornell U 1900) Cleveland, Ohio The Ambler Realty Company

Samuel Sweigart Baker U 1905 Pittsburgh, Pa. Efficiency Engineer, Jones and Laughlin Steel Company

Elmer Bark U 1906 Philadelphia, Pa. Instructor in Mechanical Engineering, University of Pennsylvania

Frederick Arthur Barnes U 1908 Cleveland, Ohio Consulting Engineer, The George S. Rider Company

Arthur Barrett U 1908 McDonald, Pa. Engineer, B. D. Tillinghast Company

Edwin Ormond Barstow A 1908 Midland, Mich. Technical Chemist, The Dow Chemical Company

Burke Morgan Baxter U 1906 (Pennsylvania F 1906) Cleveland, Mechanical Engineer with H. B. Prather, Consulting Engineer [Ohio

Cliff Roland Bell U 1911 Ridgway, Pa.
Draftsman, Ridgway Dynamo and Engine Company

Harrison Merwin Benham U 1911 Newark, N. J. New York Telephone Company

Charles Henry Benjamin CF 1904\*† LøFayette, Ind. Dean, Schools of Engineering, Purdue University

William Sanford Bidle A 1905 Cleveland, Ohio Manager, Turnbuckle Department, Cleveland City Forge and Iron Company

Emmet Hamilton Birney A 1905 Pittburgh, Pa. Superintendent, Rolling Mills, Jones and Laughlin Steel Company

Edward C Bixel U 1910 Newark, N. J.

The New York Telephone Company

Homer Samuel Black A 1909 Cleveland, Ohio Superintendent, Tungsten Electric Lamp Company

Arthur Frederick Blaser U 1905 Cleveland, Ohio Civil Engineer, Wilbur J. Watson, Consulting Engineer

William Edward Blaser U 1909 Cleveland, Ohio Draftsman, Lake Shore and Michigan Southern Bridge Department

Carl Edwin Bliss U 1909 Cleveland, Ohio Inspector of Materials, Union Pacific Railway

Thomas Earl Bloxham U 1909 Rochester, N. Y. Engineering Department, New York Telephone Company

John Charles Boertlein U 1907 Cleveland, Ohio Draftsman, Variety Iron and Steel Works Company

August Jacob Bohrer U 1909 Cleveland, Ohio Draftsman, Variety Iron and Steel Works Company

Chester Kingsley Brooks U 1908 (Yale U 1906) Cleveland, Ohio Engineer, The National Malleable Castings Company Charles Arthur Cadwell CF 1904 Cleveland, Ohio Assistant Professor of Mining Engineering, Case School of Applied Science

Paul Whittier Carleton F 1909 Madison, Wis. Instructor in Chemistry, University of Wisconsin

Allan Wadsworth Carpenter A 1908 New York City Engineer of Structures, New York Central Railway

Sellers McKee Chandler A 1907 Pittsburgh, Pa.
President, The Chandler-Boyd Supply Company

Charles Henry Christian U 1908 Cleveland, Ohio Chief Draftsman, The Cleveland Engineering Company

Frank Neville Claffin U 1906 Ragland, Ala.
Construction Engineer, Atlantic and Gulf Portland Cement Company

John Hugh Clemmer U 1911 New York City Salesman, Ludowice-Celadon Company, New York

Maurice Coburn A 1909 St. Louis, Mo.
Principal Assistant Engineer, Vandalia Railroad

Frank Mason Comstock CF 1904\*† Cleveland, Ohio Professor of Descriptive Geometry, Case School of Applied Science

Samuel Richard Cook CF 1904\* (Nebraska G 1898) San Jose, Cal.

Charles William Coppersmith U 1905 Cleveland, Ohio Instructor in Engineering, Case School of Applied Science

Edward Ostrom Cross A 1905 Fostoria, Ohio Superintendent, Fostoria Glass Specialty Company

David Thomas Croxton A 1906 Cleveland, Ohio President, Cleveland Furnace Company

Henry Baldwin Dates F 1905 (Colorado CF 1905) Cleveland, Ohio Professor of Electrical Engineering, Case School of Applied Science

Dwight Combs DeWeese U 1911 New Castle, Pa.
Assistant Engineer, Pennsylvania Railroad Company

Herbert Henry Dow A 1905 Midland, Mich. General Manager, The Dow Chemical Company

Robert Warren Drake U 1908 Chicago, Ill.
Electrical Engineer, International Harvester Company

Norman Armin Dubois F 1907\* Cleveland, Ohio Dean, Professor of Chemistry, Western Reserve University

Richard Gustavus Dukes CF 1904 (Cornell U 1896) Lafayette, Ind.
Professor of Mechanics, Purdue University

Clarence Leroy Eddy F 1909 Cleveland, Ohio Assistant Professor of Engineering, Case School of Applied Science

Alvin Bart Einig U 1907 West Allis, Wis. Engineering Apprentice, Allis-Chalmers Company

Harvey William Fay U 1909 Cleveland, Ohio National Electric Lamp Association

Fred William Feihl U 1909 Cleveland, Ohio Engineer, National Carbon Company

Robert Heywood Fernald F 1908† Cleveland, Ohio Professor of Mechanical Engineering, Case School of Applied Science

Cleveland, Ohio

Cleveland, Ohio

Cleveland, Ohio

Land Coulee, Mont.

CF 1904

CF 1904\*

A 1906

n U 1909 Osborn Engineering Company n U 1910

Chemist

Professor of Mathematics, Case School of Applied Science

Engineer, Nelson Jenks Coal Company

Albert Finck

Theodore Moses Focke

Adolph Jacob Friedman

Victor Charles Fugman

Orrin Fred French

(Deceased)

F 1911\* (Columbia A 1905) Cleveland, Ohio Charles Herman Fulton Professor of Metallurgy, Case School of Applied Science Oscar Louis Gaede U 1908 Cleveland, Ohio Concrete and Steel Designer Boston, Mass. John Adams Gann U 1911 Assistant, Analytical Chemistry, Massachusetts Institute of Technology Charles Goffing A 1909 Cleveland, Ohio Mechanical Engineer, City Water Department Fred Milo Graham A 1909 Ft. Wayne, Ind. Division Engineer, Pennsylvania Lines West of Pittsburgh Midland, Mich. Thomas Griswold, Jr A 1905 Bartsow and Griswold, Chemists and Engineers A 1907 Golden, Col. William George Haldane Associate Professor of Metallurgy and Assaying, Colorado School of Mines Cleveland, Onio George Herbert Hall A.1909Secretary, Cleveland Rock Drill Company Earl Clarence Harsh U 1905 Milwaukee, Wis. Sales Department, Allis-Chalmers Company U 1908 Ishpeming, Mich. Charles Burridge Hawley Assistant Master Mechanic, Cleveland Cliffs Iron Company F 1910 (Yale G 1909) Middletown, Conn. Fred Harvey Heath Instructor in Chemistry, Wesleyan University John Gordon Henninger U 1909 Cleveland, Ohio National Electric Lamp Association Frederick Martin Hibben TI 1907 Cleveland, Ohio Superintendent, The Cleveland Illuminating Company U 1910 South Chicago, Ill. Hugh Gerald Hilton Federal Furnace Company Newark, N. J. Paul Milton Hinsdale U 1908 Engineer, New York Telephone Company Richard James Hoddinott U 1911 Berea, Ohio Assistant Professor of Chemistry and Physics, Baldwin University Cleveland, Ohio Charles David Hodgman F 1909 Instructor in Physics, Case School of Applied Science A 1908 Cleveland, Ohio Robert Hoffman Chief Engineer, Department of Public Service

CF 1904\*† Charles Sumner Howe Cleveland, Ohio President, Case School of Applied Science Harry Sloan Hower A 1903\* Pittsburgh, Pa. Associate Professor of Physics, Carnegie Technical Schools Russell Huff A 1907Detroit, Mich. Chief Engineer, Packard Motor Car Company Frank Erastus Hulett A1908Cleveland, Ohio Engineer, Wellman-Seaver-Morgan Company Howard Lyman Ingersoll A 1911 New York City Assistant to General Manager, New York Central and Hudson River Railroad Orlando W Irwin U 1906 Detroit, Mich. Designing Engineer, Trussed Concrete Steel Company William Henry Kaiser U 1911 St. Louis, Mo. Instructor, Mechanical Engineering, Washington University Harry John Kappler U 1909 Cleveland, Ohio Mechanical Rubber Comany Sidney W Katzenstein U 1908 Gladstone, Mich. Chemist, Cleveland Cliffs Iron Company Harry Livingston Keetch U 1911 East Pittsburgh, Pa. Graduate Student Course, Westinghouse Electric Company Edwin Crawford Kemble U 1911 Pittsburgh, Pa. Assistant Instructor in Physics, School of Applied Science Thomas Seth Kemble A 1909Cleveland, Ohio Experimental Department, Peerless Motor Car Company A 1905 Robert Kernohan Pittsburgh, Pa. Assistant General Manager, Jones and Laughlin Steel Company Pittsburgh, Pa. Fred Henry Kindl A 1905 Consulting Engineer Zenas Clyde Kline U 1910 Fostoria, Ohio Cost Accountant, Fostoria Glass Specialty Company Cleveland. Ohio Arthur Martin Klingman U 1909 Efficiency Engineer, Adams-Bagnall Electric Company Elmer Louvestus Knoedler U 1905 Gloucester City, N. J. Assistant to General Manager, Welsbach Company Cleveland, Ohio Cyrus Bosworth Kurtz TI 1906 Engineer with C. E. F. Ahlm John Williams Langley CF 1904\*† Ann Arbor, Mich. Emeritus Professor of Electro-Metallurgy, Case School of Applied Science Ralph Bell Lynn U 1909 Lakewood, Ohio The National Carbon Company CF 1904\*+ Cleveland, Ohio Charles Frederic Mabery Emeritus Professor of Chemistry, Case School of Applied Science Tarentum, Pa. Louis Austin Magee U 1909 Pittsburgh Plate Glass Company

James Caldwell McCullough U 1906 Oberlin, Ohio Associate Professor of Chemistry, Oberlin College Engineer, Mt. Vernon Bridge Company

President the B. and M. Machine Company

Assistant to Chief Engineer, National Electric Lamp Association

Consulting Engineer, Studebaker Corporation

CF 1904\*+

Professor of Physics, Case School of Applied Science

Senior Bridge Designer, State of New York

Mt. Vernon, Ohio

Akron, Ohio

Cleveland, Ohio

Detroit, Mich.

Cleveland, Ohio

Albany, N. Y.

U 1911

U 1907

A 1907

U 1909

A 1909

Charles Rex McNiece

Kenneth Llewellyn Meredith

George Schambs Merrill

Dayton Clarence Miller

Harlan Dewey Miller

Ezekiel Jones Miles

Frank Howard Neff CF 1904 Cleveland, Ohio Professor of Civil Engineering, Case School of Applied Science John Harland Nelson F 1910 (Illinois G 1909) Cleveland, Ohio Assistant Professor of Mechanics, Case School of Applied Science Charles Matthias Nissen A 1909 Chicago, Ill. Patent Attorney Paul Elfred Norris U 1907 Detroit, Mich. District Manager, U.S. Light and Heating Company F 1907 (Nebraska G 1904) Robert Edgar Noyes Brooklyn, N. Y. Instructor in Applied Electricity, Pratt Institute Ernest Linwood Ohle U 1904 (Iowa F 1906) St. Louis, Mo. Professor of Mechanical Engineering, Washington University John Emanuel Olivenbaum F 1910 Cleveland, Ohio Instructor in Steam Engineering, Case School of Applied Science Charles Thomas Olmsted U 1908 Cleveland, Ohio Instructor in Civil Engineering, Case School of Applied Science Otto Ernest Osthoff A 1905 Chicago, Ill. Vice-President, H. M. Byllesby and Company James Frank Palecek U 1906 (Deceased) Edgar Long Payne TI 1907 Brooklyn, N. Y. District Engineer, The New York Telephone Company Roscoe Gaylord Phelps U 1906 Conneaut, Ohio Conneaut Mazda Lamp Works A 1909 Gurley Sloan Phelps Sandusky, Ohio Junior Engineer, U. S. Engineer's Office Cleveland, Ohio Philip Boynton Prentice U 1910 Milton Baxter Punnett Rochester, N. Y. A 1905Superintendent, Eastman Kodak Company U 1909 New York City Ralph Leroy Quass Electrical Engineer, Western Electric Company

Cleveland, Ohio

CASE CHAPTER. William Osborne Quayle A 1905 Wilmington, Del. Chemist, E. I. DuPont de Nemours Powder Company Clarence Erle Reid F 1907 Agricultural College, Miss. Professor of Electrical Engineering Arthur Boardman Roberts U 1907 Cleveland, Ohio Engineer, The American Fork and Hoe Company Harte Langdon Rowe U 1908 Corry, Pa. J. W. and A. P. Howard Company Lewis Dow Rowell Lafayette, Ind. Associate Professor of Electrical Engineering, Purdue University Alexander Russell U 1909 Niagara Falls, N. Y. Publicity Manager, U. S. Light and Heating Company Verne Warren Shear U 1906 Wilkinsburg, Pa. Commercial Engineer F 1907 Frederick Hubbard Sibley University, Ala. Professor of Mechanical Engineering, University of Alabama Otto Julius Sieplein A 1906 Grove City, Pa. Professor of Chemistry, Grove City College Warner Mason Skiff A 1911 Cleveland, Ohio Assistant Manager, National Electric Lamp Association Albert William Smith CF 1904\*+ Cleveland, Ohio Professor of Metallurgy, Case School of Applied Science Robert Earle Snyder F 1907 (Michigan G 1907) Cleveland, Ohio Instructor in Physics, Case School of Applied Science Washington, D. C. A 1905\*+ Arthur Coe Spencer Geologist, U. S. Geological Survey Cleveland, Ohio Robert Henry Spooner U 1910 Experimental Department, The Peerless Motor Car Company Harry William Springsteen A 1905\* Cleveland, Ohio Associate Professor of Physics, Western Reserve University Everett Adams Squire Eureka, Utah U 1911 Centennial Eureka Mining Company F 1907 † (Union F 1888) Cleveland, Ohio Cady Staley Professor of Political Economy, Case School of Applied Science Chicago, Ill. Leslie Dalrymple Stair A 1906Engineer, Federal Furnace Company Akron, Ohio Frank Amos Steele U 1910 Chemist, The Goodyear Tire and Rubber Company Cleveland, Ohio Arthur Henry Steuer U 1910 Engineering Corps, Pennsylvania Railroad Cleveland, Ohio William Arthur Stocking U 1906 With Hubbell and Benes, Architects Midland, Mich. Charles John Strosacker **TJ 1906** 

Chemist, The Dow Chemical Company

F 1911 Assistant Professor Mechanical Engineering, Case School of Applied Science

William Jordan Sweetser

Louis Nelson Talkes U 1911 New York City Assistant Manager, New York Branch U. S. Light and Heating Company

Paul Folsom Thayer U 1906 Youngstown, Ohio Secretary and Treasurer, Youngstown Armature and Construction Company

Frank Edward Treat A 1911 Conneaut, Ohio Superintendent, Conneaut Mazda Lamp Works

Frank Robertson Van Horn CF 1904\* Cleveland, Ohio Professor of Geology and Mineralogy, Case School of Applied Science

William Reed Veazey F 1907 Cleveland, Ohio Assistant Professor of Chemistry, Case School of Applied Science

Lafayette Denton Vorce A 1911 Wyandotte, Mich. General Superintendent, Wyandotte Southern Railroad Company

Fred Hale Vose F 1911' Cleveland, Ohio Assistant Professor Mechanical Engineering, Case School of Applied Science

David Gray Waggoner U 1910 Denver, Col.

Denver Gas and Electric Light Company

Roy Clarence Wallis U 1910 Midland, Mich.
Research Chemist, Dow Chemical Company

Harry True Welty A 1909 New York City Engineer, New York Central and Hudson River Railroad

Harry George Welfare U 1905 Cleveland, Ohio Engineer, National Carbon Company

Edwin Bennett Wheeler F 1906 Pottsdam, N. Y. Professor of Physics, Clarkson School of Technology

Eli White U 1905 Detroit, Mich.
Estimator, Trussed Concrete Steel Company

Arthur Victor Wilker U 1909 Cleveland, Ohio Chemist, National Carbon Company

Edward Hall Williams A 1906 Hokendauqua, Pa.
Superintendent, Thomas Iron Company

Delonza Tate Wilson CF 1904\* Cleveland, Ohio Assistant Professor of Mathematics and Astronomy, Case School

Robert Arthur Worstall A 1905 Chicago, Ill.
Chemist, Paint and Varnish Specialist

Reginald Ashmun Wright A 1909 Pottsville, Pa. Chief Draftsman, Philadelphia and Reading Coal and Iron Company

Albert William Zesiger A 1907 Cleveland, Ohio Engineer, Wm. H. Evers Engineering Company

# INDIANA CHAPTER

INDIANA UNIVERSITY, BLOOMINGTON, INDIANA

Charter Dated October 1, 1904

Chapter Installed, 1904

#### HISTORICAL SKETCH

During the fall of 1903, the Sigma Xi men of the faculty of Indiana University considered the advisability of petitioning the Council for a chapter at that institution and a petition was drawn up and presented to the Council at about the time of the St. Louis meeting of the American Association for the Advancement of Science. The charter was granted the first of October, 1904.

Since its organization the Society has had a healthy growth and has been of value in many ways to the scientific departments of the University. Its numbers have been increased gradually until now there are

forty resident and thirty-four non-resident members.

Eight or nine scientific meetings are held each year. These meetings fall into three general groups: First, those in which the paper is a summary of recently completed research of the member; second, a discussion of the present status and recent advances in the knowledge of some limited field of science in which a member is working; third, general meetings, of which there are usually two, one devoted to the greater advancements of science during the year in the various departments and the other is turned over to the younger members, the candidates for advanced degrees giving ten or fifteen minute discussions of the researches upon which their theses are based. These general meetings are interesting and especially well attended.

A few members of the senior class who have already demonstrated their ability to do research work and the probability of their continuing it are elected early in the year in order that they may have as much advantage of the meetings as possible. These are usually men who complete the work for the bachelor's degree at the end of the fall or winter quarter, ending Christmas and the last week in March, respectively.

Regular membership application blanks similar to those in use by the Cornell Chapter have been adopted.

K. P. W.

### PUBLICATIONS

The Society of the Sigma Xi Indiana Chapter. Officers and Program for 1906 (Including list of members) pp. 14.

The Society of the Sigma Xi Indiana Chapter, Officers and Program

for 1907 (Including list of members) pp. 8.

The Society of the Sigma Xi Indiana Chapter. List of Officers and Members and Program for 1908.

Morley Albert Caldwell

Robert Daniel Carmichael

Campbell Colon Carpenter

Wilbur Adelman Cogshall

OFF	ICERS FOR 1911-12	
Vice-President	Joshua Wii Clarence J Fernandus Mary Thei Frank Cur Carl H. Ei	EARL MAY PAYNE RESA HARMAN RY MATHERS
MI	EMBERSHIP ROLL	
Henry Rihl Alburger Professor of	F 1908* (Pennsylvania U Pathology, Indiana Univer	U 1902) Indianapoli sity [Ind
Robert Judson Aley Preside	F 1905*† ent, University of Maine	Orono, Mo
Frank Marion Andrews		Bloomington, Inc.
Marie Opperman Andrews (M Graduate Studen	rs. F. M.) G 1911 at of Botany, Indiana Univ	Bloomington, Inversity
George Frederick Arps Assistant Professor	F 1910* (Illinois F 1910 of Psychology, University	Urbana, II of Illinois
Arthur Mangum Banta Resident Investiga	G 1905* Cold Sprin ator, Carnegie Experiment	g Harbor, L I., N. S Station
Joshua William Beede Associate Profess	CF 1904*† (Kansas G 189 or of Geology, Indiana Un	97) Bloomington, Indiversity
John Andrew Bergstrom (Deceased 1910)	CF 1904*	
Caroline Anna Black Instructor in B	G 1909 totany, New Hampshire Co	Durham, N. l
Willis Stanley Blatchley	A 1905*†	Indianapolis, In
Henry Clay Brandon Director	G 1905* of Industrial Education	Portland, Or
Joseph Valentine Breitwieser Professor of F	U 1906 Co Psychology, Colorado Colleg	lorado Sp <b>rings, C</b> ol se
William Conrad Brooks Superintendent, I	G 1909 Hoosier Storage Battery Co	Evansville, In
Harry Bates Brown Professor of Botany, Missi	G 1907 Agricu ssippi Agricultural and Me	altural College, Mis echanical College
Oliver W Brown Associate Professo	F 1906* (Cornell G 1898) or of Chemistry, Indiana U	Bloomington, Ir niversity
William Lowe Bryan Presid	CF 1904*† ent, Indiana University	Bloomington, Ir

C 1905

F 1911

U 1906

F 1906\* Associate Professor of Astronomy, Indiana University

Professor of Philosophy, University of Louisville

Assistant Professor of Mathematics, Indiana University

Chief Chemist, United States Light and Heating Company

Louisville, F

Bloomington, It

Niagara Falls, N.

Bloomington, II.

Edgar Roscoe Cumings CF 1904\*† (Union G 1897) Bloomington, Ind. Professor of Geology, Indiana University

James Nimrod Currie G 1907 Storrs, Conn.
Dairyman, Storrs Agricultural College

Schuyler Colfax Davisson F 1905\* Bloomington, Ind.
Professor of Mathematics, Indiana University

David Abbot Drew F 1910\* Bloomington, Ind.
Instructor in Mechanics and Astronomy, Indiana University

John Charles Duncan U 1906\* Cambridge, Mass.
Instructor in Astronomy, Harvard University

John Benjamin Dutcher F 1908 Bloomington, Ind.
Assistant Professor of Physics, Indiana University

Carl H Eigenmann CF 1904\*† Bloomington, Ind. Dean of Graduate School, Professor of Zoology, Indiana University

Rosa Smith Eigenmann U 1905 Bloomington, Ind. (Mrs C H Eigenmann) Editor in Zoology, Indiana University

Max Mapes Ellis U 1906\* Boulder, Col.
Instructor in Biology, University of Colorado

Marion (Durbin) Ellis G 1909 Boulder, Col. (Mrs M M Ellis) Graduate Student, University of Colorado

Barton Warren Everman A 1905\*† Washington, D. C. Bureau of Fisheries

Lemuel William Flamulener F 1907\* New York City
City Board of Health

Arthur Lee Foley CF 1904\* (Cornell G 1897) Bloomington, Ind.
Professor of Physics, Indiana University

Eupha May Foley G 1911 Bloomington, Ind. Teaching Fellow in Psychology, Indiana University

Albert Frederick Ottmar Germann G 1909 Geneva, Switzerland Student, University of Geneva

Charles Grandy G 1909 Chicago, Ill.

Rush Medical School

Frank Cook Greene U 1907 Rolla, Mo. Geological Survey

Melvin Everett Haggerty F 1910 Bloomington, Ind.
Assistant Professor of Psychology, Indiana University

Walter Louis Hahn G 1907\* (Deceased)

Ulysses Sherman Hanna F 1905\* (Pennsylvania G 1900) Bloomington, Associate Professor of Mathematics, Indiana University [Ind.

Mary Theresa Harman G 1910 Bloomington, Ind. Fellow in Zoology, Indiana University

Charles Haseman G 1906\* Reno, Nev.

Professor of Mathematics, University of Nevada

John Diedrich Haseman G 1907 New York City Fellow in Zoology, Columbia University

Superintendent, Public Schools

Instructor in Entomology, University of Missouri

G 1906 (Missouri F 1910)

Linton, Ind.

Columbia, Mo.

G 1905

Joseph Henry Haseman

Leonard Haseman

William Peter Haseman F 1905 (Pennsylvania G 1907) Norman, Okla. Professor of Physics, University of Oklahoma Robert Hessler A 1905 Logansport, Ind. Physician G 1906 (Pennsylvania G 1908) Bloomfield, Cassius Eugene Hiatt Westinghouse Electric Lamp Company [N. J. Edgar Clayton Hinkle U 1905 Chicago, Ill. Teacher of Mathematics, Chicago Teachers' College John Alfred Hodge G 1910 Kansas City, Kan. Assistant, Sumner High School William Edward Howard F 1906 Guthrie, Okla. Professor of Mathematics, Methodist University of Oklahoma Mason Edward Hufford G 1911 Bloomington, Ind. Teaching Fellow in Physics, Indiana University G 1908\* Roscoe Raymond Hyde Terre Haute, Ind. Assistant Professor of Zoology, State Normal School Dennis Emerson Jackson G 1903\* St. Louis, Mo. Associate in Pharmacology, Washington University Medical School Edward William Koch G 1909 Chicago, Ill. Rush Medical School Ira Elver Lee G 1911 Bloomington, Ind. Teaching Fellow in Chemistry, Indiana University Isaac McKinney Lewis G 1906 Austin, Tex. Instructor in Botany, University of Texas CF 1904\* Robert Edward Lyons Bloomington, Ind. Professor of Chemistry, Indiana University CF 1904\*+ Bloomington, Ind. Ernest Hiram Lindley Professor of Philosophy and Psychology, Indiana University G 1911 Bloomington, Ind. Leslie MacDill Teaching Fellow in Mathematics, Indiana University Wilfred Hamilton Manwaring F 1905 New York City Rockefeller Institute U 1906 (Pennsylvania G 1908) Swarthmore, Walter Ross Marriott Assistant Professor of Mathematics, Swarthmore College Thomas Edward Mason G 1911 Bloomington, Ind. Teaching Fellow in Mathematics, Indiana University Frank Curry Mathers U 1905\* Bloomington, Ind. Assistant Professor of Chemistry, Indiana University G 1905\* Bloomington, Ind. Clarence Earl May Assistant Professor of Chemistry, Indiana University Washington, D. C. Norman Eugene McIndoo G 1908 Assistant, Bureau of Entomology

Seth Eugene Meek A 1905\* Chicago, Ill.
Assistant Curator of Zoology, Field Columbian Museum

Egbert J Miles U 1906\* (Chicago G 1906) Ithaca, N. Y.
Instructor in Mathematics, Cornell University

John Anthony Miller CF 1904\*† Swarthmore, Pa. Professor of Astronomy, Swarthmore College

Newton Miller G 1906\* Worcester, Mass.
Assistant Professor of Biology, Clark College

Wilford Stanton Miller F 1910 Urbana, Ill.
Assistant in Psychology, University of Illinois

William J Moenkhaus CF 1904\* Bloomington, Ind. Professor of Physiology, Indiana University

David Myers Mottier CF1904\* Bloomington, Ind.
Professor of Botany, Indiana University

Effa (Funk) Muhse G 1908 Washington, D. C. (Mrs Albert Clark Muhse)

Burton Dorr Myers CF 1904\* (Cornell F 1900) Bloomington, Ind.
Professor of Anatomy, Indiana University

Alpheus Russel Ness G 1911 Bloomington, Ind. Teaching Fellow in Chemistry, Indiana University

Hiromitsu Oi G 1906 Yokohama, Japan Superintendent of Docks

Fernandus Payne G 1905 Bloomington, Ind. Assistant Professor of Zoölogy, Indiana University

Alexander Petrunkevitch F 1906\* New Haven, Conn. Assistant Professor of Zoology, Yale University

Augustus Grote Pohlman F 1905\* Bloomington, Ind. Professor of Anatomy, Indiana University

Claude Elmer Price G 1905 Toledo, Ohio Physician

Rolla Roy Ramsey CF 1904\* (Cornell G 1901) Bloomington, Ind. Associate Professor of Physics, Indiana University

David Andrew Rothrock F 1905\*† Bloomington, Ind. Professor of Mathematics, Indiana University

Boyd Ray Sayers U 1906 Depew, N. Y. Gould Storage Battery Company

Will Scott U 1907\* Bloomington, Ind.
Assistant Professor of Zoology, Indiana University

George Daniel Schaffer G 1906 East Lansing, Mich. Experiment Station, Michigan Agricultural College

Charles William Shannon U 1906 Norman, Okla. Oklahoma Geological Survey

Fred Shetterly U 1906 Ithaca, N. Y.

Fred Shetterly U 1906 Instructor in Chemistry, Cornell University

Frederick Lafayette Shinn F 1906\* (Wisconsin CF 1907) Eugene, Ore.
Assistant Professor of Chemistry, University of Oregon

Augustus Clyde Shipp F 1910 Indianapolis, Ind.
Instructor in Pathology, Indiana University Medical College

Vesto Melvin Slipher A 1906\* Flagstaff, Ariz.

Astronomer, Lowell Observatory

Luther Crocker Snider G 1909 Norman, Okla.
Assistant Director, Oklahoma Geological Survey

William Thomas Stevens G 1905 Milwaukee, Wis. Professor of Educational Psychology, State Normal School

Vernon Andrew Suydam F 1907 Princeton, N. J. Fellow in Physics, Princeton University

Albert Warrick Thompson U 1907 Owensville, Ind.

George Elisworth Thompson G 1910 Ithaca, N. Y.
Assistant in Physics, Cornell University

William Motier Tucker G 1908 Anderson, Ind.
Teacher in High School

Orin Tugman G 1906\* (Cornell G 1907) New York City Engineer, Western Electric Company

James M Van Hook F 1906 (Cornell G 1902) Bloomington, Ind.
Assistant Professor of Botany, Indiana University

Kenneth Powers Williams G 1908 Princeton, N. J. Scholar in Mathematics, Princeton University

William Logan Woodburn U 1908 Evanston, Ill.
Instructor in Botany, Northwestern University

Charles Zeleny F 1904\* (Minnesota U 1898) Illinois F 1909; Associate Professor of Zoology, University of Illinois [Urbana, Ill.

# MISSOURI CHAPTER

University of Missouri, Columbia, Missouri Charter Dated April 3, 1905 Chapter Installed May 12, 1905

## HISTORICAL SKETCH

The records of the Chapter show that the first steps toward organization were taken in the early months of 1904. At the call of Doctor O. M. Stewart (Cornell 1895), the Sigma Xi members then on the faculty met to consider the advisability of petitioning the Society for a charter. It appeared that the time was ripe for such action and accordingly a petition was drawn up and signed by its initiators and other members of the faculty whose names appear upon the charter. This petition received favorable action by the Society, and in March, 1905, the petitioners formed a temporary organization. By-laws were adopted at a meeting on April 3, and on the fourteenth of that month temporary officers were elected. The first annual meeting was held May 10, 1905, at which fifteen faculty members, nine resident graduates, seven undergraduates, and one alumni member were elected. Chapter was formally installed soon after by Dean F. O. Marvin, Chairman of the Council of the Society, at the home of President and Mrs. A. Ross Hill. Since the organization of the Chapter, twenty-seven faculty members, twenty-five resident graduates, sixty-seven undergraduates, and one alumnus have been elected to membership. The active members number sixty-one at present.

The by-laws of the Chapter provide for at least one meeting each semester at which one or more scientific papers are to be presented. These open meetings have been a means of giving recognition and honor to members for important contributions to science. With a view of making this provision more effective the Chapter, four years ago, entered into an agreement with the Chapters at Kansas, Iowa, and Nebraska, by the terms of which the four Chapters joined in inviting a speaker to give the annual address at each of the Chapters. This co-öperative plan has solved the difficulty often experienced in securing as speakers promiment scientists living at a distance. Doctor Charles Sedgwick Minot delivered the annual address in 1907, and in the year 1908 the speaker was Doctor Russell H. Chittenden of Yale University; in 1909, Doctor Arthur Gordon Webster of Clark University; in 1910, Doctor Percival Lowell. In spring of 1910 delegates from the four Chapters met at Iowa City to consider a renewal and extension of the co-öperative plan of securing Sigma Xi addresses. To meet the varied interests of the different Chapters it seemed desirable to discontinue the circuit and to extend the plan by forming two or more circuits. Accordingly, the Chapters of Kansas, Missouri, and Washington University formed a new agreement for a period of three years. The first season was successfully inaugurated last fall by Doctor Edmund B. Wilson of Columbia Uni-

versity, who gave two addresses before each of the Chapters.

During the six full years of its existence the Chapter has contributed materially towards stimulating original investigation in the sciences, and to bringing its members into closer relationships with each other. Election to membership in Sigma Xi has become an effective force in directing the footsteps of the undergraduate student toward the pathway of original investigation. In the near future we hope that the Chapter may devise and establish new ways and means of stimulating and encouraging worthy and promising students in becoming zealous workers in the fields of scientific research.

H. S.

## **PUBLICATIONS**

By-laws of the Missouri Chapter of the Sigma Xi. n. p. n. d.

## OFFICERS FOR 1911-12

President	OLIVER DIMON KELLOGG
Vice-President	.CLARENCE HENRY ECKLES
Recording Secretary	ABRAHAM LINCOLN HYDE
Corresponding Secretary	.HERMAN SCHLUNDT
Treasurer	LEWIS DARWIN AMES
Councilor	OSCAR MILTON STEWART

## MEMBERSHIP ROLL

Leland Barton Alford U 1908 St. Louis, Mo. Medical Student, Washington University

Jessie Blount Allen F 1908 (Chicago G 1904) Columbia, Mo. (Mrs Werrett Wallace Charters)

Lewis Darwin Ames F 1905\* Columbia, Mo.
Assistant Professor of Mathematics, University of Missouri

Lee Seldon Backus F 1908 (Cornell U 1906) Columbia, Mo. Instructor in Veterinary Science, University of Missouri

Agnes Sime Baxter C 1905 (Cornell G 1894) Columbia, Mo. (Mrs. Albert Ross Hill)

Elexious Thompson Bell F 1907\* Minneapolis, Minn.
Assistant Professor of Anatomy, University of Minnesota

Robert Montgomery Bird F 1905\* Charlottesville, Va. Collegiate Professor of Chemistry, University of Virginia

Virgil Lee Board U 1910 Denver, Col. Engineer, Denver Gas and Electric Company

William T Bovie G 1909 Cambridge, Mass.
Graduate Student, Harvard University

John Davis Bowles U 1909 St. Louis, Mo. Electrical Engineer

Edwin Bayer Branson F 1910\* (Chicago G 1904; Kansas U 1903)
Professor of Geology, University of Missouri [Columbia, Mo.

Clark Arthur Briggs U 1907 Washington, D. C. Assistant Physicist, United States Bureau of Standards

Joseph Hugh Brooking U 1907 Springfield, Mo. Assistant Engineer, Frisco Railroad

Charles Brooks G 1905 Durham, N. H. Professor of Botany, New Hampshire College

William George Brown CF 1905\*† Columbia, Mo. Professor of Industrial Chemistry, University of Missouri

H Hays Bullard G 1909 New Orleans, La. Instructor in Anatomy, Tulane University

Sidney Calvert F 1905\* Columbia, Mo. Professor of Organic Chemistry, University of Missouri

William Jeptha Calvert F 1905 Columbia, Mo. Professor of Preventive Medicine, University of Missouri

Jesse Lee Carter U 1910 Oklahoma City, Okla.

Teacher of Biology, High School

William Henry Chandler U 1905 Columbia, Mo.
Assistant Professor of Horticulture, University of Missouri

Jessie (Allen) Charters F 1908 (Chicago G 1904) Columbia, Mo. (Mrs Werrett Wallace Charters)

Lucius Franklin Childers G 1906 Moscow, Ida. Professor of Agronomy, Idaho Experiment Station

Edward Wilson Chittenden U 1909 Chicago, Ill.
Graduate Student, University of Chicago

Wilbur Andrew Cochel U 1905 State College, Pa. Professor of Animal Husbandry, Pennsylvania State College

Pleasant Theodore Cole U 1910 Norfolk, Va.
Assistant Horticulturist, Virginia Truck Experiment Station

John Waldo Connaway CF 1905 Columbia, Mo. Professor of Comparative and Veterinary Medicine, University of Missouri

Cyrus Richard Crosby F 1906\* Ithaca, N. Y.
Assistant Professor of Entomology, Cornell University

Winterton Conway Curtis F 1905\* Columbia, Mo. Professor of Zoology, University of Missouri

Walter Edward Dandy U 1907 Baltimore, Md. Student Assistant in Surgery, Johns Hopkins University

Charles Thornton Dearing U 1909 Washington, D. C.
Assistant Pomologist, United States Department of Agriculture

David Hough Dolley F 1911\* Columbia, Mo. Professor of Pathology, Bacteriology and Hygiene, University of Missouri

Howard Waters Doughty F 1906\* Amherst, Mass. Associate Professor of Chemistry, Amherst College

Thomas Rankin Douglass U 1911 Columbia, Mo. Assistant in Agronomy, University of Missouri

Benjamin Minge Duggar CF 1905\*† (Cornell F 1897) Ithaca, N. Y. Professor of Plant Physiology, Cornell University

Instructor in Mathematics, University of Missouri

Assistant Professor of Botany, University of Missouri F 1905\*

Professor of Dairy Husbandry, University of Missouri

Principal, High School

Experimentalist in Animal Husbandry, Iowa State College G 1905

Assistant Editor, Fruit Grower

Assistant Professor of Mechanical Engineering, University of Missouri

U 1910

G 1906

G 1906

F 1910\* (Cornell U 1893)

F 1908 (Illinois U 1907)

Columbia, Mo.

Columbia, Mo.

Columbia, Mo.

Kennett, Mo.

St. Joseph, Mo.

Columbia, Mo.

Ames, Ia.

F 1909\*

Otto Dunkel

Elias Judah Durand

Earl Newton Elsea

John Marcus Evvard

Ernest Howard Favor

Edwin Allen Fessenden

Clarence Henry Eckles

Mary Alida Fitch Lafayette, Ind. Assistant in Botany, Indiana Experiment Station Ruby Fitch G 1905 Springfield, Mo. Teacher of Botany and Zoology, High School Alan Estis Flowers F 1905\* (Cornell U 1902) Columbia, Mo. Assistant Professor of Electrical Engineering, University of Missouri Ernest Browning Forbes F 1907 Wooster, Ohio Chief of Department of Nutrition, Ohio Experiment Station Lester R Ford Columbia, Mo. Scholar in Mathematics, University of Missouri G 1905\* State College, Pa. Harry Roscoe Fulton Associate Professor of Botany, Pennsylvania State College Washington, D. C. Beverly Thomas Galloway A 1905\*+ Chief, Bureau of Plant Industry, United States Department of Agriculture Robert Banks Gibson F 1907\* (Yale U 1902) Minneapolis, Minn. Assistant Professor of Physiological Chemistry, University of Minnesota Clarence Allen Good CF 1905 St. Joseph, Mo. Professor of Medicine, Ensworth Medical College William Hammack Goodson G 1905 Liberty, Mo. Physician CF 1905\* (Pennsylvania F 1900) Troy, N. Y. Arthur Maurice Greene, Jr Professor of Mechanical Engineering, Rensselaer Polytechnic Institute CF 1905\* Charles Wilson Greene Columbia, Mo. Professor of Physiology and Pharmacology, University of Missouri John Casser Grossenbacher U 1906\* Geneva, N. Y. Associate Botanist, Agricultural Experiment Station Thomas Sherwood Haddaway U 1911 Beaver, Utah Electrical Engineer, Beaver River Power Company Homer Huston Haggard U 1905 Havana, Cuba Civil Engineer G 1910 Columbia, Mo. Leonard Dixon Haigh Assistant in Agricultural Chemistry, University of Missouri

Leonard Haseman F 1910 (Indiana G 1906) Columbia, Mo. Instructor in Entomology, University of Missouri

Paul Hayhurst G 1905\* Fayetteville, Ark.
Professor of Entomology, University of Arkansas

Eli Stuart Haynes U 1905\* Berkeley, Cal. Fellow in Astronomy, University of California.

Fred George Hechler U 1908 Troy, N. Y.
Instructor, Mechanical Engineering, Rensselaer Polytechnic Institute

Earle Raymond Hedrick CF 1905\* (Yale G 1902) Columbia, Mo. Professor of Mathematics, University of Missouri

Herbert Wade Hibbard F 1909\* (Cornell G 1891) Columbia, Mo. Professor of Mechanical Engineering, University of Missouri

Agnes Sime Baxter Hill C 1905 (Cornell G 1894) Columbia, Mo. (Mrs Albert Ross Hill)

Albert Ross Hill CF 1905\*† (Nebraska F 1897) Columbia, Mo. President, University of Missouri

Albert Hogan G 1910 Columbia, Mo. Research Fellow, Agricultural Chemistry, University of Missouri

Robert Francis Howard U 1908 Lincoln, Neb.
Assistant Professor of Horticulture, University of Nebraska

Walter Lafayette Howard F 1907\* Columbia, Mo. Professor of Horticulture, University of Missouri

Harley Earl Howe G 1906 Ithaca, N. Y. Instructor in Physics, Cornell University

Harold DeMott Hughes F 1908 (Illinois U 1907) Ames, Ia.
Professor of Crop Production, Iowa State College

Wallie Abraham Hurwitz G 1906\* Ithaca, N. Y. Instructor in Mathematics, Cornell University

Claude Burton Hutchison U 1908 Columbia, Mo. Assistant Professor of Agronomy, University of Missouri

Abraham Lincoln Hyde F 1906 Columbia, Mo. Assistant Professor of Bridge Engineerng, University of Missouri

Louis Ingold F 1908 (Chicago G 1906) Columbia, Mo. Instructor in Mathematics, University of Missouri

Clarence Martin Jackson F 1905\* Columbia, Mo. Professor of Anatomy and Dean, Medical Department, University of Missouri

Clarence Sylvester Jarvis U 1906 Provo, Utah Civil Engineer, United States Deputy Mineral Surveyor

Richard Henry Jesse, Jr G 1906 Urbana, Ill.
Instructor in Chemistry, University of Illinois

Franklin Paradise Johnson U 1908 Boston, Mass. Instructor in Histology and Embryology, Harvard University

Mary Lucille Keene U 1910 Columbia, Mo. Assistant in Botany, University of Missouri

Oliver Dimon Kellogg F 1906\* Columbia, Mo.
Professor of Mathematics, University of Missouri

Assistant Professor of Economics, George Washington University

Draftsman, City Engineer's Office

Washington, D. C.

Kansas City, Mo.

U 1905

U 1906

Robert Russ Kern

Raymond Alvan Kizer

Waldemar Koch F 1905\* (Chicago CF 1903) (Deceased) Louis Otto Kunkel U 1909 St. Louis, Mo. Research Fellow, Shaw School of Botany William M Landess U 1910 Athens, Ga. Veterinarian, in Charge of Hog Cholera Laboratory Colin Kingsley Lee U 1911 Kansas City, Mo. Deputy City Electrician George Lefevre CF 1905\*+ Columbia, Mo. Professor of Zoology, University of Missouri U 1908 Manila, P. I. Ruskin Lhamon Assistant Professor of Anatomy, University of the Philippines Leo Loeb U 1906 Annapolis, Md. Mechanical Engineer, U. S. Naval Experiment Station G 1910 Columbia, Mo. Lawson Gentry Lowrey Acting Assistant Professor in Anatomy, University of Missouri Ned Chester Mann TI 1910 St. Louis, Mo. Draftsman, United Railway Company Charles Fletcher Marbut CF 1905\* Columbia, Mo. Professor of Geology, University of Missouri U 1905 Charles Knox Martin Doniphan, Mo. Dairy Farmer Gertrude Karen Mathiason G 1911 St. Louis, Mo. Chemist F 1907\* (Pennsylvania G 1905) New York Jesse Francis McClendon Instructor in Embryology, Cornell Medical College [City Caroline McGill G 1905\* Butte. Mont. Assistant Professor of Anatomy, Murray Hospital U 1908 Provo. Utah Walter James McMinn Electrical Engineer, Telluride Power Company Columbia, Mo. Homer Elkanah McNatt U 1910 Assistant in Dairy Husbandry, University of Missouri Karl Absalom McVey G 1910 Kansas City, Mo. Construction Engineer, Rollins and Westover CF 1905\* Columbia, Mo. Max Meyer Professor of Experimental Psychology, University of Missouri Columbia, Mo. Merritt Finley Miller F 1905 (Ohio U 1900) Professor of Agronomy, University of Missouri CF 1905 Columbia, Mo. Walter McNab Miller Secretary, Missouri Association for Control of Tuberculosis Walter Scott Monroe U 1905 Chicago, Ill. Graduate Student, University of Chicago

MISSOURI CHAPTER 385 Verle Weaver Morris U 1911 Cicero, Ill. Electrical Engineer Charles Robert Moulton G 1907\* (Illinois U 1905) Columbia, Mo. Assistant Professor of Agricultural Chemistry, University of Missouri Frederick Blackmar Mumford CF 1905\*† Columbia Dean, College of Agriculture, University of Missouri Columbia, Mo. Max Washington Myer F 1905 St. Louis, Mo. Surgeon F 1905 Guy Lincoln Noyes Columbia, Mo. Superintendent of Parker Memorial Hospital F 1905\* Robert Morris Ogden Knoxville, Tenn. Assistant Professor of Philosophy and Psychology, University of Tennessee Robert Conrad Palmer U 1909 Madison, Wis. Chemical Engineer, Forest Products Laboratory Leroy Sheldon Palmer U 1909 Columbia, Mo. Dairy Chemist, U. S. Department of Agriculture, University of Missouri Henry Clair Philippi U 1908 Bellingham, Wash. Teacher, State Normal School Howard Wade Price TJ 1911 Cleveland, Ohio Mechanical Engineer. The Meriam Company CF 1905\* (Chicago G 1903) Hanover, N. H. Charles Albert Proctor Assistant Professor of Physics, Dartmouth College U 1907 Merle Randall Boston, Mass. Fellow in Physical Chemistry, Massachusetts Institute of Technology George Matthew Reed F 1908\* Columbia, Mo. Assistant Professor of Botany, University of Missouri CF 1905\* (Michigan CG 1903) Blacksburg, Va. Howard Sprague Reed Professor of Bacteriology, Virginia Polytechnic Institute Herbert Meredith Reese F 1905\* Columbia, Mo. Assistant Professor of Physics, University of Missouri F 1909\* Harvey Clayton Rentschler Columbia, Mo. Assistant Professor of Physics, University of Missouri Ernest Franklin Robinson  $G_{1905}$ New York City Junior Engineer, United States Engineer's Office

Charles Bradford Rodes G 1906 Butte, Mont.
Physician, Murray Hospital

Thomas Jacob Rodhouse F 1908 (Cornell G 1905) Columbia, Mo. Assistant Professor of Hydraulic Engineering, University of Missouri

Hugh Chilton Rogers U 1911 Lexington, Mo.
Civil Engineer

Earl Wilson Rusk U 1909 Martin City, Mo. Live Stock Farmer

Henry Perly Rusk U 1908 (Illinois F 1910) Urbana, Ill. Associate in Beef Cattle Husbandry, Illinois Experiment Station

Oscar Charles Schaefer U 1909 Columbia, Mo. Graduate Student, University of Missouri

Herman Schlundt F 1905\*† Columbia, Mo. Professor of Physical Chemistry, University of Missouri

Paul Schweitzer CF 1905\*†

(Deceased 1911)

Frederick Hanley Seares CF 1905\*† Pasadena, Cal. Superintendent, Computing Division, Mt. Wilson Solar Observatory

Russell Alva See U 1910 Kansas City, Mo.
Draftsman, Kansas City Terminal Railway

Charles William Seibel U 1907 Chicago, Ill. Engineer, in Charge of Meter and Service Department, Sanitary District

William Kerlin Seitz U 1906 St. Joseph, Mo. Engineer, Seitz-Peterman Engineering Company

Homer Leroy Shantz F 1906\* (Nebraska G 1905) Washington, D C. Plant Physiologist, United States Department of Agriculture

Harlow Shapley U 1910 Princeton, N. J. Fellow in Astronomy, Princeton University

Howard Burton Shaw CF 1905\*† Columbia, Mo. Dean, School of Engineering, University of Missouri

Roscoe Hart Shaw F 1908 (Nebraska F 1906) Washington, D. C. Dairy Chemist, United States Department of Agriculture

Edwin Henry Schorer F 1908 Boston, Mass. Fellow in Medicine, Harvard Medical School

Chester Gibbs Starr U 1906 Centralia, Mo. Stock Breeder

John Moore Stedman CF 1905\*† (Columbia U 1888) Washington, D. C. Specialist in Agricultural Education Extension

Matthew Steele F 1910 (Columbia G 1908) Columbia, Mo. Assistant Professor of Physiological Chemistry, University of Missouri

Oscar Milton Stewart CF 1905\*† (Cornell G 1895) Columbia, Mo.
Professor of Physics, University of Missouri

Stanley Stokes U 1911 Columbia, Mo.
Assistant in Physics, University of Missouri

George Washington Tanreuther F 1910 (Chicago G 1905) Columbia, Mo. Instructor in Zoology, University of Missouri

Perry Fox Trowbridge F 1907\* (Illinois F 1905) Columbia, Mo. Professor of Agricultural Chemistry, University of Missouri

Elmer Elsworth Vanatta G 1911 Columbia, Mo.

Assistant, Agricultural Chemistry, University of Missouri

Mary Shore Walker G 1904 Worcester, Mass. (Mrs Albert W Hull)

Henry Jackson Waters F 1905\*† Manhattan, Kan.
President, Kansas State Agricultural College

Luther Abraham Weaver U 1910 Columbia, Mo. Instructor in Animal Husbandry, University of Missouri

Eula Adeline Weeks U 1908 Bryn Mawr, Pa.
Teacher of Mathematics, The Misses Shipley School

Mende Penco Weinbach U 1907 Columbia, Mo. Instructor in Electrical Engineering, University of Missouri

Albert Paul Weiss U 1909 Columbia, Mo. Assistant in Experimental Psychology, University of Missouri

Wilhelm David Allen Westfall. F 1908\* (Yale U 1901) Columbia, Mo. Assistant Professor of Mathematics, University of Missouri

Dwight Nelson Wetherell U 1910 Wiley, Col. Civil Engineer, Wiley Power Company

Frank Elbert Wheelock F 1910 (Yale G 1910) Columbia, Mo. Instructor in Physics, University of Missouri

Joseph Andrew Whitlow U 1908 Columbia, Mo. Superintendent of Buildings, University of Missouri

John Charles Whitten CF 1905\*† Columbia, Mo. Professor of Horticulture, University of Missouri

Edwin Garder Woodward U 1911 Columbia, Mo. Assistant in Dairy Husbandry, University of Missouri

Tom Elwyn Woodward G 1911 Washington, D. C. Superintendent, Dairy Experiment Farm, U. S. Department of Agriculture

Turner Richard Haden Wright U 1909 Manhattan, Kan.
Assistant in Animal Husbandry, Kansas State College

Lewis Harry Winkler U 1907 Johnstown, Pa.
Testing Engineer, Cambria Steel Works

Clinton Talbot Yates U 1909 St. Louis, Mo. Engineer, United Railway Company

Daisy Young G 1909 Shreveport, La.
Teacher of Biology

# COLORADO CHAPTER

University of Colorado, Boulder, Colorado.

Charter Dated April 3, 1905

Chapter Installed May 20, 1905

## HISTORICAL SKETCH

Colorado Chapter of the Society of the Sigma Xi was organized April 1, 1905, although the Charter is dated April 3, 1905. The formal installation occurred May 20, 1905, Doctor Henry Baldwin Ward of the University of Nebraska conducting the ceremonies. The installation address on The Society of the Sigma Xi was later published in pamphlet form by the Chapter. In an open public meeting which followed, Doctor Ward delivered an address on The Role of Animals in the Transmission of Disease.

At the close of each academic year a public meeting has been held, with an address by some prominent outside speaker, as follows:

1906: Doctor Thomas H. McBride, of Iowa City, Iowa, on The Re-

sponse of Plants.

1907: Doctor Regis Chauvenet, of Denver, Colorado, on The Uses and Dangers of Scientific Theories.

1908: Doctor Florian Cajori, of Colorado Springs, Colorado, on

The History of a Doctrine.

In addition to these open meetings and the regular business meetings, the Chapter has held two or three meetings each year at which were read scientific papers based upon research work done by the members. Many papers written by members have appeared in various technical periodicals but only one has been published under the auspices of the Chapter as given below.

J. H.

## PUBLICATIONS

The Society of The Sigma Xi—(Address at the Installation of the Colorado Chapter, Society of the Sigma Xi, by Doctor Henry B. Ward of the University of Nebraska May 20th, 1905.) Boulder, Colorado, 1905, pp. 18.

By-Laws of the Colorado Chapter of the Society of the Sigma Xi.

1905, pp. 12.

## OFFICERS FOR 1911-12

President	JOHN BERNARD EKELEY
Vice-President	SAUL EPSTEEN
Recording Secretary	HARRY ALFRED CURTIS
Corresponding Secretary	. HARRY ALFRED CURTIS
Treasurer	.IRA MITCHELL DELONG
Councilor	FRANCIS RAMALEY

Madison. Wis.

## MEMBERSHIP ROLL

Alfred Horace Allen TJ 1909 Boulder, Col. Chemist Philip Harry Argall G 1908 Victor, Col. Manager, Independence Mine John Christian Bailar G 1909 Golden, Col. Assistant Professor of Chemistry, Colorado School of Mines Joseph Hershey Bair CF 1905\* Philadelphia, Pa. Private Research Dessie Brown Robertson Barrows F 1906 Moscow, Ida. (Mrs Frank Lee Barrows) Frank Lee Barrows U 1908 Moscow, Ida. Physician Amy Bell G 1907 Kingsville, Tex. (Mrs Martin Emmet Miles) William Raymond Brackett F 1910 Boulder, Col. Instructor in Physics, University of Colorado Clough Turrill Burnett F 1910 Boulder, Col. Professor of Bacteriology, University of Colorado Roy Morrill Butters G 1910 Boulder, Col. Assistant in Geology, University of Colorado Ruby Lily Carstens G 1906 Grand Valley, Col. (Mrs Harry Evans Sovereign) George Henry Cattermole CF 1905 Boulder, Col. Physician Maud Clark Boulder, Col. G 1905 (Mrs John Gardiner) Theodore Dru Alison Cockerell F 1905\*† Boulder, Col Professor of Zoology, University of Colorado Wilmatte Porter Cockerell G 1907 Boulder, Col. (Mrs Theodore Dru Alison Cockerell) Claude C. Coffin Fort Collins, Col. U 1905 Lawyer Boulder, Col. Ralph Dixon Crawford F 1905 Assistant Professor of Geology, University of Colorado Harry Alfred Curtis Boulder, Col. Instructor in Chemistry, University of Colorado Henry Baldwin Dates CF 1905 (Case F 1905) Cleveland, Ohio Professor of Electrical Engineering, Case School of Applied Science Paul Marshall Dean U 1908 Boulder, Col. Instructor in Chemistry, University of Colorado Ira Mitchell DeLong CF 1905\* Boulder, Col. Professor of Mathematics, University of Colorado Gideon Stanhope Dodds G 1905 (Pennsylvania G 1909) Columbia, Mo. Instructor in Zoology, University of Missouri

F 1907 (Illinois F 1908)

Assistant Professor of Mechanics, University of Wisconsin

Frederick William Doolittle

Paris, France

Pittsburgh, Pa.

Boulder, Col.

Denver, Col.

CF 1905\*

William Duane

Harold Leader Ireland

Bethel Howard Jackson

Edward Jackson

Curie Laboratory, University of Paris John Bernard Ekeley CF 1905\* Boulder, Col. Professor of Chemistry, University of Colorado Arnold Emch CF 1905\* (Kansas F 1895) Urbana, Ill. Assistant Professor of Mathematics, University of Illinois Saul Epsteen F 1906 (Chicago CF 1903) Boulder, Col. Professor of Mathematics, University of Colorado Herbert Silas Evans F 1906 (Nebraska G 1900) Boulder, Col. Professor of Electrical Engineering, University of Colorado Louise Henriette Falk F 1910 Fort Collins, Col. (Mrs Wilfred William Robbins) Valentine Benjamin Fischer U 1909 Boulder, Col. Physician Howard Carlton Ford F 1905 Ames, Ia. Associate Professor of Engineering, Iowa State College Maud Clark Gardiner G 1905 Boulder, Col (Mrs J J P Odell) Russell D George CF 1905\* Boulder, Col. State Geologist, Professor of Geology, University of Colorado Frank Anthony Giacomini G 1908 Berlin, Germany Graduate Student, University of Berlin U 1905 Boulder, Col. Clay Emery Giffin Physician Luman Moody Giffin CF 1905 Boulder, Col. Physician Oscar Monroe Gilbert F 1905 Boulder, Col. Professor of Medicine, University of Colorado William Page Harlow F 1906 Boulder, Col. Dean of Medical School, University of Colorado F 1905 Boulder, Col. Junius Henderson Professor of Natural History, University of Colorado Vivian Allen Charles Henmon F 1906 (Columbia G 1907) Madison, Wis. Associate Professor of Education, University of Wisconsin Gerard Louis Cornelius Maarten van Rossen Hoogendijk F 1911 Instructor in Chemistry, University of Colorado [Boulder, Col. John Andrew Hunter F 1905 Boulder, Col. Professor of Engineering, University of Colorado F 1911 Whitney Clark Huntington Boulder, Col. Instructor in Civil Engineering, University of Colorado

G 1909

G 1906

F 1909

Engineer, Westinghouse Electric and Manufacturing Company

Fellow, University of Colorado

Physician and Professor of Ophthalmology, Colorado Medical School

David Rhys Jenkins F 1906 Boulder, Col. Assistant Professor of Electrical Engineering, University of Colorado
Oscar Perry Johnston F 1906 Chicago, Ill. Physician
Chancey Juday $$\operatorname{CF} 1905$$ (Wisconsin CF 1907) Madison, Wis. Biologist, Wisconsin Natural History Survey
Alfred Allen Kelley U 1911 Chicago, Ill. Student with Western Electric Company
Henry James Kesner G 1907 Berkeley, Cal. Assistant Professor of Engineering, University of California
Milo Smith Ketchum F 1905† Boulder, Col. Dean of College of Engineering, University of Colorado
Fred Hutton Kroger G 1905 (Cornell F 1906) Brooklyn, N. Y. Engineer, National Electric Signalling Company
Heman Burr Leonard G 1906 (Chicago G 1904) Eugene, Ore. Assistant Professor of Mathematics, University of Oregon
Oliver Clarence Lester F 1907 (Yale F 1903) Boulder, Col. Professor of Physics, University of Colorado
Charles Alfred Lory F 1905* Fort Collins, Col. President, State Agricultural College
Martin Emmet Miles F 1905 Kingsville, Tex. Physician
Amy Bell Miles G 1907 Kingsville, Tex. (Mrs Martin Emmet Miles)
Earl Bowman Millard U 1910 (Illinois F 1911) Urbana, Ill. Assistant in Chemistry, University of Illinois
Floyd Hays Millard U 1910 Urbana, Ill.
Johnson Edward Naugle U 1908 Star, Ida. Physician
Winogene Nelson U 1908 Durango, Col.
Maud Clark Gardiner Odell G 1905 Boulder, Col. (Mrs J J P Odell)
Alvin Roy Peebles F 1908 Boulder, Col. Professor of Theory and Practice of Medicine, University of Colorado
Charles Franklin Poe U 1911 Boulder, Col. Instructor in Chemistry, University of Colorado
Alfred Peter Poorman F 1908 Lafayette, Ind. Assistant Professor of Mechanics, Purdue University
Dean Truxell Prosser U 1910 Cheyenne, Wyo.
Emley Barber Queal CF 1905 Boulder, Col. Professor of Physiology, University of Colorado
Ethel Jackson Ramaley G 1909 Boulder, Col. (Mrs Francis Ramaley)
Francis Ramaley CF 1905* (Minnesota G 1906) Boulder, Col. Professor of Biology, University of Colorado

F 1909 Wilfred William Robbins Fort Collins, Col. Instructor in Botany, Colorado Agricultural College Dessie Brown Robertson F 1906 Moscow, Ida. (Mrs Frank Lee Barrows) Eugene Herbert Robertson CF 1905 Boulder, Col. Physician Walter Gustav Adolph Schulte G 1907 Salt Lake City, Utah Physician Guy Watson Smith F 1910 Boulder, Col. Instructor in Mathematics, University of Colorado Harry Evans Sovereign U 1908 Grand Valley, Col. Engineer, Wilcox Canal Company Ruby Lily Carstens Sovereign G 1906 Grand Valley, Col. (Mrs H E Sovereign) Instructor in Mathematics, University of Colorado F 1908 Frank Robert Spencer Boulder, Col. Physician, Instructor, University of Colorado Charles Stillman Sperry U 1911 Boulder, Col. Civil Engineer George Weatherworth Stratton U 1907 Columbus, Ohio Instructor in Chemistry, Ohio State University George Leonard Sullivan F 1908 (Nebraska G 1908) Bozeman, Mont. Assistant Professor of Machine Design, Montana School of Mines Arthur Lawrie Tatum F 1907 (Iowa G 1907) Madison, Wis. Instructor in Pharmacology, University of Wisconsin James Underhill G 1905 Idaho Springs, Col. United States Mining Surveyor George Albert Wall G 1908 Calgary, Alberta Civil Engineer, Canadian Pacific Railway Company Jacob H Wallace F 1906 Boulder, Col. Designing Engineer Robert John Wells G 1905 Loveland, Col. Superintendent of Schools Judson Ray West CG 1905 Seattle, Wash. Assistant City Engineer Ross Chauncey Whitman F 1908 Denver, Col. Professor of Pathology, University of Colorado School of Medicine F 1908 (Illinois U 1907) Clement Clarence Williams Boulder, Col. Assistant Professor of Civil Engineering, University of Colorado Philip George Worcester U 1909 Boulder, Col.

Instructor in Geology, University of Colorado

# NORTHWESTERN CHAPTER

NORTHWESTERN UNIVERSITY, EVANSTON, ILLINOIS Charter Dated January 17, 1906 Chapter Installed January 17, 1906

## HISTORICAL SKETCH

The Northwestern Chapter of Sigma Xi was organized largely through the efforts of Professor Henry S. White, then Professor of Mathematics at Northwestern University and now at Vassar College. The first petition was signed by only nine persons but this was reinforced by a number of additional signatures and was finally sent to the general

society about May 25, 1905.

The organization of the Chapter was authorized by President Edward L. Nichols, in a letter dated November 25, 1905. The preliminary organization was effected on December 1, 1905, with Professor Grant as Chairman. The installation of the chapter was made by President Nichols on the afternoon of January 17, 1906. The charter bears this date and contains the names of twenty-five charter members, in addition to whom four members were initiated at that time, whose names are not on the document. The date of installation was the two hundredth anniversary of the birth of Benjamin Franklin, and an appropriate celebration of this event was observed that evening. Professor J. A. James of Northwestern University gave an address on Franklin as a Diplomat, while President Nichols gave an address on Is Investigation Worth While? A reception was tendered by the University Guild.

At the first annual meeting, April 2, 1906, Professor Locy was elected President of the Chapter, and By-Laws were adopted. On April 6, 1906, Doctor George E. Hale gave an illustrated lecture on The Work of the Carnegie Solar Observatory at Mt. Wilson. At the initiation, June 13, 1906, Professor W. A. Locy delivered an address upon Investigation, illustrating it with work done the previous year in his department.

At the following initiation, December 19, 1906, Professor Jacob Reighard, of the University of Michigan, gave an address upon Habits of Nest Building Fishes. On January 25, 1907, Professor Crew and Professor Locy presented a careful discussion of the question What Sciences Should be Required in a College Course. On May 17, 1907, Professor Crew was elected President of the chapter, and the initiation occurred on May 24, 1907, on which occasion Professor Locy gave an address on The Life of Linnaeus, and his Special Service to Natural History. Professor Atwell also spoke upon Linnaeus as a Botanist.

On October 14, 1907, the subject of Osmosis was discussed from the points of view of Physics, Chemistry, Botany, and Zoology by Professors Tatnall, Young, Atwell, and Harper respectively. The next initiation took place November 22, with short addresses by members as follows:

J. H. Long, on Chemical Composition of Water; U. S. Grant, on Water as a Geological Agent; and O. H. Basquin, on Anchor and Frazil Ice. On February 19, 1908, Professor Cassius J. Keyser, of Columbia University, gave an address upon The Aims and Achievements of Modern Mathematicians. The initiation of members occurred on May 9, with a public address by John A. Brashear, Sc.D., LL.D., upon Some Problems in the Making of a Large Telescope.

In honor of the Darwin Centenary the chapter furnished a public lecture on February 19, 1909, by Professor E. G. Conklin of Princeton University, whose subject was the Life and Work of Charles Darwin. At the initiation on May 7, 1909, Mr. John F. Hayford of the Coast and Geodetic Survey, spoke upon the Work of the International Geodetic

Association.

At the initiation, December 16, 1909, the program included a number of short papers:—Professor Grant, on Topographical and Geological Survey of Cook's Inlet, Alaska; Professor Crew, on Absorption of Light and Ionization; Professor Bauer, on A New Primary Battery; Professor Fox, on Spectra of Sun Spots; Professor Basquin, on Exponential Law of Endurance Tests. At the initiation, May 26, 1910, papers were given as follows:—Professor Fox, on Comets; Doctor Lewis, on The Pure Food Movement; Mr. E. V. Smith, on Spiral Ganglion Cells.

On December 1, 1910, a public lecture was given by Doctor D. T. MacDougal, of the Carnegie Institution, whose subject was American

Deserts.

О. Н. В.

## OFFICERS FOR 1911-12

President	PHILIP FOX
Vice-President	.Winford Lee Lewis
Recording Secretary	.GEORGE ROGERS MANSFIELD
Corresponding Secretary	OLIN HANSON BASQUIN
Treasurer	ROBERT RICHARDSON TATNALL
Councilor	.WILLIAM ALBERT LOCY

## MEMBERSHIP ROLL

Nathaniel G. Alcock U 1906 Chicago, Ill. Student, Medical School, Northwestern University

Charles Beach Atwell CF 1906\* Evanston, Ill.
Professor of Botany, Northwestern University

Joseph Ray Banister U 1906 (Deceased 1907)

Olin Hanson Basquin CF 1906\* Evanston, Ill. Professor of Applied Mechanics, Northwestern University

William Charles Bauer F 1909\* Evanston, Ill.
Professor of Electrical Engineering, Northwestern University

Charles Scofield Blair G 1906 Washington, D. C. Geologist, U. S. Geological Survey

Gilbert Haven Cady G 1907 (Illinois F 1910) Chicago, Ill.
Assistant Geologist, Illinois State Geological Survey

Phillips, Wis.

Martin Rist Chase U 1907 Assistant in Anatomy, Medical School, Northwestern University Laura Ethel Christman U 1910 Wheaton, Ill. Teacher of Mathematics and Physics, High School Justus Henry Cline G 1908 Stuarts Draft, Va. Assistant Geologist, Virginia Geological Survey Effie Virginia Fixen Clutton F 1909 Chicago, Ill. (Mrs Fred H Clutton) William Hawes Coghill F 1908 Evanston, Ill. Instructor in Mineralogy and Mining, Northwestern University Charles Edgar Corbin  $G_{1907}$ Huron, S. D. Professor of Mathematics, Huron College Henry Crew CF 1906\*† Evanston, Ill. Professor of Physics, Northwestern University Alja Robinson Crook CF 1906\*† Springfield, Ill. Curator, State Natural History Museum George O Curme, Jr U 1909 Chicago, Ill. Graduate Student in Chemistry, University of Chicago David Raymond Curtiss CF 1906\* Evanston, Ill. Professor of Mathematics, Northwestern University Thomas Matthew Dahm U 1907 Madison, Wis. Assistant in Physics, University of Wisconsin Charles Elijah Decker G 1907\* Chicago, Ill. Graduate Student in Geology, University of Chicago Charles Ross Dines U 1907 Hanover, N. H. Instructor in Mathematics, Dartmouth College Lloyd Lyne Dines U 1906 Chicago, Ill. Fellow in Mathematics, University of Chicago Milton Walker Eddy U 1909 State College, Pa. Instructor in Zoology and Entomology, Pennsylvania State College Thomas Oscar Edgar A 1908 St. Louis, Mo. Doctor of Eye, Ear, Nose and Throat Philip Fox F 1909\* Evanston, Ill. Professor of Astronomy and Director of Dearborn Observatory Gordon Scott Fulcher G 1905\* (Wisconsin F 1909) Madison, Wis. Instructor in Physics, University of Wisconsin Newell Clark Gilbert G 1907 Chicago Heights. Ill. Physician and Surgeon CF 1906\* James Walter Goldthwait Hanover, N. H. Professor of Geology, Dartmouth College Cornelius Gouwens U 1910 South Holland, Ill. Ulysses Sherman Grant CF 1906\*† (Minnesota F 1896) Evanston, Ill. William Deering Professor of Geology, Northwestern University Elisha Hall Gregory CF 1906† Munich. Germany

U 1910

Teacher of Science, Phillips High School

Cora Guthier

U 1906 Rufus Clifford Hall Washington, D. C. Forest Service, U. S. Department of Agriculture CF 1906\*† Winfield Scott Hall Chicago, Ill. Professor of Physiology and Junior Dean, Medical School, Northwestern University Eugene Howard Harper CF 1906\* Evanston, Ill. Assistant Professor of Zoology, Northwestern University Abram Winegardner Harris F 1908\*† Evanston, Ill. President, Northwestern University John Fillmore Hayford F 1897\*† (Cornell F 1896) Evanston, Ill. Director of College of Engineering, Northwestern University Claude William Heaps U 1909 Princeton, N. J. Fellow in Physics, Princeton University Enid Hennessey TT 1909 Evanston, Ill. Biology Teacher, Chicago High Schools Daniel Franklin Higgins Songdo, Korea Anglo-Korean School, Science Department G 1909 Louis Ernest Hildebrand Kenilworth, Ill. Instructor in Biology, New Trier High School Charles Hill CF 1906\*† Chicago, Ill. Physician F 1907\* Murray Arnold Hines Evanston, Ill. Assistant Professor of Chemistry, Northwestern University U 1910 Edwin Fred Hirsch Urbana, Ill. Fellow in Zoology, University of Illinois Lola Sevilla Hitch TJ 1907 Palmyra, N. J. Instructor in Science, High School G 1908 Raymond Royce Hitchcock University, N. D. Instructor in Mathematics, State University of North Dakota Thomas Franklin Holgate CF 1906\*† Evanston, Ill. Dean of College of Liberal Arts, Northwestern University Lloyd Holsinger G 1908 Evanston, Ill. Instructor in Mathematics, Evanston Academy George J Hough A 1907 Denver, Col. Metallurgist, Partridge Smelter Company George Washington Hough CF 1906\*† (Deceased 1909) Leland Wesley Irish A 1909 (Union U 1904) Evanston, Ill. Civil Engineer CF 1906\* Gainesville, Fla. Herbert Govert Keppel Professor of Mathematics, University of Florida Raymond Castle Kotz U 1907 Chicago, Ill. Instructor in Science, Carl Schurz High School Ella W Kracke U 1910 Wabash, Ind. Science Teacher, Arlington Heights College Winford Lee Lewis F 1908 (Chicago G 1907) Evanston, Ill.

Instructor in Chemistry, Northwestern University

CF 1906\*† William Albert Locy Evanston, Ill. Professor of Zoology, Northwestern University CF 1906\*† (Kansas A 1890) John Harper Long Chicago, Ill. Professor of Chemistry, Northwestern University Medical School George Vest McCauley U 1907 Madison, Wis. Fellow in Physics, University of Wisconsin George Rogers Mansfield F 1909\* Evanston, Ill. Assistant Professor of Geology, Northwestern University Clyde Orlando Marietta F 1908 St. Louis, Mo. Instructor in Mathematics, Washington University Charles Searing Mead G 1909 (Ohio U 1904) New York City Horticulturist, Sante Fe, Isle of Pines, West Indies John Wesley Merritt U 1911 Evanston, Ill. Fellow in Geology, Northwestern University F 1908\* Robert Lee Moore Instructor in Mathematics, Northwestern University James Caddell Morehead CF 1906\* Evanston, Ill. Assistant Professor of Mathematics, Northwestern University Redfield, S. D. John Hiram Norris U 1909 Charles Wesley Darwin Parsons CF 1906\* (Cornell U 1897) Chicago, Ill. Superintendent of Laboratory, Central Scientific Company U 1908 Washington, D. C. Caro Beth Peck Clerk, Civil Service Commission F 1909\* (Michigan U 1906) Syracuse, N. Y. Leigh H Pennington Assistant Professor of Botany, Syracuse University CF 1906\* Raymond Haines Pond (Deceased) Colorado Springs, Col. Thomas Lansing Porter U 1906 Professor of Physics, Colorado College U 1906 Chicago, Ill. Miner Raymond Sales Department, Webster Manufacturing Company Chicago, Ill. G 1907 Gilbert Henry Andrew Rech Bond Department, Illinois Trust and Savings Bank Baltimore, Md. G 1909 Leslie Hall Redelings Student, Johns Hopkins Medical School Portland, Ore. Charles Gilbert Sabin G 1906 Physician Milwaukee, Wis. Arthur Hawley Sanford G 1907 Professor of Physiology, Marquette University Medical College U 1904 (Chicago G 1905) Indianapolis, Ind. **Etoile Bessie Simons** Botanist, Manual Training School Seattle, Wash. G 1909 Eli Victor Smith Assistant Professor of Zoology, University of Washington Princeton, N. J. Keith Kuenzie Smith U 1909 Assistant in Physics, Princeton University Marshall, Mo.

TJ 1908

Professor of Biology, Missouri Valley College

Virgil Ray Stephens

## SIGMA XI

Harold Stiles G 1907 Sioux City, Ia. Professor of Physics, Morningside College

Leon Irwin Shaw F 1911 (Syracuse G 1908; Wisconsin F 1909)
Instructor in Chemistry, Northwestern University [Evanston, Ill.

Robert Richard Tatnall CF 1906\* Evanston, Ill. Associate Professor of Physics, Northwestern University

Emma Jane Thomas G 1906 La Grange, Ill.

Teacher of Biology, High School

Granville Howard Twining G 1906 Milwaukee, Wis. Surgeon, Milwaukee Railway Hospital

Lora Hennessey Walker U 1906 Ridgeway, Mo. (Mrs J H Walker)

Lewis Hart Weld F 1909\* Evanston, Ill. Instructor in Biology, Evanston Academy

Henry Seely White CF 1906\*† Poughkeepsie, N. Y. Professor of Mathematics, Vassar College

Theodore Whittelsey CF 1906\* Mishawaka, Ind. Rubber Regenerating Company

Robert Edward Wilson CF 1906\* Evanston, Ill. Assistant Professor of Mathematics, Northwestern University

Abram Van Eps Young CF 1906\*† Evanston, Ill.
Professor of Chemistry, Northwestern University

John Wesley Young CF 1906\* (Cornell G 1901) Hanover, N. H. Head of Department of Mathematics, Dartmouth College

Frederic Robert Zeit CF 1906\* Chicago, Ill. Professor of Pathology and Bacteriology, Northwestern University Medical

# SYRACUSE CHAPTER

SYRACUSE UNIVERSITY, SYRACUSE, NEW YORK

Charter Dated May 18, 1906

Chapter Installed May 18, 1906

## HISTORICAL SKETCH

The petition for the establishment of the Syracuse Chapter of Sigma Xi at Syracuse University was sent to the President of the general Society in the autumn of 1905. Upon receipt of the unanimous approval of the already existing chapters, fifteen members of the faculty of Syracuse University and one graduate student, a member of the Chapter at Brown University, met on May 9 and elected Professor William H. Metzler as the first President of the Syracuse Chapter. On the evening of May 18, 1906, at the University Club in the city of Syracuse, these fifteen charter members were formally installed as the Syracuse Chapter of Sigma Xi by President Nichols of the National Society, who gave a public address entitled, Does Research Pay?

Research papers were read before the Society by its own members during 1906 and 1907. Three open meetings were held during 1907 and 1908 with addresses by Professor Charles F. Binns, Director of the State School of Ceramic Arts, Alfred, N. Y.; Doctor B. W. Evermann of the Bureau of Fisheries, Washington, D. C.; and Professor C. B. Child, of Colgate University. The fourth meeting was devoted to research

reports by the members of the Syracuse Chapter.

During the year 1908 and 1909 three meetings were held at which research reports were presented by various members of the faculty; and one open meeting in celebration of the Darwin Centenary. Papers were given as follows: Darwin and Zoology, Professor C. W. Hargitt; Darwin and Botany, Professor W. L. Bray; Darwin and Geology, Doctor John M. Clarke, State Geologist, Albany, N. Y.

Four meetings were held during the year 1909 and 1910, which were devoted to research reports from various members of the Chapter.

In 1910 and 1911 there have been three meetings; two devoted to research reports, and one open meeting in conjunction with the Syracuse Section of the American Chemical Society, which was addressed by Doctor Harvey W. Wiley, Chief Chemist of the Department of Agriculture, Washington, D. C., upon the Services of Chemistry to the Public Welfare.

C. H. R.

#### PUBLICATIONS

The Chapter has published no reports as a Chapter, but many of its members have published research articles through their natural channels, since the organization of the Chapter in the spring of 1906. These publications are kept on file by the Secretary of the Chapter and will soon be placed in an alcove in the Carnegie Library of the University.

OFFICERS FOR 1911-12	
President Thomas Cramer Hopkins Vice-President Marion S. Dooley Recording Secretary Charles Henry Richardson Corresponding Secretary Charles Henry Richardson Treasurer Floyd Fiske Decker Councilor William Henry Metzler	
MEMBERSHIP ROLL	
Ebenezer Henry Archibald CF 1906* Syracuse, N. Y. Associate Professor of Chemistry, Syracuse University	
Maulsby Willett Blackman F 1909* Syracuse, N. Y. Associate Professor of Zoology, Syracuse University	
Arthur E Brainerd G 1911 Syracuse, N. Y. Assistant in Geology, Syracuse University.	
William L Bray F 1907*† Syracuse, N. Y. Professor of Botany, Syracuse University	
Edith Bronson G 1910 Baltimore, Md. Student, Medical College, Johns Hopkins University	
Harold Hiram Brown G 1909 Syracuse, N. Y. Instructor in Chemistry, Syracuse University	
Roger Frederic Brunel F 1907* Syracuse, N. Y. Assistant Professor of Chemistry, Syracuse University	
Warren Gardner Bullard F 1906* Syracuse, N. Y. Professor of Mathematics, Syracuse University	
Marie Elizabeth Cashman G 1911 Syracuse, N. Y. Graduate Student in Biology, Syracuse University.	
Burton William Clark G 1907 Washington, D. C. Geologist, United States Geological Survey	
Elizabeth Garrett Clark G 1911 Syracuse, N. Y. Graduate Student in Biology, Syracuse University.	
Gaylord Parsons Clark F 1906* (Deceased 1907)	
Herbert Anthony Clark CF 1906 (Kansas U 1897) Syracuse, N. Y. Associate Professor of Physics, Syracuse University	
Edgar Davidson Congdon A 1907 New York City Instructor in Embryology, Cornell Medical School	
Ernest Franklin Conway G 1910 Syracuse, N. Y. Science Teacher, Central High School	
John Wesley Cuningham G 1910 Syracuse, N. Y. Graduate Student in Mathematics, Syracuse University	
Floyd Fiske Decker G 1906* Syracuse, N. Y. Assistant Professor of Mathematics, Syracuse University	
Marion S Dooley F 1910 Syracuse, N. Y. Instructor in Physiology, Syracuse University	
Frank Ernest Eldredge G 1910 Port Jervis, N. Y. Head of Science, High School	

SYRACUSE CHAPTER. 401 Neil E Gordon G 1911 Syracuse, N. Y. Graduate Student in Mathematics, Syracuse University. CF 1906\* William Pratt Graham Syracuse, N. Y. Professor of Electrical Engineering, Syracuse University F 1906 (Yale U 1898) George Arthur Hanford Syracuse, N. Y. Chemist, G. C. Hanford Manufacturing Company. Charles Wesley Hargitt CF 1906\*+ Syracuse, N. Y. Professor of Zoology, Syracuse University George Thomas Hargitt CF 1906\* (Nebraska G 1903) Evanston, Ill. Instructor in Zoology, Northwestern University Walter David Harris F 1907\* (Nebraska U 1906) Syracuse, N. Y. Assistant Professor of Physics, Syracuse University. Howard Farnum Hart CF 1906 (Brown U 1904) Montclair, N. J. Instructor in Mathematics, High School. Fred W Hartwell G 1908 New York City Teacher of Zoology, High School of Commerce Frederick Addison Harvey F 1910 (California U 1905) Syracuse, N. Y. Assistant Professor of Physics, Syracuse University Robert Henry Haskell F 1910 (Michigan U 1910) Syracuse, N. Y. erell Hilditch F 1909\* (Yale G 1909) Chief Chemist, Doctor E. E. Smith Laboratory Warren Witherell Hilditch New York City G 1909 Harvey Nelson Holmes Oxford, N. Y. Principal of Oxford Academy Thomas Cramer Hopkins CF 1906\*† (Stanford A 1904) Syracuse, N. Y. Professor of Geology, Syracuse University Ruth B Howland G 1908 Sweet Briar, Va. Associate Professor of Biology, Sweet Briar College Francis A. Hulst F 1907 Brooklyn, N. Y. Physician Louis Cleveland Jordy G 1910 Kingston, Pa. Teacher of Chemistry, Wyoming Seminary Syracuse, N. Y. G 1909 Ernest C Keenan Associate Professor of Mathematics, Syracuse University F 1906\*+ Montclair, N. J. William Kent Consulting Engineer, New York City G 1910 John William Kern Teacher of Science, Elmira Free Academy CF 1906\* Joseph Edward Kirkwood

Elmira, N. Y. Missoula, Mont.

Professor of Botany and Forestry, University of Montana F 1907\* Syracuse, N. Y. Frank Pattengill Knowlton

Professor of Physiology, Syracuse University Alfred, N. Y.

Dyer Barker Lake G 1909 Professor of Chemistry, Alfred University

Madison, Wis. James Nelson Lawrence G 1910 Teaching Fellow in Chemistry, University of Wisconsin

Syracuse, N. Y. Louis Lindsey G 1907 Instructor in Mathematics, Syracuse University

Archibald Lindsey G 1910 Washington, D. C. Assistant Exmainer, United States Patent Office

Nathaniel Edward Loomis G 1909 Brunswick, Me.
Instructor in Chemistry, Bowdoin College

James Watt Mavor G 1910 Syracuse, N. Y.
Instructor in Zoology, Syracuse University

William Ralph Maxon A 1906\* Washington, D. C. Assistant Curator, United States National Museum

Albert John May A 1907 Reading, Pa.

Teacher of Science, High School for Boys

Edwin Florince McCarthy F 1911 (Michigan U 1911) Syracuse, N. Y. Assistant Professor of Forestry, Syracuse University

Fred Marlen Meader F1911 Syracuse, N. Y. Assistant Professor of Hygiene and Sanitation, Syracuse University

Elizabeth Read Merritt G 1911 Syracuse, N. Y. Graduate Student in Mathematics, Syracuse University

George Frederick Metzler F 1908\* Syracuse, N. Y. Assistant Professor of Mathematics, Syracuse University

William Henry Metzler CF 1906\*† Syracuse, N. Y. Professor of Mathematics, Syracuse University

Louis Mitchell F 1910 (Purdue U 1910) Syracuse, N. Y. Instructor in Civil Engineering, Syracuse University

John Harold Morecroft, Jr G 1907 New York City Assistant Professor of Electrical Engineering, Columbia University

Charles Virgin Morrill F 1908\* (Columbia G 1906) New York City Instructor in Anatomy, Bellevue Medical College

John Arthur Northcott G 1909 Syracuse, N. Y. Instructor in Mathematics, Syracuse University

John DeWolf Northrop G 1910 Washington, D. C. Geologist, United States Geological Survey

Paul Cook Nugent CF 1906\*† Syracuse, N. Y. Professor of Civil Engineering, Syracuse University

Charles Packard G 1907 New York City Assistant in Zoology, Columbia University

Ernest Noble Pattee F 1906\* Syracuse, N. Y. Professor of Chemistry, Syracuse University

Henry Allen Peck F 1908\*† Syracuse, N. Y. Professor of Astronomy, Syracuse University

Leigh H Pennington F 1910\* (Michigan U 1906) Syracuse, N. Y. Assistant Professor of Botany, Syracuse University

Clinton W Perry G 1911 Syracuse, N. Y. Graduate Student and Fellow in Mineralogy, Syracuse University

Ruth Laura Phillips G 1911 Syracuse, N. Y.
Assistant in Zoology, Syracuse University

Daniel Pratt G 1906 Syracuse, N. Y. Assistant Professor of Mathematics, Syracuse University

Albert Moore Reese CF 1906\*† Morgantown, W. Va. Professor of Zoology, University of West Virginia

Lepine Hall Rice G 1908 Syracuse, N. Y. Instructor in Mathematics, Syracuse University

Charles Henry Richardson F 1907\* Syracuse, N. Y. Professor of Mineralogy, Syracuse University

Edward Drake Roe, Jr CF 1906\*† Syracuse, N. Y. Professor of Mathematics, Syracuse University

Charles Gardner Rogers CF 1906\* Syracuse, N. Y. Professor of Physiology, Syracuse University

Frederick Albert Saunders CF-1906\* Syracuse, N. Y. Professor of Physics, Syracuse University

Harold Dickinson Senior F 1907\*† New York City Professor of Anatomy, New York University

Leon Irwin Shaw G 1908 Evanston, Ill. Instructor in Chemistry, Northwestern University

George H Shepard F 1908 Syracuse, N. Y.
Dean of College of Applied Science, Syracuse University

Julian Chase Smallwood F 1911 Syracuse, N. Y. Assistant Professor of Experimental Engineering, Syracuse University

William Martin Smallwood CF 1906\* Syracuse, N. Y. Professor of Comparative Anatomy, Syracuse University

Bertram Garner Smith F 1907\* (Michigan U 1907) New York City Graduate Student, Columbia University

Burnett Smith F 1907\* (Pennsylvania F 1904) Syracuse, N.Y. Assistant Professor of Geology, Syracuse University

Eugene Randolph Smith A 1906\* Brooklyn, N. Y. Head of Department of Mathematics, Polytechnic Preparatory School

Harry Monmouth Smith CF-1906\* Syracuse, N. Y. Professor of Chemistry, Syracuse University

Halbert Severin Steensland F 1906\* Syracuse, N. Y. Professor of Pathology and Bacteriology, Syracuse University

Ralph Edmond Wager A 1907 De Kalb, Ill. Head of Biology, Northern Illinois Normal School

Herbert C Ward F 1911 Syracuse, N. Y.
Assistant Professor of Bacteriology, Syracuse University

Herman G Weiskotten F 1911 Syracuse, N. Y.
Instructor in Pathology, Syracuse University

Rich Dean Whitney G 1911 Syracuse, N. Y.
Instructor in Electrical Engineering, Syracuse University

Wendell Garrett Wilcox G 1906\* Madison, Wis. Instructor in Chemistry, University of Wisconsin

# WISCONSIN CHAPTER

University of Wisconsin, Madison, Wisconsin Charter Dated January 18, 1907 Chapter Installed January 18, 1907

## HISTORICAL SKETCH

The first concerted movement for the establishment of a chapter of Sigma Xi at the University of Wisconsin took place in October, 1906. There were then twenty-two members of Sigma Xi in the University faculty. These twenty-two men, together with twenty other members of the scientific faculty, petitioned the national organization for a charter in November of the same year. Word was received from President Nichols in December that favorable action had been taken by the various chapters upon the petition from the University of Wisconsin and the charter members were authorized to proceed with the organization of a Chapter of the Society at Wisconsin.

The Chapter was installed by President Nichols January 18, 1907,

with a charter membership of forty-two.

The membership of the Society has been drawn from the University faculty and graduate students. No undergraduates have been admitted so far.

H. J. T.

#### OFFICERS FOR 1911-12

President	GEORGE WAGNER
Vice-President	
Recording Secretary	George Jacob Davis, Jr.
Corresponding Secretary	CHARLES ELMER ALLEN
Treasurer	JAMES ASTON
0	Washing Taxana

## MEMBERSHIP ROLL

Bennett Mills Allen CF 1907\* (Chicago C 1903) Madison, Wis. Assistant Professor of Zoology, University of Wisconsin

Charles Elmer Allen CF 1907\* Madison, Wis. Professor of Botany, University of Wisconsin

Martin Fuller Angell A 1911 Albuquerque, N. M.
Professor of Physics, University of New Mexico

James Aston F 1909 Madison, Wis Instructor in Chemical Engineering, University of Wisconsin

Louis Fred Augspurger A 1910 Munich, Germany Student, University of Munich

Charles Russell Bardeen CF 1907\*† Madison, Wis. Dean of College of Medicine, University of Wisconsin

Murray Charles Beebe F 1907 Madison, Wis.
Professor of Electrical Engineering, University of Wisconsin

Edward Bennett F 1910\* Madison, Wis. Associate Professor of Electrical Engineering, University of Wisconsin

Edward Asahel Birge CF 1907\*† Madison, Wis. Dean of College of Letters and Science, University of Wisconsin

Raymond Thayer Birge G 1910 Madison, Wis.

Assistant in Physics, University of Wisconsin

Eliot Blackwelder CF 1907 (Chicago CG 1903) Madison, Wis. Associate Professor of Geology, University of Wisconsin

Harold Cornelius Bradley CF 1907 (Yale F 1903) Madison, Wis. Assistant Professor of Physiological Chemistry, University of Wisconsin

James Miller Breckenridge A 1909 Gloucester, N. J. Research Chemist, Welsbach Light Company

Howard Stanley Bristol G 1910\* Madison, Wis. Assistant Director, Forest Products Laboratory, University of Wisconsin

Wade Hampton Brown A 1909\* Chapel Hill, N. C.
Professor of Pathology, University of North Carolina

Herbert Earle Buchanan A 1909 Knoxville, Tenn.
Professor of Mathematics, University of Tennessee

Charles Henry Bunting F 1908\* Madison, Wis.
Professor of Pathology, University of Wisconsin

Charles Frederick Burgess CF 1907\*† Madison, Wis. Professor of Chemical Engineering, University of Wisconsin

Horace Thomas Burgess F 1909 Madison, Wis. Instructor in Mathematics, University of Wisconsin

Earl Smead Burnett F 1908 Madison, Wis.
Instructor in Physics, University of Wisconsin

Ormond Bourke Butler F 1910\* Madison, Wis. Instructor in Horticulture, University of Wisconsin

Alexander Graham Christie F 1911 Madison, Wis.

Assistant Professor of Steam Engineering, University of Wisconsin

Arthur Brooks Clawson CA 1907 (Michigan G 1905) Washington, D. C. Assistant, Bureau of Soils

Mcgarvey Cline F 1909 Madison, Wis.
Director, Forest Products Laboratory, University of Wisconsin

Leon Jacob Cole F 1909\* Madison, Wis. Associate Professor of Experimental Breeding, University of Wisconsin

George Cary Comstock F 1909\*† Madison, Wis. Professor of Astronomy and Director of Graduate School, University of Wisconsin

William Henry Collins A 1911 Ottawa, Canada Assistant Geologist, Canadian Geological Survey

Guy Conrey G 1911 Madison, Wis.

Chemist, Wisconsin Soils Survey

Charles Ives Corp G 1910 Madison, Wis. Assistant in Hydraulics, University of Wisconsin James Nimrod Currie F 1909 Madison, Wis.
Instructor in Chemistry, University of Wisconsin

Thomas Matthew Dahm G 1909 Madison, Wis.

Assistant in Physics. University of Wisconsin

William Willard Daniells F 1907\*† Madison, Wis. Emeritus Professor of Chemistry, University of Wisconsin

George Jacob Davis, Jr CA 1907 (Cornell U 1902) Madison, Wis. Assistant Professor of Hydraulic Engineering, University of Wisconsin

John Jefferson Davis F 1911 Madison, Wis.
Curator of Herbarium, University of Wisconsin

Horace Grove Deming F 1910 Madison, Wis.
Instructor in Chemistry, University of Wisconsin

Rollin Henry Denniston F 1907\* Madison, Wis.
Assistant Professor of Botany, University of Wisconsin

Robert Conrad Disque F 1911 Madison, Wis.
Instructor in Electrical Engineering, University of Wisconsin

Howard Waters Doughty CF 1907\* (Missouri F 1906) Amherst, Mass.
Assistant Professor of Chemistry, Amherst College

Linnaeus Wayland Dowling F 1907\* Madison, Wis.
Assistant Professor of Mathematics, University of Wisconsin

Arnold Dresden F 1911 Madison, Wis. Instructor in Mathematics, University of Wisconsin

Emil Oscar Ellingson F 1911 Madison, Wis. Instructor in Chemistry, University of Wisconsin

John Augustine English Eyster F 1911 Madison, Wis.
Professor of Physiology, University of Wisconsin

Edward Holyoke Farrington CF 1906 Madison, Wis.
Professor of Dairy Husbandry, University of Wisconsin

Nevin Melanchthon Fenneman CA 1907\* (Chicago A 1904) Cincinnati, Ohio Professor of Geology, University of Cincinnati

Richard Fischer CF 1906\* Madison, Wis.
Professor of Pharmacy, University of Wisconsin

Albert Stowell Flint F 1907\*† Madison, Wis.

Astronomer, University of Wisconsin

William Elmer Forsythe F 1909 Madison, Wis.
Instructor in Physics, University of Wisconsin

William Dodge Frost F 1906\* Madison, Wis.
Associate Professor of Bacteriology, University of Wisconsin

Gordon Scott Fulcher F 1909\* (Northwestern G 1905) Madison, Wis. Instructor in Physics, University of Wisconsin

Caleb Allen Fuller CF 1907 (Brown G 1901) Madison, Wis.

Assistant Professor of Bacteriology, University of Wisconsin

Otis Amsden Gage F 1907\* (Cornell G 1904) Madison, Wis. Assistant Professor of Physics, University of Wisconsin

Wilson Parham Gee A 1911 Clemson College, S. C. Assistant Zoologist, South Carolina Agricultural Experiment Station Edward Martinius Gilbert F 1911 Madison, Wis. Assistant Professor of Botany, University of Wisconsin

Edward Merriam Griffith F 1909 Madison, Wis. State Forester, Lecturer in Forestry, University of Wisconsin

Michael Frederick Guyer F 1911 Madison, Wis.
Professor of Zoology, University of Wisconsin

Edward Bennington Hall F 1908 Springfield, Mo. Professor of Geology, Drury College

Roy Dykes Hall CA 1906 (Pennsylvania G 1904)

Westinghouse Lamp Company Bloomfield, N. J.

Carl Hambuechen A 1909 Madison, Wis.
With Northern Chemical Engineering Company

Bernard Wernick Hammer A 1910 Ames, Ia.

Dairy Bacteriologist, Iowa State College

Robert Almer Harper CA 1906\*† New York City Professor of Botany, Columbia University

Edwin Bret Hart F 1907 Madison, Wis. Professor of Agricultural Chemistry, University of Wisconsin

Robert Harvie, Jr A 1911 Ottawa, Canada Assistant Geologist, Canadian Geological Survey.

Edwin George Hastings CF 1907 (Ohio A 1905) Madison, Wis. Associate Professor of Bacteriology, University of Wisconsin

Francis Thompson Havard F 1910 Madison, Wis.

Assistant Professor of Mining Engineering, University of Wisconsin

Lee Fred Hawley F 1909 Madison, Wis.

Chemist, Forest Products Laboratory

William Arnon Henry F 1907\*† Madison, Wis. Emeritus Professor of Agriculture, University of Wisconsin

Charles Warren Hill F 1909 Madison, Wis.
Instructor in Chemistry, University of Wisconsin

Conrad Hoffman F 1909 Madison, Wis. Assistant Professor of Agricultural Bacteriology, University of Wisconsin

Edwin Chapin Holden F 1909 Madison, Wis.
Professor of Mining Engineering, University of Wisconsin

Samuel Jackson Holmes CF 1907\*† (Michigan F 1903) Madison, Wis. Assistant Professor of Zoology, University of Wisconsin

William Otis Hotchkiss F 1907 Madison, Wis. State Geologist, Geological and Natural History Survey

Winfield Scott Hubbard A 1910 Ann Arbor, Mich.
Instructor in Pharmacy, University of Michigan

Clarence John Humphrey F 1908\* Madison, Wis. Pathologist, Forest Products Laboratory

Leonard Rose Ingersoll F 1907 Madison, Wis.

Associate Professor in Physics, University of Wisconsin

Cyril Methodius Jansky F 1908\* Madison, Wis. Associate Professor of Electrical Engineering, University of Wisconsin Dugald Caleb Jackson CA 1907\*† Boston, Mass. Professor of Electrical Engineering, Massachusetts Institute of Technology

Joseph Jastrow CF 1907\*† Madison, Wis. Professor of Psychology, University of Wisconsin

Lewis Ralph Jones F 1910 Madison, Wis.

Professor of Plant Pathology, University of Wisconsin

Chauncey Juday CF 1907 (Colorado CF 1905) Madison, Wis. Biologist, Wisconsin State Natural History Survey

Louis Kahlenberg F 1907\*† Madison, Wis.
Professor of Chemistry, University of Wisconsin

William Herbert Kempfer A 1909 (Michigan G 1906) Madison, Wis. Assistant, Forest Products Laboratory

William Spauling Kinne F 1911 Madison, Wis. Assistant Professor of Structural Engineering, University of Wisconsin

Charles Townsend Kirk A 1909\* New York City Assistant Professor of Geology, Normal College of City of New York

David Klein F 1908 Madison, Wis.

Instructor in Chemistry, University of Wisconsin

Alfred Edward Koenig F 1910 Madison, Wis.
Instructor in Chemistry, University of Wisconsin

William F. Koelker F 1907 (Deceased 1911)

Otto Louis Kowalke F 1909 Madison, Wis. Assistant Professor of Chemical Engineering, University of Wisconsin

Francis Craig Krauskopf F 1909 Madison, Wis. Assistant Professor of Chemistry, University of Wisconsin

Edward Kremers F 1907\*† Madison, Wis. Professor and Director of Course in Pharmacy, University of Wisconsin

Frederick William Kressman G 1911 Madison, Wis. Chemist, Forest Products Laboratory

Alfred Emil Kundert A 1909 Madison, Wis. Chemist, Dairy and Food Commission of Wisconsin

Charles Kenneth Leith CF 1907\*† Madison, Wis.
Professor of Geology, University of Wisconsin

Victor Lenher CF 1907\* Madison, Wis.
Professor of Chemistry, University of Wisconsin

Charles Edward Lewis A 1907 (Cornell G 1904) Orono, Me.
Associate Plant Pathologist, Experiment Station

Jesse Talbot Littleton, Jr A 1909\* Ann Arbor, Mich. Instructor in Physics, University of Michigan

Arthur Solomon Loevenhart F 1909\* Madison, Wis. Professor of Pharmacology and Toxicology, University of Wisconsin

John Givan Davis Mack CF 1907 (Cornell A 1888) Madison, Wis.
Professor of Machine Design, University of Wisconsin

Charles August Mann F 1911 Madison, Wis.
Instructor in Chemical Engineering, University of Wisconsin

Herman William March F 1907 (Michigan G 1905) Madison, Wis. Assistant Professor of Mathematics, University of Wisconsin

William Stanley Marshall F 1907\* Madison, Wis.
Associate Professor of Entomology, University of Wisconsin

Lawrence Martin F 1908 Madison, Wis.
Assistant Professor of Geology, University of Wisconsin

Max Mason F 1908\* Madison, Wis.

Professor of Mathematical Physics, University of Wisconsin

Joseph Howard Mathews F 1909 Madison, Wis. Assistant Professor of Physical Chemistry, University of Wisconsin

Edward Rose Maurer F 1907 † Madison, Wis.
Professor of Mechanics, University of Wisconsin

Russell Smith McBride F 1908 (Minnesota U 1908) Madison, Wis.

Assistant in Chemistry, University of Wisconsin

George Vest McCauley G 1908 Madison, Wis.

Elmer Verner McCollum F 1907 (Kansas U 1902) Madison, Wis. Associate Professor of Agricultural Chemistry, University of Wisconsin

Andrew Friedley McLeod CF 1907 (Chicago G 1905) Beloit, Wis.

Instructor in Chemistry, Beloit College

Daniel Webster Mead CA 1907 Madison, Wis.
Professor of Engineering, University of Wisconsin

Warren Judson Mead F 1908 Madison, Wis.
Assistant Professor of Geology, University of Wisconsin

Walter Joseph Meek F 1908\* Madison, Wis.
Assistant Professor of Physiology, University of Wisconsin

Irving E Melhus F 1911 Madison, Wis.
Instructor in Plant Pathology, University of Wisconsin

Charles Elwood Mendenhall F 1907\* Madison, Wis. Professor of Physics, University of Wisconsin

Eric Rexford Miller F 1909\* Madison, Wis.

Lecturer in Meteorology, University of Wisconsin

William Snow Miller CF 1907\* Madison, Wis.

Associate Professor of Anatomy, University of Wisconsin

Herbert Fisher Moore CA 1906 (Cornell U 1909) Urbana, Ill. Assistant Professor of Mechanics, University of Illinois

Seth Enoch Moody CA 1906 (Yale G 1906) St. Louis, Mo.
Assistant City Chemist

Fred Ludwig Musback G 1911 Madison, Wis. Field Man, Reconnaissance Work, Wisconsin Soils Survey

Walter Nebel F 1911 Madison, Wis.
Assistant in Chemistry, University of Wisconsin

Edgar William Olive CA 1907\* Brookings, S. D.
Professor of Botany, South Dakota Agricultural College

James Bertram Overton CF 1907\* Madison, Wis.

Assistant Professor of Botany, University of Wisconsin

William David Pence F 1907† Madison, Wis.
Professor of Railway Engineering, University of Wisconsin

James David Phillips F 1907 Madison, Wis.
Assistant Dean, Professor of Drawing, University of Wisconsin

John Reese Price F 1909 Madison, Wis. Assistant Professor of Electrical Engineering, University of Wisconsin

Mazÿck Porcher Ravenel F 1908\*† Madison, Wis.
Director of State Hygienic Laboratory, University of Wisconsin

Louis Ehrhart Reber F 1909† Madison, Wis.

Dean of Extension Division, University of Wisconsn

Arthur William Richter CF 1906 Madison, Wis. Professor of Experimental Engineering, University of Wisconsin

Ruric Charles Roark G 1910 Madison, Wis.

John Ransom Roebuck F 1908 Madison, Wis. Instructor in Physics, University of Wisconsin

Harry Luman Russell F 1907\*† Madison, Wis.

Dean of College of Agriculture, University of Wisconsin

James Glossbrenner Sanders F Madison, Wis.
Assistant Professor of Economic Entomology, University of Wisconsin

Emil Peter Sandsten CF 1907\* (Minnesota G 1898) Madison, Wis. Professor of Horticulture, University of Wisconsin

Herbert Brooks Sanford F 1911 Madison, Wis.
Instructor in Electrical Engineering, University of Wisconsin

Leon Irwin Shaw A 1909 (Syracuse G 1908) Evanston, Ill.
Instructor in Chemistry, Northwestern University

Frederick Lafayette Shinn CA 1907 (Indiana F 1905) Eugene, Ore. Assistant Professor of Chemistry, University of Oregon

Ernest Brown Skinner F 1907\* Madison, Wis.
Associate Professor of Mathematics, University of Wisconsin

Charles Sumner Slichter CF 1907\*† Madison, Wis.
Professor of Applied Mathematics, University of Wisconsin

Alpheus Wilson Smith A 1906 (Ohio F 1909) Columbus, Ohio Assistant Professor of Physics, Ohio State University

Bertram Garner Smith A 1909\* New York City Graduate Student, Columbia University

Edwin Raymond Smith CA 1907 (Ilinois U 1905) State College, Pa. Assistant Professor of Mathematics, Pennsylvania State College

Leonard Sewall Smith F 1907\* Madison, Wis.

Associate Professor of Engineering, University of Wisconsin

Benjamin Warner Snow CF 1907\* (Cornell A 1888) Madison, Wis.
Professor of Physics, University of Wisconsin

Daniel Starch F 1906\* Madison, Wis.
Instructor in Psychology, University of Wisconsin

Harry Steenbock F 1910 Madison, Wis. Instructor in Agricultural Chemistry, University of Wisconsin

Edward Steidtmann F 1908 Madison, Wis.
Assistant Professor of Geology, University of Wisconsin

Arlow Burdette Stout A 1910 New York City Director of Laboratories, Botanical Garden

Charles William Stoddart A 1907 State College, Pa. Professor of Chemistry, Pennsylvania State College

Henry Earl Surface F 1911 Madison, Wis.

Albert Hoyt Taylor A 1907 Grand Forks, N. D. Professor of Physics, University of North Dakota

Earle Melvin Terry F 1909\* Madison, Wis.

Assistant Professor of Physics, University of Wisconsin

Halsten Joseph Berford Thorkelson F 1907 Madison, Wis. Associate Professor of Steam Engineering, University of Wisconsin

Carl Clapp Thomas F 1908\*† (Cornell G 1895) Madison, Wis. Professor of Steam Engineering, University of Wisconsin

Frederick Turville Thwaites G 1909 Madison, Wis.

Charles Austin Tibbals, Jr A 1908 Chicago, Ill.
Assistant Professor of Chemistry, Armour Institute of Technology

Joseph Douglass Trueman G 1910 Madison, Wis.

Edward Joseph Tully G 1910 Madison, Wis. Chemist, State Hygienic Laboratory, University of Wisconsin

Frederick Eugene Turneaure CF 1907\*† (Cornell U 1889) Madison, Wis. Dean, College of Engineering, University of Wisconsin

Anthony Lispenhard Underhill A 1909\* Minneapolis, Minn.
Assistant Professor of Mathematics, University of Minnesota

Charles Richard Van Hise CF 1907\*; Madison, Wis. President, University of Wisconsin

Edward Burr Van Vleck F 1907\*† Madison, Wis. Professor of Mathematics, University of Wisconsin

Charles T Vorhies A 1907 Salt Lake City, Utah Professor of Zoology, Utah State University

Joseph Henry Vosskuehler CF 1907 (Ohio U 1900) Madison, Wis. Assistant Professor of Machine Design, University of Wisconsin

George Wagner CF 1907\* (Kansas U 1899) Madison, Wis. Assistant Professor of Zoology, University of Wisconsin

Harlow Leslie Walster F 1911 Madison, Wis. Instructor in Soils, University of Wisconsin

James Henri Walton F 1907\* (Illinois CF 1903) Madison, Wis. Associate Professor of Chemistry, University of Wisconsin

James Webster Watson F 1911 Madison, Wis. Assistant Professor of Electrical Engineering, University of Wisconsin

Oliver Patterson Watts F 1907 Madison, Wis. Assistant Professor of Applied Electro-chemistry, University of Wisconsin

Samuel Weidman F 1907\* Madison, Wis. Geologist of the State Geological Survey, University of Wisconsin

Howard Frederick Weiss G 1905 Madison, Wis.
Assistant Director, Forest Products Laboratory

Ray Hughes Whitbeck F 1909 Madison, Wis.
Assistant Professor of Physiography and Geography

Andrew Robinson Whitson CF 1907\* Madison, Wis.

Professor of Soils, University of Wisconsin

Wendell Garrett Wilcox F 1907 (Syracuse G 1906) Madison, Wis. Instructor in Chemistry, University of Wisconsin

Alexander Newton Winchell F 1908\* Madison, Wis.

Professor of Mineralogy and Petrology, University of Wisconsin

Morton Owen Withey F 1910 Madison, Wis.

Assistant Professor of Mechanics, University of Wisconsin

Henry Charles Wolff F 1911 Madison, Wis.
Assistant Professor of Mathematics, University of Wisconsin

Fritz Wilhelm Woll F 1907\*† Madison, Wis. Professor of Agricultural Chemistry, University of Wisconsn

Otto Julius Zobel G 1910 Madison, Wis. Fellow in Physics, University of Wisconsin

# WASHINGTON CHAPTER

University of Washington, Seattle, Washington

Charter Dated January 4, 1907

Chapter Installed April 24, 1907

## HISTORICAL SKETCH

On March 15, 1906, the Science Club, composed of twenty-six members of the faculty of the University of Washington, the state university located at Seattle, Washington, applied to the Society of Sigma Xi for a charter. The petition was acted upon favorably and President David Starr Jordan, of Leland Stanford, Junior, University installed the Chapter and presented the charter, his address on that occasion being upon The Human Harvest.

In June, 1910, Professor Alexander Smith of the University of Chi-

cago delivered the annual address.

M. R.

## OFFICERS FOR 1911-12

President. ELMER JAMES McCaustland Vice-President. John Weinzirl Recording Secretary. Robert Evstafieff Rose Corresponding Secretary. Herman Campbell Stevens Treasurer. George Samuel Wilson Councilor. Henry Landes

#### MEMBERSHIP ROLL

Eric Temple Bell G 1908 Eureka, Cal.

Henry Kreitzer Benson CF 1907 (Columbia G 1907) Seattle, Wash. Associate Professor of Chemistry, University of Washington

Nathan Doud Blair U 1911 Schenectady, N. Y.
Testing Engineer, General Electric Company

Henry Lee Bowlby CF 1907 Seattle, Wash. Instructor in Civil Engineering, University of Washington

Henry Louis Brakel CF 1907 Seattle, Wash. Instructor in Physics, University of Washington

Irvin Walter Brandel CF 1907 Seattle, Wash. Chemist in Commercial Work, Brandel Chemical Company

Edward Everett Bugbee F 1907 Boston, Mass. Assistant Professor of Metallurgy, Massachusetts Institute of Technology

Horace Greeley Byers CF 1907\* Seattle, Wash. Professor of Chemistry, University of Washington

Lois Clark G 1910 Burlington, Wash.

Teacher of Science, High School

G 1907 Anna Edith Corev Skaguay, Alaska (Mrs Lester Sweet) Principal of High School Magnus Tate Crawford TI 1907 Seattle, Wash. Electrical Engineer F 1908 (Illinois CF 1903) William Maurice Dehn Seattle, Wash. Assistant Professor of Chemistry, University of Washington Edward Harold Denny U 1911 Seattle, Wash. Engineering Department, University of Washington Seattle, Wash. Albert Haskin Dewey U 1909 Instructor in Pharmacy, University of Washington Everett Owen Eastwood CF 1907 Seattle, Wash. Professor of Mechanical Engineering, University of Washington Louis Henry Fee G 1909 Everett, Wash. Teacher of Science, Everett High School Charles Reinhard Fettke U 1910 New York City Assistant in Geology, Columbia University Theodore Christian Frye CF 1907\* Seattle, Wash. Professor of Botany, University of Washington Guy Flaherty **TJ 1909** Roslyn, Wash. Engineer Almon Homer Fuller **CF 1907** Seattle, Wash. Dean of College of Engineering, University of Washington CF 1907\*† (Nebraska F 1902) Knoxville, Charles Henry Gordon Professor of Geology, University of Tennessee [Tenn. James Edward Gould CF 1907 Seattle, Wash. Associate Professor of Mathematics, University of Washington Lars Olai Grondahl F 1909 Seattle, Wash. Instructor in Physics, University of Washington Bessie Eleanor Crowe CG 1907 (Kansas U 1897) Seattle, Wash. (Mrs Frank Marion Morrison)

Eliot Snell Hall F 1907 (Chicago G 1905) Amherst, Mass. Associate Professor of Chemistry, Amherst College

James Harold Hance U 1908 Washington, D. C.

Assistant Geologist, United States Geological Survey Charles William Harris F 1907 (Cornell U 1905) Seattle. Wash. Instructor in Civil Engineering, University of Washington

Seattle, Wash. Raymond Allen Hopkins U 1910

Electrical Engineer

Arthur Day Howard F 1909 Seattle, Wash, Assistant Professor of Zoology, University of Washington

Alonzo Keyt Isham CF 1906 Seattle, Wash. Consulting Engineer

Charles Willis Johnson CF 1907\* (Michigan CG 1903) Seattle, Wash. Dean, College of Pharmacy, University of Washington

CF 1907 (Minnesota U 1900) Seattle, Wash. Frank Edward Johnson Instructor in Electrical Engineering, University of Washington

Ellensburg, Wash.

Chicago, Ill.

Tacoma, Wash.

WASHINGTON CHAPTER. Sarah Edna Kahan G 1907 Seattle, Wash. Instructor in Chemistry, Broadway High School Enoch Karrer U 1911 Seattle, Wash. Physics Department Sebastian Karrer U 1911 Seattle, Wash. Physics Department Trevor Kincald CF 1907+ Seattle, Wash. Professor of Zoology, University of Washington Kurt Friedrich Johannes Kirsten U 1909 Seattle, Wash. Electrical Engineer Henry Granger Knight A1908Laramie, Wyo. Director of Experiment Station, University of Wyoming Henry Landes CF 1907\*+ Seattle, Wash. Professor of Geology, University of Washington Margaret Mae MacLachlan U 1908 Seattle, Wash. Teacher of Chemistry, Queen Anne High School Carl Edward Magnusson CF 1907 (Minnesota U 1896) Seattle, Wash. Professor of Electrical Engineering, University of Washington Charles Earl Mallory U 1909 Seattle, Wash. Instructor in Electrical Engineering, University of Washington Elmer James McCaustland F 1908 (Cornell U 1897) Seattle, Wash. Professor of Municipal Engineering, University of Washington John Merritt McGee G 1910 Laramie, Wyo. Assistant State Chemist, University of Wyoming CF 1907 (Columbia U 1905) Harry Levi Mead Avino, Mexico Superintendent, Avino Mines of Mexico Frank Garner Miller F 1908\*+ (Nebraska F 1906) Seattle, Wash. Professor of Forestry, University of Washington Charles Church More CF 1907 Seattle, Wash. Professor of Civil Engineering, University of Washington Robert Edouard Moritz CF 1906\* (Nebraska F 1899) Seattle, Wash. Professor of Mathematics, University of Washington Bessie Eleanor Growe Morrison CG 1907 (Kansas U 1897) Seattle, Wash. (Mrs Frank Marion Morrison) Frank Marion Morrison CF 1907 Seattle, Wash. Assistant Professor of Mathematics, University of Washington CF 1907\* (Michigan G 1907) Seattle, Wash. Frederick Arthur Osborn Professor of Physics, University of Washington H L Osterud New York City U 1909 Fellow in Zoology, Columbia University

> U 1908 Principal of High School

CF 1907\* Assistant Professor of Anatomy, Northwestern University Medical School

> U 1908 Engineer

Arthur Baker Stanley Pope

Charles William Prentiss

John Charles Rathbun

Milnor Roberts CF 1907 Seattle, Wash.
Dean of School of Mines, University of Washington

Robert Evstafleff Rose F 1909 Seattle, Wash.
Assistant Professor of Chemistry, University of Washington

Lloyd Leroy Smail U 1911 Seattle, Wash. Fellow in Mathematics, University of Washington

Herman Campbell Stevens CF 1907\* (Cornell G 1903) Seattle, Wash.
Assistant Professor of Psychology, University of Washington

George Robert Stranberg U 1911 Seattle, Wash. Instructor in Civil Engineering, University of Washington

Anna Edith Corey Sweet G 1907 Skaguay, Alaska (Mrs Lester Sweet) Principal of High School

Rolf Thelen CF 1907 (California U 1905) Washington, United States Forest Service [D. C.

William Thompson U 1908 Pittsburgh, Pa. Chemist, Pittsburgh Testing Laboratories, Ltd

Harlan Leo Trumbull U 1907 Chicago, Ill. Fellow in Kent Chemical Laboratory, University of Chicago

Walter Calvin Wagner U 1907 Seattle, Wash. Instructor in Electrical Engineering, University of Washington

Charles Edwin Weaver F 1908 (California G 1905) Seattle, Wash.
Instructor in Geology, University of Washington

John Weinzirl F 1907 Seattle, Wash. Associate Professor of Bacteriology, University of Washington

George Winchester F 1906 (Chicago G 1905) Washington, Pa. Professor of Physics, Washington and Jefferson College

Hugo Winkenwerder F 1910 Seattle, Wash.
Associate Professor of Forestry, University of Washington

George Samuel Wilson F 1907 (Nebraska G 1906) Seattle, Wash. Assistant Professor of Mechanical Engineering, University of Washington

# WORCESTER CHAPTER

Worcester Polytechnic Instituue, Worcester, Massachusetts Charter Dated April 18, 1908 Chapter Installed May 7, 1908

#### HISTORICAL SKETCH

The Worcester Chapter was installed by President Edward L. Nichols, who delivered on that occasion a public address, his subject being Engineering a By-Product of Science. Eighteen members of the Faculty and instructional force were charter members.

Sixteen new members were initiated on June 12, and at this time the annual address was delivered by Professor Arthur G. Webster, of Clark University, the subject of which was The Object of Scientific Research.

In 1909, at a regular meeting of the Chapter on April 29, twenty-one new members were initiated. On the evening of June 9, at the annual meeting of the Chapter, an address was delivered by Professor George F. Swain, Director of the Department of Civil Engineering, Massachusetts Institute of Technology, on the subject of Research in Engineering.

Fifteen new members were initiated on April 27, 1910. The address at the annual meeting of June 8, following, was delivered by Doctor A. D. Risteen, taking as his subject What Things are Worth Doing?

A. D. B.

### OFFICERS FOR 1911-12

President	HAYNES
Vice-PresidentWalter Louis .	JENNINGS
Recording SecretaryAlton Lincoln	Smith
Corresponding Secretary	R BUTTERFIELD
Treasurer	RT PIERCE
Councilor	Y EWELL

## MEMBERSHIP ROLL

Erwin Avery	Adams	U 1908			Toronto,	Canada
·	Canadian	Fairbanks-Morse	Company,	Ltd.		

Leon	George Adams			U 1909				Brooklyn,	N.	Y.
	Inspector,	New	York,	New	Haven	and	Hartford	Railroad		

Charles Metcalf Allen	CF 1908*	Worcester, Mass.
Professor of Hydraulic	Engineering, Worcester	Polytechnic Institute

Alfred Leroy Atherton	TT 191	1			urgh, Pa.
Student Apprentice,	Westinghouse	Electric	and	Manufacturing	Company

Carlyle Adams Atherto	n U 1910	n		Pittsl	ourgh, Pa.
Student Apprentice		777 4	a n 4	Monufacturing	Company
Student Apprentice	Westinghouse	Electric	anu	Manuracturing	Company

Walter	Irving H	Barrows	U 1909		Milton,	N.	H.
"" "	Desig	gning Engineer,	Reinfored	${\bf Concrete}$	Construction		

Edwin Donald Beach U 1911 Orange, N. J.
Inspector, Plant Department, Western Union Telegraph Company
William Warren Bird CF 1908\* Worcester, Mass.
Professor of Mechanical Engineering, Worcester Polytechnic Institute
Frederic Bonnet, Jr CF 1908\* Worcester, Mass.
Assistant Professor of Chemistry, Worcester Polytechnic Institute

Arthur Dexter Butterfield F 1909\* Worcester, Mass. Professor of Mathematics, Worcester Polytechnic Institute

Daniel Francis Calhane F 1909 Worcester, Mass. Instructor in Industrial and Electro-chemistry, Worcester Polytechnic

David Ellsworth Carpenter U 1911 Pittsburgh, Pa. Student Apprentice, Westinghouse Electric and Manufacturing Company

Albert Theodore Childs U 1908 Orono, Me. Assistant Professor, Electrical Engineering, University of Maine

Robert Titcomb Cole U 1908 Buffalo, N. Y. Engineer, Rockwood Sprinkler Company

Levi Leonard Conant CF 1908\*† Worcester, Mass. Acting President and Professor of Mathematics, Worcester Polytechnic

Harold Perry Conklin U 1911 Hartford, Conn. Inspector, Factory Insurance Association

Lyman Francis Copeland A 1908 Chicago, Ill.
Bridge Department, Illinois Central Railroad

Herbert Kimball Cummings U 1910 Worcester, Mass. Instructor in Physics, Worcester Polytechnic Institute

Philip Stone Cushing U 1911 Cambridge, Mass. Graduate Student, School of Applied Science, Harvard University

Christian Dantsizen U 1910 Schenectady, N. Y. Research Department, General Electric Company

William Austin Darrah U 1908 Pittsburgh, Pa. Electrical Engineer, Westinghouse Electric and Manufacturing Company

Royal William Davenport U 1908 Portland, Ore.
With United States Geological Survey

Lewis Davis U 1911 Boston, Mass Graduate Student in Chemistry, Massachusetts Institute of Technology

Alexander Wilmer Duff CF 1908\*† Worcester, Mass. Professor of Physics, Worcester Polytechnic Institute

Edmund Arthur Engler CF 1908\*† St. Louis, Mo. Washington University

Arthur Woolsey Ewell CF 1908\* Worcester, Mass. Professor of Physics, Worcester Polytechnic Institute

Sidney Woods Farnsworth U 1908 Pittsburgh, Pa.
General Engineer, Westinghouse Electric and Manufacturing Company

Lyle Gordon Fear U 1909 Butte, Mont. With Westinghouse Electric and Manufacturing Company

Elmer Henry Fish G 1909 Worcester, Mass.
Manager, Worcester School of Trades

Charles Samuel Frary G 1908 Boston, Mass.

Bay State Belting Company

Arthur Willard French CF 1908\*† Worcester, Mass. Professor of Civil Engineering, Worcester Polytechnic Institute

Howard Fowler Fritch U 1910 Boston, Mass. Bay State Street Railway Company, Time Table Department

David Lamprey Gallup F 1910 Worcester, Mass. Assistant Professor of Gas Engineering, Worcester Polytechnic Institute

Ernest Knight Gladding U 1910 Du Pont, Wash. With E. I. Du Pont de Nemours Powder Company

Robert Hutchins Goddard U 1908 Worcester, Mass. Honorary Fellow in Physics, Clark University

Charles Francis Goldthwait U 1909 Webster, Mass.
Chemist with S. Slater and Sons, Inc.

Arthur Greenwood U 1909 Holyoke, Mass. With Coburn Trolley Track Manufacturing Company

Romeo Arthur Grisé U 1910 Taunton, Mass.
With Weir Stone Company

Edward Lee Hancock F 1910 (Deceased 1911)

Charles Brigham Harrington G 1909 Newtonville, Mass. Head of Science Department, Newton Technical High School

John Chapin Harvey U 1908 Worcester, Mass. Hydraulic Engineer, Worcester Polytechnic Institute

George Henry Haynes CF 1908† Worcester, Mass. Professor of Economics and Political Science, Worcester Polytechnic

Fred Leland Hewes U 1910 Boston, Mass. With George A. Fuller Company, General Contractors

Howard Chapin Ives CF1908\*† Worcester, Mass. Professor of Railroad Engineering, Worcester Polytechnic Institute

Walter Louis Jennings CF 1908\*† Worcester, Mass. Professor of Organic Chemistry, Worcester Polytechnic Institute

Harold Merriam King U 1910 Lynn, Mass.
Student Apprentice, General Electric Company

Leonard Parker Kinnicutt CF 1908\*†
(Deceased 1911)

George Y Lancaster, Jr G 1909 New York City Inspector, New York Board of Fire Underwriters

Horace Zebina Landon U 1911 East Walpole, Mass. With F. W. Bird and Son

Walter Fred Lawley U 1908 Barksdale, Wis. Acid Inspector, E. I. Du Pont de Nemours Powder Company

Charles Thompson Leigh U 1911 Casa Grande, Ariz.

Donald Howe Mace U 1909 Pittsburgh, Pa. Engineer, Legal Department, Westinghouse Electric and Manufacturing Co. George Francis Martin U 1910 Worcester, Mass.
With Eastern Bridge and Structural Company

Raymond Kurtz Morley 1911 Urbana, Ill.
Instructor in Mathematics, University of Illinois

Albert Armstrong Nims U 1908 Rochester, N. Y. Electrical Engineer, Murphy Electricity Rectifier Company

George Robert Olshausen CF 1908\* (Cornell F 1904) Newark, N. J. Department of Physics, Princeton University

Riojo Onuki U 1910 Yokosha Naval Dock Yard, Japan Engineering Department

George Norman Palser U 1909 Worcester, Mass.
Draftsman, Eastern Bridge and Structural Company

Joseph Oliver Phelon CF 1908 (Cornell G1901) Worcester, Mass. Professor of Electrical Engineering, Worcester Polytechnic Institute

Clarence Albert Pierce F 1911 (Cornell 1908) Worcester, Mass.

Assistant Professor of Theoretical Electrical Engineering

Carleton Allen Read F 1909 Worcester, Mass. Professor of Steam Engineering, Worcester Polytechnic Institute

Alexander Hugh Reid U 1911 Milton, N. H. Draftsman with I. W. Jones, Engineer

John Allen Remon U 1909 Chicago, Ill. Assistant Traffic Chief, American Telephone and Telegraph Company

Albert Sutton Richey CF 1908 Worcester, Mass. Professor of Electric Railway Engineering, Worcester Polytechnic Institute

Harold James Riley U 1909 Montreal, Canada Law Student, Richards, Affleck and Company

Philip Jones Rowell U 1908 Tacoma, Wash. Office of Engineer of Maintenance of Way, Northern Pacific Railroad Company

Francis William Roys U 1909 Worcester, Mass. Instructor, Department of Mechanical Engineering, Worcester Polytechnic

George Herbert Ryan U 1908

Millbury, Mass.

Alton Lincoln Smith CF 1908 Worcester, Mass. Professor of Drawing and Machine Design, Worcester Polytechnic Institute

Harold Babbitt Smith CF 1908\*† (Cornell U 1891) Worcester, Mass. Professor of Electrical Engineering, Worcester Polytechnic Institute

Stanwood Willston Sparrow U 1911 Chicopee Falls, Mass.
Draftsman, Stevens-Duryea Company

Ralph Edgar Spaulding U 1909 Suffield, Conn.
Partner, E. N. and R. E. Spaulding, Engineering Contractors

Charles Childs Steere U 1909 Cincinnati, Ohio Assistant Chemist and Bacteriologist, Filtration Plant

Lewis Chester Stevens U 1911 Worcester, Mass.
With F. O. Stevens, Manufacturer

Ray Lewis Stinchfield U 1908 Washington, D. C.
Assistant Examiner, United States Patent Office

Robert Chauncy Sweetser F 1909 , Worcester, Mass. Assistant Professor of Analytical Chemistry, Worcester Polytechnic Institute

Ray Howard Taber U 1909 Pittsburgh, Pa. Engineer, Westinghouse Electric and Manufacturing Company

Francis Sylvestre Twomey U 1910 Boston, Mass.
American Telephone and Telegraph Company

Wallis Cowl Watson U 1910 Schenectady, N. Y. Student Apprentice, General Electric Company

Laurence Goddard Wesson U 1910 Washington, D. C. Chemist, Bureau of Standards

Ralph Delano Whitmore U 1909 Pekin, China Teacher of Manual Arts, Ching Hua College

Joseph Dimock Williams C 1908 (Yale U 1904) Fort Plain, N. Y.
Barge Canal Office

John Edward Woodbury U 1908 Worcester, Mass. Vice-President, Woodbury and Company

# PURDUE CHAPTER

PURDUE UNIVERSITY, LAFAYETTE, INDIANA
Charter Dated April 28, 1909 Chapter Installed December 21, 1909

#### HISTORICAL SKETCH

The formal petition for the establishment of a chapter of Sigma Xi at Purdue University was filed April 27, 1908, and bore the signatures of twenty-one members of the faculty, twelve of whom had been members of the organization in other institutions. The charter was issued April 28, 1909, and the Chapter was formally installed by Professor Henry B. Ward on December 21, 1909. Previous to the installation of the Chapter, four of those signing the original petition had severed their connection with the University. Since its organization the Purdue Chapter has maintained two public meetings each semester, one of the meetings being addressed by a member of the local Chapter, the other by a member from some other institution.

S. C.

#### PUBLICATIONS

By-Laws of the Purdue University Chapter of the Society of the Sigma Xi. pp. 4.

OFFICERS FOR 1911-12

President	PERCY NORTON EVANS
Vice-President	
Recording Secretary	CHARLES FRANCIS HARDING
Corresponding Secretary	STANLEY COULTER
Treasurer	RICHARD GUSTAVUS DUKES
Councilor	WILLIAM KENDRICK HATT

## MEMBERSHIP ROLL

Joseph Charles Arthur CF 1909\*† (Cornell G 1888) Lafayette, Ind. Professor of Vegetable Physiology, Purdue University

Charles Henry Benjamin CF 1909\*† (Case CF 1904) Lafayette, Ind. Dean of Schools of Engineering, Purdue University

Earl Gordon Bill F 1911 (Yale G 1906) Lafayette, Ind.
Instructor in Mathematics, Purdue University

Frederick John Breeze U 1910 Lafayette, Ind. Instructor in Forestry, Purdue University

Severance Burrage F 1909 Lafayette, Ind.
Professor of Sanitary Science, Purdue University

Albert Edward Caswell F 1911 (Stanford G 1911) Lafayette, Ind. Instructor in Physics, Purdue University

Wilbur Andrew Cochel CF 1909 (Missouri U 1905) State College, Pa. Professor of Agriculture, Pennsylvania State College

Stanley Coulter CF1909\*† Lafayette, Ind.
Dean of School of Science, Professor of Biology, Purdue University

Robert Alexander Craig F 1910 Lafayette, Ind. Professor of Veterinary Science, Purdue University

Richard Gustavus Dukes F 1910 (Cornell U 1896) Lafayette, Ind. Professor of Applied Mechanics, Purdue University

David Christie Duncan F 1911 (Michigan U 1911) Lafayette, Ind. Assistant Instructor in Physics, Purdue University

Gilbert Turner Dunklin U 1911 Altoona, Pa. Chief Engineer, George Cutter Company

Oscar Norton Edmondson U 1910 South Bend, Ind. Designer, Mechanical Engineer's Office, Pennsylvania Railway Company

John Benjamin Edmondson U 1911 Lafayette, Ind. Assistant in Soil Work, Purdue University

John Walter Esterline F 1910 Lafayette, Ind.
President and Manager, Esterline Company

Percy Norton Evans CF 1909 Lafayette, Ind.
Professor of Chemistry, Purdue University

Ervin Sidney Ferry CF 1909\*† (Cornell U 1889) Lafayette, Ind. Professor of Physics, Purdue University

James Burgess Fitch U 1910 Manhattan, Kan. Assistant in Dairying, Kansas State Agricultural College

Frederick Driggs Fuller F 1911 Lafayette, Ind. (Chief Deputy) State Chemist, Agricultural Experiment Station

Michael Joseph Golden CF 1909 Lafayette, Ind.
Professor of Practical Mechanics, Purdue University

Arthur Goss CF 1909 Lafayette, Ind.
Director of Experiment Station, Purdue University

Frank Gray  $\begin{array}{c} {\rm U\,1911} & {\rm Madison,Wis.} \\ {\rm Assistant\,\,in\,\,Physics,\,\,University\,\,of\,\,Wisconsin} \end{array}$ 

Charles Francis Harding CF 1909\* Lafayette, Ind. Professor of Electrical Engineering, Purdue University

Oliver Morton Harrison U 1911 Lafayette, Ind. Assistant in Chemistry, Purdue University

William Kendrick Hatt CF 1909\*† (Cornell G 1891) Lafayette, Ind. Professor of Civil Engineering, Purdue University

Benjamin Hartley Hewit U 1911 Lafayette, Ind. Student in Civil Engineering, Purdue University

James David Hoffman F 1910 Lafayette, Ind. Professor of Engineering Design, Purdue University

Herbert Andrew Hopper CF 1909 (Cornell U 1903) Ithaca, N. Y.
Dairy Farming

Harold Allen Houston U 1911 Urbana, Ill. Fellow in Engineering, University of Illinois

Otto Fred Hunziker F 1909 (Cornell G 1901) Lafayette, Ind. Chief of Dairy Department, Purdue University

Denver, Col.

U 1910

Agassiz Travers Hutchins

With Denver Gas and Electric Company Dean Morreau Jackman U 1911 Washington, D. C. Assistant in Chemistry, Bureau of Standards Arthur Taber Jones F 1911 Worcester, Mass. Fellow in Physics, Clark University William James Jones, Jr F 1910 Lafayette, Ind. Professor of Agricultural Chemistry, Purdue University Alfred Monroe Kenyon F 1910 Lafayette, Ind. Professor of Mathematics. Purdue University Frank Dunn Kern CF 1909 (Iowa U 1904) Lafayette, Ind. Associate Botanist, Purdue Experiment Station Willard Alfred Knapp CF 1909 (Illinois U 1907) Lafayette, Ind. Instructor in Engineering, Purdue University Harry Joseph Krueper U 1910 Fort Wayne, Ind. Engineer, Pennsylvania Railroad Company Llewellyn V Ludy CF 1909 Madison, Wis. Acting Professor of Engineering, University of Wisconsin F1910 Lafayette, Ind. Edward Garfield Mahin Associate Professor of Chemistry, Purdue University William Marshall F 1911 Lafayette, Ind. Associate Professor of Mathematics, Purdue University Charles Stephen McCarthy U 1911 Lafayette, Ind. Student in Civil Engineering, Purdue University U 1910 Chicago, Ill. Albert McWayne With Holabird and Roche, Architects Louis Mitchell U 1910 (Syracuse F 1910) Syracuse, N. Y. Instructor in Civil Engineering, Syracuse University Charles Ruby Moore F 1910 Lafayette, Ind. Assistant Professor of Electrical Engineering, Purdue University Joseph Oskant F 1911 (Missouri U 1911) Lafayette, Ind. Assistant Horticulturist, Purdue University

F 1909 (Colorado F 1908) Alfred Peter Poorman Lafayette, Ind.

Assistant Professor of Mechanics, Purdue University

Ray Edgar Pumphrey Lafayette, Ind. U 1911 Engineer, Lafayette Electric and Manufacturing Company

Paul Linch Roberts U 1910 Lafayette, Ind. Assistant in Dairying, Purdue University

F1911 (Case F 1911) Lewis Dow Rowell Lafayette, Ind. Assistant Professor of Electrical Engineering, Purdue University

Robert Lemuel Sackett Lafayette, Ind. Professor of Engineering, Purdue University

Herbert Henry Scofield F 1911 Lafayette, Ind. Assistant Professor of Testing Materials, Purdue University

Glenn Alfred Shook F 1911 Urbana, Ill. Instructor in Physics, University of Illinois

John Harrison Skinner CF 1909 Lafayette, Ind.
Dean of School of Agriculture, Purdue University

Harold Ryland Smalley U 1911 Lafayette, Ind.

Assistant Chemist, Experiment Station, Purdue University

Albert Smith F 1910 Lafayette, Ind. Professor of Structural Engineering, Purdue University

Albert Bessey Smith CF 1909 (Nebraska G 1901) Chicago, Ill. With Automatic Telephone Company

Charles Marquis Smith F 1910 Lafayette, Ind.
Assistant Professor of Physics, Purdue University

Temple Clifford Smith U 1910 Newark, N. J. New York Telephone Company

George Spitzer F 1910 Lafayette, Ind.

Dairy Chemist, Purdue University

Winthrop Ellsworth Stone CF 1909 Lafayette, Ind.
President, Purdue University

Oliver Perkins Terry F 1911 Lafayette, Ind.
Assistant Professor of Physiology, Purdue University

Oswald Albert Tislow U 1911 Louisville, Ky.
Draftsman, Louisville Bridge and Iron Company

Alanson Niles Topping CF 1909 (Kansas U 1894) Lafayette, Ind.

Associate Professor of Electrical Engineering, Purdue University

Guy Alwyn Wainwright U 1911 Lafayette, Ind. Student in Engineering, Purdue University

Clarence Abiathar Waldo CF 1909\*† (Union F 1890) St. Louis, Mo. Professor of Mathematics, Washington University

Luther Cornelius Weeks CF 1909 (Yale CG 1903) Lafayette, Ind Instructor in Mathematics, Purdue University

Jacob Westlund CF 1909\* (Yale F 1897) Lafayette, Ind.
Professor of Mathematics, Purdue University

Alfred Theodor Wiancko F 1910 Lafayette, Ind. Professor of Agronomy, Purdue University

Ralph Benjamin Wiley F 1910 (Michigan U 1906) Lafayette, Ind. Assistant Professor of Engineering, Purdue University

Charles Goodrich Woodbury F 1911 Lafayette, Ind.
Professor of Horticulture, Purdue University

Gilbert Amos Young F 1911 Lafayette, Ind.
Acting Professor of Engineering, Purdue University

# WASHINGTON UNIVERSITY CHAPTER

WASHINGTON UNIVERSITY, St. Louis, Missouri

Charter Dated May 21, 1910

Chapter Installed June 4, 1910

#### HISTORICAL SKETCH

In the fall of 1908 the members of Sigma Xi on the faculty of Washington University held a meeting to discuss the advisability of asking for the establishment of a chapter of the Society of the Sigma Xi at the University. As the outcome of this conference a petition was sent to the President of Sigma Xi on December 18, 1908. Just one year later the formal application was presented to the Chairman of the Council, and on May 21, 1910, a letter was received from the President and Dean F. O. Marvin, saying that the last required vote had been received on that day and asking our pleasure in regard to the installation. An invitation was immediately tendered to Dean Marvin to honor us by his presence and to conduct the installation on June 4. Finally, after a dinner served at the Washington Hotel, the Chapter was duly installed.

E. L. O.

## OFFICERS FOR 1911-12

President	Francis Eugene Nipher
Vice-President	WILLIAM TRELEASE
Recording Secretary	WALTER EDWARD McCOURT
Corresponding Secretary	Ernest Linwood Ohle
Treasurer	James Francis Abbott
Councilor	Francis Eugene Nipher

## MEMBERSHIP ROLL

James Francis	Abbott		C 191	*0	(Chicago	U 1906)	St.	Louis,	Mo.
	Professor	of	Zoology,	W	ashington	University			

Arnold Dettman	Alt	A 1911			St. Louis, Mo.
	Chemist,	Mallinckrodt	Chemical	Works	

Henry	w	Anderson			U 1911			Urbana,	Ill.
		Instructor	in	Plant	Pathology,	University	of Illinois		

William Lewis Breckinridg	e A 1911		Chicago, Ill.
Chief Engineer,	Chicago, Burlington	and Quincy	Railway

Charles	Walter	Bryan		A 1911			New	York	City
		Chief E	Engineer,	American	Bridge	Company			

George Dock	F 1911*†	St. Louis, Mo.
Professor of Medicine	and Dean of Medical School,	Washington University

William	Harrison Emig	U 1911	St. Lous, Mo.
	Graduate	Student, Washington University	

St. Louis, Mo.

Victor Emanuel Emmel F 1911\* (Brown G 1905) St. Louis, Mo. Associate in Anatomy, Washington Unversity F 1911\*† (California G 1910) Joseph Erlanger St. Louis, Mo. Professor of Physiology, Washington University Percy Leigh Gainey U 1911 Columbia, Mo. Instructor in Bacteriology, University of Missouri Charles Elijah Galt U 1911 St. Louis, Mo. With Christopher and Simpson, Architectural Iron and Foundry Company Walter Eugene Garrey F 1911\* St. Louis, Mo. Associate in Physiology, Washington University Chester Harvey Hardy U 1911 St. Louis, Mo. Instructor in Electrical Engineering, Washington University Minard Lafever Holman St. Louis, Mo. A 1911\* Consulting Engineer, Holman and Laird Dennis Emerson Jackson F 1911 (Indiana G 1903) St. Louis, Mo. Associate in Physiology and Pharmacology, Washington University George Oscar James F 1911\*+ St. Louis, Mo. Assistant Professor of Mathematics and Astronomy, Washington University Albert Lincoln Johnson Buffalo, N. Y. A 1911 Vice-President, Corrugated Bar Company Harold Dean Jolley U 1911 St. Louis, Mo. Civil Engineer, Reinforced Concrete Company C 1910\*+ St. Louis, Mo. Edward Harrison Keiser Professor of Chemistry, Washington University John Jacob Kessler, Jr U 1911 St. Louis, Mo. President and General Manager, Dielectric Manufacturing Company St. Louis, Mo. Walter Charles George Kirchner A 1911 Physician. C 1910 (Michigan U 1906) St. Louis, Mo. George William Lamke Assistant Professor of Electrical Engineering, Washington University St. Louis, Mo. C 1910\* (Cornell U 1901) Alexander Suss Langsdorf Professor of Electrical Engineering and Dean, Washington University Urbana, Ill. C 1910 Frederick Maynard Mann Professor of Architecture, University of Illinois C 1910\* (Cornell U 1904) St. Louis, Mo. Walter Edward McCourt Assistant Professor of Geology, Washington University St. Louis, Mo. F 1911\* LeRoy McMaster Assistant Professor of Chemistry, Washington University Washington, D. C. Stockton Mosby McMurran U 1911 Pathologist, Bureau of Plant Industry St. Louis, Mo. CF 1910\*+ George Thomas Moore Professor of Botany, Washington University St. Louis, Mo. CF 1910\*† (Iowa A 1905) Francis Eugene Nipher Professor of Physics, Washington University

TT 1911

Engineer, City Sewer Department

August George Nolte

Ernest Linwood Ohle CF 1910\* (Case F 1904) St. Louis, Mo. Professor of Mechanical Engineering, Washington University

William Woodward Ohlweiler U 1911 St. Louis, Mo.
Plant Recorder, Missouri Botanical Garden

Eugene Lindsay Opie F 1911†\* St. Louis, Mo. Professor of Pathology, Washington University

George Herndon Pegram
Chief Engineer, Interborough Rapid Transit Company

New York City

Joseph Chappell Rayworth F1911 (Yale U 1906) St. Louis, Mo. Instructor in Mathematics, Washington University

Ethel Leigh Richards U 1911 St. Louis, Mo. Graduate Student, Washington University

William Henry Roever F 1911\* St. Louis, Mo. Assistant Professor of Mathematics, Washington University

Caroline Rumbold U 1911 Philadelphia, Pa. Pathologist, Botanical Department, University of Pennsylvania

Jacob Schramm U 1911 St. Louis, Mo. Graduate Student, Washington University

Arthur Schweier U 1911 Keokuk, Ia. Assistant Accounting Engineer, Mississippi River Power Company

Philip Anderson Shaffer F 1911 (Cornell F 1910) St. Louis, Mo. Professor of Biological Chemistry, Washington University

Robert James Terry F 1911\* St. Louis, Mo. Professor of Anatomy, Washington University

Harry Freeman Thomson U 1911 Boston, Mass. Instructor in Electrical Engineering, Massachusetts Institute of Technology

William Trelease CF 1910\*† (Cornell A 1886) St. Louis, Mo. Professor of Botany, Washington University

John Lane VanOrnum CF 1910\* St. Louis, Mo. Professor of Civil Engineering, Washington University

Clarence Abiathar Waldo C 1910\*† (Union F 1890; Purdue C 1908)
Professor of Mathematics, Washington University [St. Louis, Mo.

Calvin Milton Woodward C 1910\*† St. Louis, Mo. Emeritus Professor of Mathematics, Washington University

# GEOGRAPHICAL INDEX

#### ALABAMA

AUBURN Dunstan, Arthur St. Clair Lloyd, Francis Ernst Wolf, Frederick Adolph

BIRMINGHAM Gholz, Arthur Laurence Johnson, Ruth Udden, Jan Andreas

COAL CITY O'Neale, Malcom Lindsay COREY

Sperr, Frederick William, Jr.

RAGLAND Claffin, Frank Neville

SELMA Meador, Daniel John, Jr.

THOMASVILLE Brown, Nimrod Washington, Long

TUSCALOOSA Kay, Edgar Boyd

UNIVERSITY Sibley, Frederick Hubbard

## ARIZONA

BISBEE
Ferguson, Robert
Whiteley, Eugene Edgerton
Ziesemer, Ralph August

CASA GRANDE
Leigh, Charles Thompson
Morris, Charles Statham

DOUGLAS
Adamson, Edward William
Houlton, Lewis K.

HAYDEN Dresser, Clarence Gibson

FLAGSTAFF Greenamyre, Harold Hubert Pearson, Gustaf Adolph Slipher, Vesto Melvin

GLOBE Alsdorf, Frederick Charles Boyd, Robert Russell Cramer, William Bronson West, George Hazzard

MESA Humphrey, Frederick Learoyd MIAMI

Scott, David Burnet

MORENCI Ayer, Frank Ashton DuMoulin, Walter Louis

NOGALES Merrill, Frederick James Hamilton

PHOENIX Borchers, Perry Elmer

RAY Locke, Preston Erie

TEMPE Bolton, Thaddeus Lincoln

TUCSON

Breitenbecker, Joseph Kumber
Cannon, William Austin
Kleeberger, Frank Louis
McCallum, William Burnet
MacDougal, Daniel Trembly
Ross, William Horace
Spoehr, Herman Augustus
Thornber, John James
Vinson, Albert Earl
Waterbury, Leslie Abram

#### ARKANSAS

LITTLE ROCK
Davis, Thomas Brandenberg
Williams, Kersey George

VAN BUREN Cortelyou, Frank Morgan

## CALIFORNIA

BERKELEY—Continued
Anderson, Leroy
Babcock, Ernest Brown
Baird, Frank
Baker, Charles Laurence
Bardsley, George Henry
Barrows, David Prescott
Baum, Frank George
Beaser, Scott Ingalls
Bernsteln, Benjamin Abram
Bevan, Lynne John
Biddle, Henry Chalmers

FAYETTEVILLE
Adams, Charles Frederick
Hayhurst, Paul
Mather, Kirtley F.
Purdue, Albert Homer
Steele, Alvin Arthur
Walker, Ernest

ALAMEDA Blowski, Alfred August Copeland, William Forest ALVARADO

Rees, William Henry BAKERSFIELD Stegeman, Amel E.

BERKELEY
Adams, Edwin Larned
Alvarez, Arthur Carl
Anderson, Frank M.

BERKELEY—Continued
Blasdale, Walter Charles
Brandegee, Townshend Smith
Brown, Warner
Bryant, Harold Child
Buck, Thomas
Burnett, Theodore Crété
Christy, Samuel Benedict
Clark, Bruce Lawrence
Clarke, Frank Cuthbert
Clarke, Warren Thompson
Coit, John Eliot
Coleman, George Albert
Conrad, Clinton C.
Cornish, Ellen (Dobie)
(Cornish, Mrs Frank V.)
Cory, Clarence Linus
Cottrel, Frederick Gardner
Crawford, Russel Tracy
Daines, Lyman Luther
Daniel, John Franklin
Davidson, George Daniel, John Frankin
Davidson, George
Davidson, Thomas Andrew
Davies, Robert Geiser
Davis, Elmer Fred
Derleth, Charles, Jr.
Dozler, Charles Thomasson
Eakle, Arthur Starr
Eddy, Adolphus James
Edwards, Hiram Wheeler
Einarsson, Sturla
Eider, Jay Clinton
Elston, Thomas Sidney
Etcheverry, Bernard Alfred
Falrbanks, Harold Wellman
Finley, William Lovell
Foster, Herbert Bismarck
Furlong, Eustace Leopold
Gay, Frederick Parker
Gester, George Clark
Goodspeed, Thomas Harper
Graham, Alexander Edward
Grinnell, Joseph
Hall, Elmer Edgar
Hall, Harvey Monroe
Harling, Clarence Melvin
Harvey, Richard Warren
Haskell, Mellen Woodman
Haynes, Elli Stuart
Herms, William Brodbeck
Herrisk, Henry Nathan
Hersam, Ernest Albion
Hilgard, Eugene Waldemar
Holway, Ruliff Stephen
Horne, William T.
Hyde, Charles Gilman
Irving, Samuel
Jaffa, Myer Edward
Jepson, Willis Linn
Johnson, Frank Edward
Kesner, Henry James
Kesner, Henry James
Kesner, Herry James
Kesner, Herry James
Kesner, Eugene Sterling
Kofold, Charles Atwood
Kower, Herman
Kencher, Alfred Louis
Kuschke, Charles
Lawson, Andrew Cowper
LeConte, Joseph Nisbet
Lehmer, Derick Norman
Leuschner, Armin Otto
Lewis, Exum Percival
Lipman, Charles Bernard
Lombardi, Maurice Ennis
Long, Joseph Abraham
Louderback, George Davis
Loughridge, Robert Hills
McCharles, Carl Howard
McNair, Frederick Henry
Maxwell, Samuel Steen

BERKELEY-Continued RKELEY—Continued
Merrlam, John Campbell
Meyer, William Ferdinand
Minor, Ralph Smith
Mitchell, James Francis
Moody, Agnes (Claypole)
(Moody, Mrs. Robert Orton)
Moody, Robert Orton
Moore, Arthur Russell
Morgan, William Conger
Morse, Fremont
Mott, William Warner
Murphy, Edward Charles
Noble, Charles Albert
Noble, Grover Chester
O'Neill Edmond
Oser, William Lincoln Noble, Charles Albert
Noble, Grover Chester
O'Neill Edmond
Oser, William Lincoln
Paetow, Lily Gavit (Kolleck)
(Paetow, Mrs. Louis John)
Parker, William Bell
Petrovsky, Vyacheslav
Putnam, Thomas Milton
Quayle, Henry Josef
Ratcliff, Walter Harris
Raymond, William James
Reynolds, Herman White
Riddell, Wallace Clifford
Robertson, Thorburn Brailsford
Roop, Wendell Prescott
Rusk, Glanville Yeisley
Sawyer, Wilbur Augustus
Setchell, William Albert
Sharp, Leslie Theodore
Sharp, Leslie Theodore
Sharp, Robert Guy
Slate, Frederick
Smith, Fellx Teisseire
Smith, Ralph Elliott
Soulé, Frank
Stillman, Howard
Stines, Norman Caswell
Stratton, George Malcolm
Taylor, Walter Penn
Tibbetts, Frederick Horace
Torrey, Harry Beal
Waterman, Thomas Talbot
Weymouth, Chester Albert
White, Ralph Archibald
Whitney, Albert Wurts
Wickson, Edward James
Winkler, John
Wood, Harry Oscar
Woods, Baldwin Munger
Woodworth, Charles William
RD
Peterson, William Arnold

BARD Peterson, William Arnold

BETTERAVIA Atkinson, John Wesley

CALEXICO Herrmann, Frederic Charles

Stamper, Alva Walker

COALINGA Naramore, Chester Sperry, James Clarence

EAST AUBURN Poorman, Amy

EMERYVILLE Finley, Dozier

EUREKA Bell, Eric Temple Tracy, Joseph Prince

FRESNO Ball, Ernest Everett Dean, Roger Kelley, Truman Lee Stager, Henry Walter

FORT BARRY Guthrie, Robert Elton FORT McDOWELL Gibner, Herbert Charles

GRASS VALLEY Oliver, Edwin Letts HALLECK

Watkins, Wilbur Kemble HAYDENHILL

Collier, John Henry HOLLISTER

Pieters, Adrian John

KENNETT Ball, Carl Milton

KESWICK Stenger, Edward Lewis

LA JOLLA Michael, Ellis Lercy Ritter, William Emerson LICK OBSERVATORY

Burns, Kelvin

LINDSAY Meier, Gertrude (Gibbs) (Meier, Mrs. Ferdinand)

LIVERMORE Robertson, John Wooster

LOS ANGELES
Albers, George Rockwell
Baruch, Edgar
Bates, Bennett Routh

Albers, George Rockwell
Baruch, Edgar
Bates, Bennett Routh
Bloomer, Frank Fulton
Buchanan, Alexander Watson
Chandler, Elbert E.
Comstock, Theodore Bryant
Crocker, Fred Wilbur
Doolittle, Harold Lukens
Esterly, Calvin Olin
Foshay, Eleanor Anna
Gardner, Vera Placida
Gifford, Harry Van Vleck
Hall, Harold Morris
Hardin, Isabella Moore Green
(Hardin, Mrs. Willett Lepley)
Hardley, Joseph Alexander
Hollister, Emily Constance
Hopkins, Howard Corwin
Hummel, Adam Albert
Ickes, Eugene Law
Jensen, Dagmar Christence
McIntosh, Roscoe Everett
Martin, William Franklin
Miller, Irving
Miller, Loye Holmes
Mowder, Clyde Leroy
Ocksner, Washington Henry
Oliver, Ernest Warner
Palmer, Harold King
Pike, Robert Dickson
Powell, George Harold
Reed, Ralph John
Richards, Hugh Tudor
Russell, Alexander Stuart
Scattergood, Ezra Frederick
Schmidt, Walter August
Smith, George Bertrand
Stegeman, Amel E.
Tower, Alphonso Walker
Van Kaathoven, Jean Jacque
Weatherby, LeRoy Samuel
Weller, William Morris
S GATOS
Butler, Ormond

Jacques

LOS GATOS Butler, Ormond

MADELINE Chapin, Charles Walter MARTINEZ Fogg, Donald Eastman Vickery, Frederick Paul

MELONES Moore, Ernest Ellsworth

MESA GRANDE Davis, Harvey Lewis

MT. HAMILTON Altken, Robert Grant Campbell, William Wallace Paddock, George Frederick Wright, William Hammond

OAKLAND Adelung, Edward von Baender, Frederick George Browne, Spencer Cochrane, Jr. Burns, Herbert Alexander Burns, Herbert Alexander Copeland, Clement Austin Herre, Albert Christian Hoffman, George Jacob Hoffman, Ross Browne Huntley, Dwight Brunell Lang, Herbert Oliver Morse, Fred Wellington Nichels, Murrice Pareton Morse, Freu Weilington Nichols, Maurice Barstow Pardee, George Cooper Robertson, Oswald Hope Whitton, Charles Abel Whitton, William Wakefield Wright, Carey Thomas

OCEAN PARK Upham, William Erastus

ORANGE Stokes, Susan Gabriella

OROVILLE Dick, Fred Austin
PACIFIC GROVE
Lewis, James Ogier

Adams, Edward Thomas
Clevenger, Galen Howell
Cross, Charles Norman
Cross, Robert John
Cutter, Lawrence Edminster
Doane, Rennie Wilbur
Drew, Elmer Reginald
Eckardt, William Rankine
Elwell, Cyril Frank
Fish, John Charles Lounsbury
Fisher, Walter Kenrick
Fitzgerald, Fred Finley
Franklin, Edward Curtis
Haehl, Harry Lewis
Heath, Harold
Hoskins, Leander Miller PALO ALTO Heath, Harold
Hoskins, Leander Miller
Hyatt, Shirley
Manning, William Albert
Meyer, Arthur William
Moffitt, George Wilber
Morris, Charles S.
Morrison, Caroline (Baldwin)
(Morrison, Mrs. Charles)
Peirce, George James
Rogers, Austin Flint
Sabine, George Holland
Sloan, William Henry
Slonaker, James Rollin
Smith, James Perrin
Spooner, Georgina B. smith, James Ferrin Spooner, Georgina B. Stillman, John Maxon Swain, Robert Eckles Thompson, William Francis Wing, Charles Benjamin Young, Stewart Woodford

PASADENA Adams, Walter Sydney Babcock, Harold Delos

PASADENA—Continued
Claypole, Edith Jane
Clifton, Harry Trumbull
Curtiss, Richard Sydney
Fath, Edward Arthur
Flint, William Ruthven
Hale, George Ellery
King, Arthur Scott
Miller, Ephraim
Peirson, Jessie Burnham
Peirson, Mabel Burnham
Ritchey, George Willis
Seares, Fred Hanley
Seares, Fred Hanley
Severy, Hazel Wood
PIEDMONT

PIEDMONT Kimball, Edwin Boyse POINT RICHMOND Chappel, Marvin Lee

POMONA

Richmond, Charles Pierce QUINCY

Zschockelt, Carl Gotthelf REDLANDS Hilliard, Charles Grovt Morrison, Lawrence Stillman

SACRAMENTO

Baker, Ned Duncan Cravens, Mary Ruhamah Newcomer, Erval Jackson SAN BERNARDINO Griffin, Charles Edward

SAN DIEGO Henley, Jesse Van Fleet Thompson, Roy Edwin

SAN DIEGO

Henley, Jesse Van Fleet
Thompson, Roy Edwin

SAN FRANCISCO
Adams, Arthur Lincoln
Bailey, Samuel Ellsworth
Bain, Harry Foster
Baird, Benjamin Allen
Barry, James Milne
Blackman, Milton Julius
Bilss, Howard Hamilton
Blum, Sanford
Brownell, Edward Earle
Bunnell, Alexander Sterling
Butters, Charles
Cahill, John Richard
Carey, Henry Benjamin
Champreux, Alfred Joseph
Chandler, Albert Edward
Cleary, Ernest Winton
Colbath, James Sollitt
Connor, Herbert Ray
Copeland, Clement Austin
Cykler, Emil Frank
D'Ancona, Arnold Abraham
Day, Clarence Edward
Day, William Peyton
Dewell, Henry Dirvendorf
Dod, Harrie Carlton
Dodd, Robert William
Dole, Norman Eliot
Doyle, Edmund Miller
Dyer, Ernest Ingalls
Eloesser, Leo, Jr.
Farrell, John Randolph
Fleischner, Emanuel Charles
Gaylord, Earl Graham
Gould, Ralph Amos
Hamilton, Walter Raleigh
Haug, Thaddeus Leon Euclid
Heise, Carl Edward
Hoag, Carl Leslie
Horn, Henry
Huber, Walter Leroy
Hunt, Loren Edward
Jacobs, Gaskell Samuel

-Continued

SAN FRANCISCO—Continued Kingsbury, Joseph Waldo Lachman, Arthur Langstroth, Lovell Lengfeld, Felix Little, Walter Colton Lowndes, Andrew Jackson McAdle, Alexander George McDonald, William Clyde Markwart, Arthur Hermann Menzin, Abraham Louis Merrill, Charles Washington Moffit, Herbert Charles Moody, Wilber Ladde Moulton, Dudley Murro, Charles Harper Mysatt, Andrew Burton Newfield, Joseph Oser, Harry Jonas Osmont, Vance Craigmiles Pepperberg, Leon J. Peyton, William Charles Ransom, Thomas Wells Read, Thomas Thornton Riffle, Frank Rix, Edward Austin Rixford, Emmet Sampson, Joseph A. Saph, Augustus Valentine Schindler, Andrew D Schmidt, Carl Louis August Scofield, Lynn M. Sharp, Harold Gibbons Smith, Charles Stowell Symmes, Leslie Webb Terry, Wallace Irving Thelen, Paul VanDyke, Edwin Cooper Vensano, Harry Chittenden Ware, Norton Welch, Harry Valentine Weymouth, Clarence Raymond Wise, James Hugh

Blakeman, Rose (Patterson) Cook, Samuel Richard Davidson, William Mark Schallenberger, Margaret Everitt

SAN LUIS OBISPO Hartzell, Mary Kezie

SAN MATEO Fisher, Carl Wallace

SAN RAFAEL Higley, Rose Miriam

SANTA ANA Eggen, Halsten Olson

SANTA BARBARA Barr, Susan Jessie Johnston, Fred Lyle

SANTA ROSA Burbank, Luther

SAUSALITO Wilson, Hugh Wright, William Quinby

SPRECKELS SPRECKELS
Dahlberg, Arnold Victor
STANFORD UNIVERSITY
Abrams, LeRoy
Allardice, Robert Edgar
Angell, Frank
Bahney, Luther Madison
Berry, Samuel Stillman
Blickfeldt, Hans Frederick
Bohart, George Shambaugh
Branner, John Casper
Burlingame, Leonas Lancele

Burlingame, Leonas Lancelot

STANFORD UNIVERSITY—Cont'd Burke, Charles Victor Campbell, Douglas Houghton Charters, Samuel Barclay Clark, George Archibald Coover, John Edgar Crawford, Albert Cornelius Drake, Noah Fields Dudley, William Russell Durand, William Brederick Folsom, David Morrill Hine, Thomas Buck Jollivette, Halley D. M. Jordan, David Starr Kellogg, Vernon Lyman Lesley, Everett Parker McMurphy, James Ira William Martin, Lillien Jane Marx, Charles David Marx, Guido Hugo Marx, Harriet (Grotecloss) (Marx, Mrs. Charles David) Mitchell, John Pearce Moreno, Halcott Cadwalader Randall, Josephine Dows

STANFORD UNIVERSITY—Cont'd Rogers, Frederick John Ross, Pereley Ason Ryan, Harris Joseph Snyder, John Otterbein Starks, Edwin Chapin Townley, Sidney Dean Weymouth, Frank Walter Zinsser, Hans TURLOCK Markley, William Henry UKIAH Maddrill, James Davis VENICE Allen, Wynfred Emory VENTURA Everett, Ernest Ellsworth VINA Harris, Frank Mason WEAVERVILLE Coffman, John Daniel WHITTIER Griffith, Mary Caroline

#### COLORADO

ASPEN PEN
Lamb, Fleeta Alberta
ULDER
Allen, Alfred Horace
Bauer, Frank Stanley
Brackett, William Raymond
Burnett, Clough Turrill
Butters, Roy Morrill
Cattermole, George Henry
Cockerell, Theodore Dru Alison
Cockerell, Theodore
Crawford, Ralph Dixon
Curtis, Harry Alfred
Dean, Paul Marshall
DeLong, Ira Mitchell
Duncan, Lindsay
Ekeley, John Bernard
Ellis, Marion (Durbin)
Ellis, Max Mapes
Epsteen, Saul
Evans, Herbert Silas
Fischer, Valentine Benjamin
George, Russell D.
Giffin, Clay Emery
Giffin, Luman Moody
Gilbert, Oscar Monroe
Harlow, William Page
Henderson, Junius
Hoogendijk, Gerard Louis
Hunter, John Andrew
Huntington, Whitney Clark
Jackson, Bethel Howard
Jenkins, David Rhys
Ketchum, Milo Smith
Lester, Oliver Clarence
Odell, Maud Clark Gardiner
Peebles, Alvin Roy
Poe, Charles Franklin
Queal, Emley Barber
Ramaley, Ethel Jackson
Ramaley, Francis
Robertson, Eugene Herbert
Smith, Guy Watson
Spencer, Frank Robert
Sperry, Charles Stillman
Vestal, Arthur Gibson
Wallace, Jacob H.
Williams, Clement Clarence
Worcester, Philip George
Uloca ADO SPRINGS
Breitwieser, Joseph Valentine
William, George Irvine Lamb, Fleeta Alberta BOULDER

COLORADO SPRINGS Breitwieser, Joseph Valentine Finlay, George Irving COLORADO SPRINGS—Continued Porter, Thomas Lansing Schneider, Edward Christian Walbridge, George Hicks DENVER

Walbridge, George Hicks
NVER
Arneill, James Rae
Atwater, Huntington Clark
Bates, Carlos Glazier
Bisbee, Elmer
Board, Virgil Lee
Canada, William Joseph
Comstock, Charles Worthington
Crook, Zeno E.
Fisher, Cassius Asa
Guiterman, Kenneth Sproat
Hiltner, Robert Silver
Hanington, Robert Whitney
Harman, Ivan Guy
Henderson, Charles William
Hershey, John Logan
Hough, George J
Hutchins, Agassiz Travers
Jackson, Edward
Moorley, Frederick Hitchcock
Murrish, F. E.
Nyswander, Ruben Edson, Jr.
Parmelee, Howard Coon
Porter, John Henry
Pratt, Elsie Seelye
Reef, Augustus Joseph
Ridgway, Arthur Osborne
Robertson, Ralph Noyes
Toll, Roger Wolcott
Turner, Charles Earl
Waggoner, David Gray
Whitman, Ross Chauncey
URANGO
Nelson, Winogene

DURANGO Nelson, Winogene FORT COLLINS Coffin, Claude C. Coy, Burgis Greenacre Crain, L. D. Crain, L. D. Fairlamb, Horace West, Jr. Fairlamb, Horace West, Jr. Frear, Dana Walter Keyser, Alvin Lory, Charles Alfred Robbins, Louise Henrietta Robbins, Wilfred William Rosencrants, Fay Harry PRI LOGAN FORT LOGAN

Cole, Clarence LeRoy

## COLORADO—Continued

GOLDEN Bailar, John Christian Haldane, William George Smith, Charles Edward Tomlinson, L. C. Traphagen, Frank Weiss

GRAND VALLEY Sovereign, Harry Evans Sovereign, Ruby Lily Carstens

IDAHO SPRINGS Underhill, James

LEADVILLE George, Harry Myers

LOVELAND Wells, Robert John

MONTE VISTA Higgins, Jay

MONTROSE Swett, Everett Harold MOUNT CLARE Glassco, Paul Bond

PAONIA Emry, Frederic Grant

PUEBLO Adams, Alva Blanchard Barker, Ralph Feiner Patterson, Charles Lawson Shoemaker, John Earl Wilson, Arthur Rockwell

SILVER LAKE
Allen, William Daniel
SILVERTON Clapp, Lawrence Ripley

VICTOR Argall, Philip Harry WAGON WHEEL GAP Keplinger, Peter

Wetherell, Dwight Nelson

#### CONNECTICUT

NEW BRITAIN W BRITAIN
Bacon, Arthur Whittemore
Dummer, Edward Lee
Oldershaw, Louis Albert
Pasco, Martin Kellogg, Jr.
Penfield, George Wilfred

Pasco, Martin Kellogg, Jr.
Penfield, George Wilfred

NEW HAVEN

Alling, Arthur Nathaniel
Ambler, Joseph Alfred
Anderson, William Gilbert
Angier, Roswell Parker
Arnold, Harry Sears
Bailey, Edward Monroe, Jr.
Baitsell, George Alfred
Baldwin, Seth Weaver
Ball, Stanley Critenden
Barney, Samuel Eben
Barrell, Joseph
Barrows, Walter Ransom
Barss, William Raymond
Bartlett, Charles Joseph
Bates, Clifford Whitman
Beach, Frederick Elijah
Bishop, Carlton Thomas
Bishop, Carlton Thomas
Bishop, Oliver F.
Black, Frank Laughton
Blair, Clarence Moore
Blake, Eugene Maurice
Blumer, George
Boltwood. Bestram Borden Blair, Clarence Moore
Blake, Eugene Maurice
Blumer, George
Boltwood, Bertram Borden
Bowman, Isalah
Boyer, Frederic Quintard
Bradley, Walter Minor
Breckenridge, Lester Palge
Britton, Wilton Everett
Brown, Ernest William
Brown, Theodore Henry
Browning, Philip Embury
Browning, Philip Embury
Bryant, Ralph Clement
Bumstead, Henry Andrews
Burgess, Henry Edward
Buttner, Jacques Louis
Cameron, Edward Herbert
Canavarro, George de S
Case, Samuel Winthrop
Chapman, Herman Haupt
Charbajian, Arsen Nishan
Chase, Frederick Lincoln
Chen. Chin tao
Coe, Wesley Roswell
Comfort, Charles William
Comstock, William James
Conwell, George Macfeely
Cooksey, Charlton Dows
Cooper, Frank Lawrence

ANSONIA

Tolles. Burton Isaac BRIDGEPORT Brettell, Clinton Cady, Raymond Davis Post, William Edward Pratt, Nathan Tolles Robinson, Arthur Wirt

BRISTOL Hughes, Frederick George DANBURY

Beltaire, Mark Anthony, Jr. White, George Ritch

DANIELSON Pike, William Kinney

EAST HARTFORD Goodwin, Ralph Edward FAIRFIELD

Brown, Albert Turney GEORGETOWN

Miller, David Henry GOSHEN

Hammond, Howard Spurr GREENWICH

Cone, Joseph Warren

Cone, Joseph Warren
HARTFORD
Barrows, Walter Loring
Beach, Charles Thomas
Beekley, Waldron Cheney
Colvin, Allan DeWitt
Conklin, Harold Perry
Darlington, Philip Jackson
Howard, James Leland
Morse, Max Withrow
Nellson, Frederick Charlesworth
Perkins, Henry Augustus
Risteen, Allan Douglas
Robinson, Henry Hollister Risteen, Alian Douglas Robinson, Henry Hollister Rogers, Charles Edwin Russ, Henry Camp Taylor, Charles Frederick Trowbridge, Amasa York, Daniel Bayard

MANCHESTER Ulrich, William Leroy

Ulrich, William Leroy
MIDDLETOWN
Bushnell, Fred Forbes
Cady, Walter Cuyton
Curts, Paul
Gugerty, Edward Joseph
Hale, Clarence Frederic
Heath, Fred Harvey
Renshaw, Raemer Rex

## CONNECTICUT—Continued

NEW HAVEN—Continued
Crawley, Ernest Willard
Dadourian, Haroutune
Daniels, Archibald Lamant, Jr.
Dean, Arthur Lyman
Diefendorf, Allen Ross
Drushel, William Allen
Eaton, George Francis
Emery, Wilson Barton
Evans, Alexander William
Farnham, Charles Sherman
Ferris, Harry Burr
Fisher, Irving
Filnt, Joseph Marshall
Foote, Harry Ward
Ford, William Ebenezer, Jr.
Goldschmidt, Samuel
Goucher, Frederick Shand Goucher, Frederick Shand Graves, Arthur Harmount Graves, Arthur Harmount
Gregory, Herbert Ernest
Guest, Herbert Hartley
Gundelfinger, George Frederick
Harrison, Ross Granville
Harvey, Samuel Clark
Hawley, Ralph Chipman
Henderson, Yandell
Hill, Arthur Joseph
Hooker, Davenport
Ingersoil, Charles Anthony
Irving, John Duer
Jamieson, George Samuel Ingerson, Charles Arthony
Irving, John Duer
Jamieson, George Samuel
Johns, Carl Oscar
Johnson, Treat Baldwin
Jones, Frederick Scheetz
Kellogg, Willett Harold Jr.
Keller, Albert Galloway
Kirkham, William Barri
Kirschner, Charles Louis
Kleiner, Simon Bretzfelder
Kreider, David Albert
Kunkel, Berverly Waugh
Langley, Ralph Walker
Leib, David Deitch
Lewis, Howard Bishop Lewis, Howard Bishop Lockwood, Edwin Hoyt Longley, William Raymond Lockwood, Edwin Hoyt Longley, William Raymond Low, Albert Sheley Lull, Richard Swann Lyon, Charles Tyler MacCurdy, George Grant McClelland, James Farley McFarland, Boynton Wells MacNeish, Harris Franklin Marshall, William Crosby Mathewson Champion Herb Marshall, William Crosby
Mathewson, Champion Herbert
Mendel, Lafayette Benedict
Mendello, Anthony Joseph
Neal, Homer Chidsey
Nicolet, Ben Harry
Nichols, George Elwood
North, Herbert Brinkerhoff
Norton, John Pease
O'Brien, Thomas Augustine
Page, Leigh
Patterson, Robert Alexander
Peck, Harley T.
Perry, Clarence Curtiss
Petrunkevitch, Alexander Petrunkevitch, Alexander Petrunkevitch, Alexander Pierpont, James Pirsson, Louis Valentine Pitman, Frank Wesley Pilmpton, Samuel James Rettger, Leo Frederick Robertson, Heaton Ridgeway Roe, Joseph Wickham Rowland, Eustis Thacher Sanderson, James Cox Sanderson, James Cox Scarbrough, Marvin McRae Schaeffer Jacob Parsons Schuchert, Charles

NEW HAVEN—Continued
Scott, Charles Felton
Seward, Herbert Lee
Shepard, Norman Arthur
Shepard, William Kent
Smirnow, Max Ruskin
Smith, Percey Franklyn
Smith, Philip Augustus
Sperry, Roger Sherman
Stetson, George Albert Smith, Fining Augustus Sperry, Roger Sherman Stetson, George Albert Storrs, Lucius Seymour Sullivan, Jeremiah Barrett Suttie, Roscoe Henry Tarr, Leonard Merrill Tileston, Wilder Toumey, James William Tracy, John Clayton Troxell, Edward L. Uhler, Horace Scudder Underhill, Frank Pell Van Name, Ralph Gibbs Walden, Percy Taibot Ward, Freeman Waters, Everett Oyler Webster, Ernest Charles Westcott, Niles Wheeler, Henry Lord Wheeler, Lynde Phelps Whittemore, Edward Reed wneeler,Lynde Phelps
Whittemore, Edward Reed
Willard, Harley Richard
Williams, Merton Yarwood
Wilson, Wallace Alvin
Wing, Elihu Smith
Winton, Robert P.
Woodruff, Lorande Loss
Wright, William Josiah NEW LONDON Dimick, Chester Edward Melcer, Ralph Hill Smith, Henry DeWitt NORWALK Sandiford, Arthur NORWICH Gallaudet, Edson Fessenden Hubbard, James Lanman ORANGE Andrew, Irving Atwater PUTNAM Bullard, Marguerite Jane SHELTON Gordon, William Alexander SOUTH NORWALK Swartz, Charles Christian STAMFORD Embery, Albert Hamilton, Jr. Lockwood, Charles Davenport STORRS Currie, James Nimrod Jarvis, Chester Deacon Newton, Howard Douglas Thom, Charles SUFFIELD Spaulding, Ralph Edgar WALLINGFORD Marsh, Ralph Julian Green, Carl Emil Sperry, Leavenworth Porter WASHINGTON DEPOT Green, Carl Emil WATERBURY Bristol, William Henry Valentine, William Welton, Gertrude Webster Wilcox, Levi WATERTOWN

Martin, James Smith

## CONNECTICUT—Continued

WEST HAVEN Aimes, Hubert Hillary Sufferin Nason, Frank Lewis

WOODBURY Hitchcock, Henry Steadman

### DELAWARE

NEWARK
Cook, Melville Thruston
Hayward Harry
Houghton, Clinton Osborne
Reed, Raymond Clinton
WILMINGTON
Briggs, Henry Ward

WILMINGTON—Continued Clark, John Andrew Elliott, John Earl Heise, Walter Ferdinand Quayle, William Osborne Riley, William Hermon Thayer. Horace Holden. Jr.

## DISTRICT OF COLUMBIA

ASHINGTON
Albrecht, George Moritz
Anderson, Martin E.
Anderson, Robert Van Vleck
Ashley, George Hall
Ayres, Samuel Henry
Badger, Walter L.
Ballard, William Salisbury
Banks, Nathan
Bartsch, Paul
Bastin, Edson Sunderland
Bates, Frederick John
Benjamin, Marucs
Berg, William Nathan
Bergen, Harry Van der Veer
Billard, Charles Louis
Blair, Charles Louis
Blair, Charles Scofield
Bostrom, Carl Augustus
Boyer, Lawrence Ray
Brand, Charles John
Briggs, Clark Arthur
Brooks, Herbert Barton
Brown, Edgar
Brush, Warren David
Buell, Max Whitney
Bunzell, Herbert Horace
Burgess, George Kimball
Burton, Harry Edward
Butler, Bert S.
Calkins, Frank Cathcart
Caivert, William Robert
Cameron, Frank Kenneth
Capps, Stephen Reid, Jr.
Chamberlain, Edward Blanchard
Chapla, Theodore Sheffield
Charles, Vera Katharine
Chittenden, Alfred Knight
Clapp, Earle Hart
Clark, Burton William
Clark, William Alexander
Clawson, Arthur Brooks
Coblentz, William Meber
Coltman, Robert, Jr.
Conway, John Sebastian
Coville, Elisabeth Boynton
Coville, Frederick Vernon
Crittenden, Eugene Casson
Crumb, Samuel Ebb
Dana, Samuel Trask
Day, Arthur Louis
Dearing, Charles Thornton
Doran, James Maurice
Dunlap, Frederick Levy
Ellis, Arthur Jackson
England, William Harry
Evatt, Edward King
Everman, Barton Warren
Fahrenbach, John Henry
Fenner, Clarence Norman
Ferner, Roy Yalding
Field, Ethel Content
Flocken, Charles Frederick
Ford, Thomas Bartlett WASHINGTON

ASHINGTON—Continued
Francis, Edward
Frankin, Edward Curtis
Frary, Hobart Dickinson
Free, Edward Elway
Galloway, Beverly Thomas
Gehr, Ray Stewart
Gelwix, Daniel Edwin
Gore, Herbert Charles
Graves, Henry Solon
Gray, Arthur Wellington
Graybill, Harry Webster
Grow, Eugene Julus
Hale, William Worth
Hall, Maurice Crowther
Hall, Murice Cifford
Hammar, Alfredo Gottlieb
Hance, James Harold
Harper, Daniel Roberts, 3rd
Harrington, Guy Pirnbrake
Harrington, Guy Pirnbr WASHINGTON-Continued Jackman, Dean Morreau Jacobs, Cora Anna Jacobs, Cora Anna Jamieson, Clara Octavia Jannes Eldred Lewellyn Jenney, Walter Proctor Johnson, Edward Carl Katz, Frank James Kellerman, Karl Frederic Kenyon, Frederick Courtland Kern, Robert Russ Kindle, Edward Martin Kirk, Edwin Knopf, Adolph Lamb, George Newton Larsen, Esper Signius, Jr. Lindsey, Archibaid Lines, Edwin Fuller Lloyd, Edwin Russell McBride, Russell Smith

#### DISTRICT OF COLUMBIA-Continued

WASHINGTON—Continued
McCray, Arthur Howard
McCollum, Burton
MacDonald, Donald Francis
McMurran, Stockton Mosby
McIndoo, Norman Eugene
McWhorter, Charles Leonard
Marsden, Roger Dearborn
Marvin, Charles Frederick
Maxon, William Ralph
Meinzer, Oscar E.
Menge, George Albert
Metcalf, Haven
Michaelson, Joseph McConnechy
Miles, George F.
Miller, John Milton
Moffit, Fred Howard
Muhse, Effa (Funk)
Murphy, Louis Sutliffe
Nelson, James Allen
Nichols, Henry James
Noble, Levi Fatzinger
Northrop, John DeWolf
Norton, Jesse Baker
Nutting, Perley Gilman
Olmstead, Lewis Bertie
Pack, Robert Wallace
Packard, Roscoe Milliken
Palkin, Samuel
Palmer, Theodore Sherman
Patrick, George Edward
Parker, John Bernard
Peck, Caro Beth
Peck, William Argulus
Pemberton, Cyril E.
Pennington, Mary Engle
Phelps, Isaac King
Phillips, Everett Franklin
Pickford, Edward Ferguson
Pogue, Joseph Ezeklel, Jr.
Pool, Venus Worrell
Pollard, Willard Lacy
Potter, Alden Archibald
Preston, John Frederick
Prietst, Irwin G.
Pritchard, Fred J.
Rankin, George Atwater
Ransom, Brayton Howard Priest, İrwin G.
Pritchard, Fred J.
Rankin, George Atwater
Ransom, Brayton Howard
Ransome, Frederick Leslie
Ramsey, Henry John
Read, Effle Alberta
Reed, Paul Lyon
Reed, William John
Ritter, Gilbert Powers
Roark, Ruric Creegan
Roberts, John William

WASHINGTON-Continued Rogers, Gaillard Sherburne Russell, Bert Salant, William Russell, Bert
Salant, William
Sale, John Walter
Sampson, Arthur William
Saunders, De Alton
Schaller, Waldemar Theodore
Scheffer, Theopilus H.
Schreiner, Walter Red
Schultz, Alfred Reginald
Shantz, Homer Leroy
Shaw, Eugene Wesley
Shaw, Roscoe Hart
Shear, Cornelius Lott
Shepherd, Ernest Stanley
Smith, Charles Meldrum
Smith, Harry Scott
Smith, Seward Dwight
Smodgrass, Robert Evans smith, Seward Dwight
Snodgrass, Robert Evans
Sosman, Robert Browning
Spencer, Arthur Coe
Stedman, John Moore
Sterrett, Douglas Bovard
Steubenrauch, Arnoid Valentine
Stinchfield, Ray Lewis
Stratton, Samuel Wesley
Sullivan, Michael Xavier
Taher, Walter Co Stinchneld, Hay Lewis
Stratton, Samuel Wesley
Sullivan, Michael Xavier
Taber, Walter Cox
Thelen, Rolf
Thompson, William Robin
Tillotson, Claude Raymond
Tolman, Luclus Moody
Tullar, Charles Edward
Turrentine, John William
Umpleby, Joseph Bertram
Vedder, Edward Bright
Vickery, Roy Albion
Wallace, Errett
Weber, Frederick Clarence
Weed, Alfred Cleveland
Weibel, Ernest Edward
Wenner, Frank
Wesson, Laurence Goddard
White, Gershom Franklin
White, Walter Porter
Wight, William Franklin
Williams, Gardner Fred
Willis Railey Williams, Gardner Fred Willis, Bailey Willis, Balley Woglum, Russell Sage Wood, Herbert Spencer Wood, Neal Naramore Woodwarf, Elmer Grant Woodward, Robert Simpson Woodward, Tom Elwyn Zook, Leslie Lewis

FORT BARRANCAS
Colton, Roger Baldwin
GAINESVILLE
Benton, John Robert
Berger, Edward William
Collison, Stanley Edgar
Keppel, Herbert Govert
MARATHON
Carter, Richard William

ORLANDO Edwards, Gaston Holcombe

ATHENS
Landess, William M.
Pond, Robert Spencer
Reade, John Moore
ATLANTA
Block, Edward Bates

FLORIDA

PENSACOLA
Walter, Albert Gustave
ST. AUGUSTINE
Rohrbaugh, James Madison
TALLAHASSEE
Sellards, Elias Howard
WEST PALM BEACH
Adams, Hanford Curtis
WINTER PARK
Barney, Ida

#### GEORGIA

ATLANTA—Continued
Boggs, Gilbert Hillhouse
Childs, Leroy William
Coon, John Sayler
Grant, Justin Frank
Porter, Fred Baker

#### GEORGIA—Continued

ATLANTA—Continued Robeson, George Chapin Smith, Francis Palmer Spooner, Charles Stockman Van Haagen, Walter Kurt Wright, Winthrop Robins

AUGUSTA Cutter, William Dick

JEKYL ISLAND McClure, Roy Donaldson

MACON Carver, Gail Luke Lawrence, Frank Elmaker

SAVANNAH Corson, Eugene Rollin Gaines, Frederic Freelinghuyson Neal, George Alfred, Jr.

#### IDAHO

BOISE Baldwin, George Clyde Day, Warren French Fuller, Lucius B.

COEUR d'ALENE Bruce, Donald FEATHERVILLE Bass, William Carroll

GRACE Ekern, Emil Alfred IRVING FALLS Large, Thomas

KELLOGG Easton, Stanley Alexander Hofer, Fred Miller

MOSCOW SCOW Aldrich, John Martin Barrows, Dessie Brown Robertson Barrows, Frank Lee Childers, Lucius Franklin Ende, Carl Leopola von MOSCOW—Continued Gurney, Laurence Emery Kostalek, John Anton Shattuck, Charles Houston Stewart, Charles Arthur

MULLAN Dwyer, Charles Eustace NAMPA Shinn, James Ricketts

PUCATELLO Henderson, Henrietta RICHFIELD

McConnell, Ira Welch

STAR Naugle, Johnson Edward ST. MARIES Clarke, Charles Patrick Spaulding, Thomas Claude

WALLACE Morris, William West

#### ILLINOIS

CHICAGO—Continued
Avery, Andrew Ordell
Bach, Irwin Woodward
Barnard, Edith Ethel
Barrows, Harlan Harland
Bartelmez, George William
Beattie, Harold Mairs
Becker, Donald Neil
Bedford, Fred William
Bensley, Robert Russell
Benson, Robert Louis
Bentley, Wilton
Bessey, Carl Athearn
Bishop, Edwin Sherwood
Bliss, Gilbert Ames
Blount, Mary
Boardman, Harry Clow
Boctan, Edward Emanuel
Bolme, Ole Martin
Bond, Perry Avery
Boyden, Henry Blakeslee
Breckinridge, William Lewis
Brill, George Mackenzie
Brockway, Alvah E.
Brokaw, Albert Dudley
Brundage, Avery
Bruner, Frank G.
Buchanan, John Lee
Burnham, William Allds
Cady, Gilbert Haven
Caldwell, Joseph Stuart
Caldwell, Joseph Stuart
Caldwell, Will Carleton
Carlson, Anton Julius
Carpenter, Ciliford Daniel
Carpenter, Ciliford Daniel
Carpenter, Ciliford Daniel
Carpenter, Clifford Daniel

ABINGDON Mansfield, Warren Moore ARMSTRONG Dewey, James Ansel AURORA Zeleny, Frank BLOOMINGTON Homberger, Alfred Wilhelm Stillhamer, Arthur Grant CANTON Lloyd, Robert Clinton CARBONDALE Gilbert, John Philo CHAMPAIGN AMPAIGN
Collier, John S.
Earnest, William Watson
Ernest, Thomas Reuben
Ludwig, Edward Roy
MacGillivray, Alexander Dyer
Miller, Wilford Stanton
Morley, Raymond Kurtz
Noerenberg, Clarence Eugene CHARLESTON Trauseau, Edgar Nelson CHATSWORTH Stanford, Howard Russell CHICAGO ICAGO
Abbott, William Lamont
Adams, Everette Eugene
Alcock, Nathaniel G.
Allee, Warder Clyde
Allen, George D.
Allyn, Harriett M.
Anderson, Ernest
Angell, James Rowland
Atkins, Kenneth Noel
Atwood, Wallace Walter
Atwood, Winfred McKenzle

CHICAGO—Continued
Chamberlin, Thomas Chrowder
Charlton, Cecil Floyd
Chase, Martin Rist
Child, Charles Manning
Chittenden, Edward Wilson
Clapp, Grace Lucretla
Clifford, Oliver Charles
Clutton, Effie Virginia Fixen
(Clutton, Mrs. Fred H.)
Cook, William George
Cooper, William S.
Copeland, Lyman Francis
Corper, Harry John
Coulter, John Merle
Cowdry, Edmund Vincent
Cowles, Henry Chandler
Crocker, William
Curme, George O., Jr.
Curtis, Leigh G.
Dalstrom, Oscar Frederick
Davis, Benjamin Franklin
Davis, David John
Day, William Asher
Debler, Bruno Erdman
Decker, Charles Elljah
Dick, George F.
Dines, Lloyd Lyne
Dirks, Henry Bernhard
Donnelly, Leonard G.
Dorsey, George Amos
Doubt, Thomas Eaton
Drake, William Allen
Dray, Walter Remy
Drennan, Fred Miller
Dunn, Elizabeth Hopkins
Eckerson, Sophia H.
Emerson, Clarence
Emmons, William Harvey
Englund, Carl Robert
Estep, Harvey Cole
Farrington, Oliver Cummings
Fenner, Robert Coyner
Fernald, Mabel Ruth
Files, Ellery Knapton
Flammer, Ernest
Fletcher, Harvey
Freeman, Frank Nugent
Freud, Benjamin Ball
Fuller, George Damon
Gale, Henry Gordon
Gardner, Bradley Charles
Gasche, Ferd Guy
Gatewood, Lee Connel
Gilbert, John Joseph
Glattfeld, John W. E.
Glenn, Thomas Haigh
Goottsch, Jullus
Gohen, Robert Harold
Goode, John Paul
Goodman, Herbert Marcus
Grandy, Charles
Graver, Alexander MacDonald
Greenman, Jesse More
Grif, James Richard
Grigsby, Harry Davett
Gustafson, John Christopher Greenman, Jesse More
Greir, James Richard
Grigsby, Harry Davett
Gustafson, John Christopher
Haeffner, John George
Hagenow, Charles Frederick
Hall, Ernest M.
Hall, Winfield Scott
Hamburger, Walter Wile
Hanley, James Thomas
Harris, Norman MacLeod
Harvey, Basil Coleman Hyatt
Hayes, Joseph William
Hayes, Joseph William
Hayes, Mary Holmes Stevens
Heinemann, Paul Gustav
Hektoen, Ludvig Hektoen, Ludvig

CHICAGO—Continued Hemenway, Ansel Francis
Hemenway, Ansel Francis
Hemmer, Emil John
Hennings, Albert Edward
Henry, Gladys R.
Herrick, Charles Judson
Hess, Charles L. von
Hibbard, Faul Llewellyn
Hill, Bruce Vickroy
Hill, Charles
Hilnert Wills Stoce Hill, Charles
Hilpert, Willis Stose
Hilton, Hugh Gerald
Hinds, Henry
Hinkle, Edgar Clayton
Hobbs, Glenn Moody
Hobbs, Raymond Mason
Hobert, Stephen Galusha
Hogan, Edward Lawrence
Holmes, Harriet F.
Holsinger, Lloyd Holmes, Harriet F,
Holsinger, Iloyd
Hosken, Raymond Barclay
Houts, Guy Joseph
Howatt, John
Hunter, Walter Samuel
Ingberg, Simon
Ireland, Roy Rowell
Irons, Ernest Edward
Jackson, Reginald
Jackson Clara Jackson, Reginald
Jacobson, Clara
Jacobson, Edmund
Jasper, Thomas McLean
Jensen, George Leonard
Johnston, Oscar Perry
Jones, Walter Everett
Jordan, Edwin Oakes
Judd, Charles Hubbard
Keil, Raymond Humphrey
Kelley, Alfred Allen
Kildahl, Nielsine Johanna
Kinsley, Carl
Kirk, Edwin Garvey
Klein, Sidney Kirk, Edwin Garvey Klein, Sidney Knight, Lee Irving Koch, Edward William Koch, Fred Conrad Kotz, Raymond Castle Kotz, Raymond Carl Kramer, Raymond Carl Kyes, Preston Land, William Jesse Goad Lando, Maximillian Nandor Laves, Kurt Laves, Kurt
Lawrie, James Wright
LeCount, Edwin Raymond
Lee, John Yiubong
Lee, O. J.
Leffingwell, Ernest DeKoven
Lemon Harroy Proces Lee, O. J.
Leffingwell, Ernest DeKov
Lemon, Harvey Brace
Lewald, Arthur Maurice
Lewis, Albert Buell
Lewis, Frederick B.
Lillie, Frank Rattray
Lingle, David Judson
Llewellyn, Ralph Corson
Lloyd, Morton Githens
Long, John Harper
Lord, Arthur Russell
Lucas, Howard Johnson
Luckhardt, Arno Benedict
Ludlow, Justin Wyman
Lunn, Arthur Constant
Lussky, Herbert O.
Lyman, James
McArthur, Selim Walker
McCarn, Burtis Barton
McClellan, John Hancock
McCormick, Florence A.
McCoy, Herbert Newby
McDonald, Lewis
McIndoo, Norman Eugene

ILLINO

IICAGO—Continued
McKibben, Paul Stillwell
McMillan, Eugene Campbell
MacMillan, William Duncan
McWayne, Albert
Magnuson, Paul Budd
Mann, Charles Riborg
Martin, Arsella Bessie
Masters, Frank Harris
Mathews, Samuel Alexander
Mayo, Alfred David
Mead, Lucy Winifred (Brant)
(Mead, Mrs. James)
Meek, Seth Eugene
Menzles, Alan Wilfrid Cranbrook
Michelson, Albert Abraham
Millikan, Robert Andrews
Millspaugh, Charles Frederic
Mitchell, James Herbert
Mitchell, James Herbert
Mitchell, James Herbert
Mitchell, John Dickson
Monore, Walter Scott
Moody, Howard Wilson
Moon, Virgil Holland
Moore, Ellakim Hastings
Moore, John Colin
Motl, Charles Leo
Moulton, Forest Ray
Myers, George William
Myrick, George Harold
Nef, John Ulric
Nekola, John Wenceslaus
Newman, Horatio Hackett
Nissen, Charles Matthias
Nitz, Ingo Charles
North, Henry Archibald
Osborne, Raymond William
Osgood, Wilfred Hudson
Osthoff, Otto Ernest
Parsons, Charles Wesley Darwin
Patterson, James
Payne, Harold Gould
Pennock, Edward M.
Perrin, Flemming Allen Clay
Peterson, Andrew Peter
Peterson, Andrew Peter
Peterson, William Arnold
Pettet, Roswell Talmadge
Pfeiffer, Norma Etta
Pfe CHICAGO—Continued Raymond, Miner Rech, Gilbert Henry Andrew Rech, Gilbert Henry Andres Retzer, Robert Remon, John Allen Renner, Edwin Theodore Rice, Arthur Louis Richmond, Joseph Riddle, Oscar Riggs, Elmer Samuel Robinson, Ward Reid Royse, Daniel Sailor, Robert Warren Salisbury, Rollin D. Sanderson, Mildred Lenora Sauer, Carl Ortwin Sawyer, George Pillsbury

CHICAGO—Continued
Schlesinger, Hermann Irving
Schnable, George L.
Scholes, Daniel Ransom
Schoenover, William Leroy
Schweitzer, Arthur Richard
Selbel, Charles William
Sharp, Lester Whyland
Shelford, Victor Ernest
Shrader, Frank Kay
Simmons, Harold Hoyt
Simpson, Burton Jesse
Simpson, Howard Sard
Sinclair, John George
Slaught, Herbert Ellsworth
Slye, Maud
Smith, Arthur Bessey
Smith, Burke
Smith, Herbert Ellsworth
Slye, Maud
Smith, Arthur Bessey
Smith, Burke
Smith, Harold Melvin
Starit, Jacob Leander
Stair, Leslie Dalrymple
Stanford, Harold Melvin
Starr, Frederick
Starr, Anna Morse
Stein, Milton Frederick
Stephenson, Joseph Clark
Stieglitz, Julius
Stoland, Ole O.
Storey, William Benson
Strong, Reuben Myron
Swerr, Percy Weston
Swift, Charles Henry
Tashiro, Shiro
Taylor, John Orlo
Terry, Ethel M.
Tibbals, Charles Austin, Jr.
Todd, David Duke
Towne, Walter James
Treichel, Henry George
Trumbull, Harlan Leo
Udden, John Andrews
Van Dervort, Jameson
Vincent, Stella B.
Viol, Charles Herman
Walker, Sidney, Jr.
Walledom, Jesse Jacobson
Webster, Ralph Waldo
Weller, Stuart
Wells, Harry Gideon
Wheeler, Herbert Merrill
Wilbur, J. Ralph
Wilcox, Burton B.
Wilczynski, Ernest Julius
Williams, Fred Mortimer
Willis Bernard Darwin
Willson, Bamuel Wendell
Wilson, Herrick East
Wilson, John Gordon
Winton, Andrew Lincoln
Woelfel, Albert
Woodyatt, Rollin Turner
Worstall, Robert Arthur
Young, Mary Sophie
Zeit, Frederic Robert
Zoethout, William Douwes

CHICAGO HEIGHTS
Gilbert, Newell Clark
Taylor, Harold George

CICERO Morris, Verle Weaver

CRYSTAL LAKE Dike, Charles F., Jr.

DANVILLE Cooke, Allen Burton James, Charles Austin

DECATUR Eckhard, George Frederick Hessler, John Charles Neustadt, George Auerbach Putnam, William James

DEKALB Smith, Paul Ardell Wager, Ralph Edmond Wood, Henry Clay

DUQUOIN Gibson, John Chester

EAST MOLINE Strombec, George Mauritz

ELBURN Elden, Ralph Waldo

Mathewson, John Warne EVANSTON ANSTON
Atwell, Charles Beach
Basquin, Olin Hanson
Bauer, William Charles
Burger, William H.
Butler, Susan Farley (Rolfe)
(Mrs Horace Graham Butler)
Coghill, William Hawes
Crew, Henry
Curtiss David Baymond Curtiss, David Raymond Decker, Charles Elljah Fox, Philip Gault, Robert Harvey Glbson, W. Stanley Grant, Ulysses Sherman Hargitt, George Thomas Harrist, Abram Winegardner Harper, Eugene Howard Hayford, John Fillmore Hennessey, Enid Hines, Murray Arnold Holgate, Thomas Franklin Holsinger, Lloyd Irish, Leland Wesley Jensen, Gerhard Hemming Lewis, Winford Lee Locy, William Albert Mansfield, George Rogers Curtiss, David Raymond Decker, Charles Elijah Lewis, Winford Lee
Locy, William Albert
Mansfield, George Rogers
Mead, Charles Searing
Merritt, John Wesley
Moore, Robert Lee
Morehead, James Caddall
Rolfe, Susan Farley
Shaw, Leon Irwin
Stanford, Mary (Olson)
(Mrs. H. M. Stanford)
Tatnall, Robert Richard
Tracy, Henry Carroll
Weld, Lewis Hart
Wilson, Robert Edward
Woodburn, William Logan
Young, Abram Van Eps
LENA

GALENA Bench, Alfred Rittscher GALESBURG

Wells, Bertram Whittier Wilson, Arthur John

GENEVA Bridgman, Olga Louise GREENVILLE

Ernsberger, Iva Belle GLENARM

Stout, Frank Lewis van Pappelendam, Bernard Carlyle HERSMAN

Hersman, Francis Craig HIGHLAND Latzer, Robert Louis HINSDALE

Van Inwagen, Frank

HOSPITAL Wussow, August Frank Daniel HOWARD

Way, Cassius JACKSONVILLE Brown, James KANKAKEE

Baer, J. L.

KENILWORTH Hildebrand, Louis Ernest

KEWANEE Crosby, Clifford Manning, Florence Leland

LA GRANGE Danner, Jake Mitchell, Herbert Cossitt Sullivan, Ellen Theresa Thomas, Emma Jane

LAKE FOREST Betten, Cornelius Clawson, Arthur Brooks Rendtorff, Edward J.

LA MOILLE Decker, Carl Henry LAWRENCEVILLE

Robinson, Howard Needham MOLINE

Mixter, George Webber MONMOUTH Fox, Harry Bert

MONTROSE Spitler, John Clyde

MORTON PARK Van Brunt, George Athol

NEW MEMPHIS Bopp, Julius Valentine NEW WINDSOR Coleman, Clyde Bestor

NORMAL Barker, George A.
Madden, Irwin Arthur
Peterson, Harvey Andrew
Pricer, John Lossen
NORRIS CITY

Hoskins, Ezekiel Edward

OAK HILL Bartlett, Roland Miller

OAK PARK Ripley, Charles Trescott Talbot, Kenneth Hammett Thalman, Joseph Luther Weckel, Ada Louise

ORION Jordan, Lura Elizabeth (Parsons) (Mrs Erwin B. Jordan)

OTTAWA Sherwood, Frederick Augustus

PEORIA Ashman, George Cromwell Hight, Eugene Stewart

PIPER CITY Oathout, Charles Hubert RIVERSIDE

Craft, Francis Marion

ROCKFORD Castro, Matilde
Day, Dudley Watson
Marshall, Ruth
Robinson, Charles Jason
Scott, Lee Osborne
Weld, Edward Howland

ROCK ISLAND
Birdsall, Lewis Isaac
Cederberg, William Emanuel
Hazard, Lee Herbert
Magnusson, John Peter

Johnson, William Chance McClenahan, William Thompson

SOUTH HOLLAND Gouwens, Cornelius

SPRINGFIELD RINGFIELD
Burch, George Francis
Center, Orlo Dorr
Crook, Alja Robinson
Ide, Francis Pierce
Kinnear, Theron James
Lanphier, Robert Carr
Patton, Charles Lanphier
Peters, Albert Theodore
Roman, Frank Louis

STERLING Deets, Ralph Emerson

SYCAMORE
Pond, Ethel Claire
Stephens, Herbert Coles

Fond, Ethel Claire
Stephens, Herbert Coles
EBANA
Abrams, Duff Andrew
Adams, Charles Christopher
Anderson, Arvid Robert
Anderson, Henry W.
Anderson, Samuel Herbert
Arps, George Frederick
Aumer, Joseph Paul
Bagley, Florence (Winger)
(Mrs. William Chandler Bagley)
Bagley, William Chandler
Baley, Ernest Winfield
Baker, Ira Osborn
Balke, Clarence William
Barrett, James Theophilus
Bartow, Edward
Bates, Stuart Jeffrey
Baxter, Florence Gabrielle
Bayley, William Shirley
Beal, George Denton
Becht, Frank Christian
Bell, James Edgar
Bennett, Claudius Edmund
Bennett, Elizabeth Ruth
Berg, Ernst Julius
Bevier, Isabel
Blair, Joseph Cullen
Blatchley, Raymond Silliman
Bleininger, Albert Victor
Borger, Robert Lacey
Brand, Herbert Amery
Brand, Herbert Amery
Brand, Royden Earl
Briscoe, Charles F.
Brooks, Morgan
Brown, Briggs Odd
Bryant, John Myron
Burgess, Laurie Lorne
Burgess, Paul Steere
Burres, Opal
Burrill, Thomas Jonathan
Buyers, Archie Stanton
Cady, Gilbert Haven
Carpenter, Frederic Walton
Coffey, Walter Castella
Colvin, Stephen Sheldon
Crandall, Charles Spencer
Crathorne, Arthur Robert
Curtiss, Richard Sydney
Davenport, Eugene
Denton, William Wells
Derick, Clarence George URBANA Davenport, Eugene Denton, William Wells Derick, Clarence George DeWolf, Frank Walbridge Dietrich, William

URBANA—Continued
Douthitt, Herman
Dufour, Frank Oliver
Eells, Willard Clark
Ekblaw, Walter Elmer
Emch, Arnold
Emmett, Arthur Donaldson
Enger, Melvin Lorenius
Farwell, Stanley Prince
Fisher, Forest Addison
Foote, Francis Seeley, Jr.
Forbes, Stephen Alfred
Fraser Wilbur John
Gaines, Walter Lee
Glasgow, Hugh
Glasgow, Hugh
Glasgow, Hugh
Glasgow, Hugh
Glasgow, Harry Frederick
Goldthwaite, Nellie Esther
Gonnerman, Harrison Frederick
Goodenough, George Alfred
Goss, William Freeman Myrick
Gray, Daniel Thomas
Grindley, Harry Sands
Gustafson, Axel Ferdinand
Hall, Louis Dixon
Hart, Charles Arthur
Hawden, Cassius Clay
Hegnauer, Leonard
Hepburn, Nelson William Hart, Charles Arthur Hawk, Philip Bovier Hayden, Cassius Clay Hegnauer, Leonard Hepburn, Nelson William Hirsch, Edwin Fred Hoffman, Paul Alexander Hopkins, Cyril George Hornbeak, John Wesley Hottes, Charles Frederick Houston, Harold Allen Isham, Helen Jesse, Richard Henry, Jr. Kamm, Oliver Kerr, Josephine Elirod Kircher, Paul Knipp, Charles Tobias Kratz, Alonzo Plumsted Leutwiler, Oscar Adolph Lincoln, Francis Church Lloyd, John William Love, Robert James Lytle, Ernest Barnes MacGillvray, Alexander Dyer MacInnes, Duncan Arthur McCarthy, Ellen S. McDonald, Elmer Massey McEwen, George Francis McFarland, David Ford Marquis, Franklin Wales Mason, Mayne Seguine Miller, George Abram Miller, Renylord Hanson Moore, Herbert Fisher Morley, Raymond Kurtz Noyes, William Albert Oberdorfer, Henry Dickson Patine, Ellery Burton Parr, Samuel Wilson Petttt, James Harvey Readhimer, Jerome Edward Reed, Frank Walker Rich, John Lyon Richards, Robert Earl Rickards, Burt Ransom Richards, Charles Russ Richardson, Robert Earl Rickards, Burt Ransom

URBANA—Continued
Ricker, Ethel
Ricker, Ethel
Ricker, Nathan Clifford
Rietz, Henry Lewis
Rolfe, Charles Wesley
Rusk, Henry Perly
Rutledge, George
Savage, Thomas Edmund
Schmidt, Edward Charles
Schulz, William Frederick
Shattuck, Samuel Walker
Shaw, Eugene Wesley
Shaw, James Byrnie
Shook, Glenn Alfred
Sisam, Charles Herschel
Slater, Willis Appleford
Smith, Frank
Smith, George McPhail
Smith, George McPhail
Smith, George McPhail
Smith, Louie Henry
Snodgrass, John McBeath
Stebbins, Joel
Stewart, Harold Wilson
Stoek, Harry Harkness
Stouffer, Ellis Bagley
Strachan, Earl Kenneth
Stromquist, Walter Gottfried
Stull, Ray Thomas
Sutherland, Arthur Howard
Talbot, Arthur Newell
Taylor, Thomas Smith
Thorpe, John Charles

ANDERSON Tucker, William Motier

URBANA—Continued
Townsend, Edgar Jerome
Van Cleave, Harley Jones
Wahlin, Gustaf Eric
Ward, Henry Baldwin
Washburn, Edward Wight
Watson, Floyd Rowe
Welch, Paul Smith
Wells, Newton Alonzo
White, James McLaren
Wiley, Carroll Carson
Williams, Elmer Howard
Windsor, Margaret Boynton
Yensen, Trygve D.
Zeleny, Charles
WESTERN SPRINGS
Patterson, Harriet (Wales) URBANA—Continued

Patterson, Harriet (Wales) (Mrs. E. C. Patterson) Willard, Stephen Franklin

WEST YORK Bell, Rodney Linton WHEATON

Christman, Laura Ethel WILMETTE Morrison, Guy Burl

WINNEBAGO Parsons, George WINTHROP HARBOR Utley, Jay DeWitt

## INDIANA

OOMINGTON
Alburger, Henry Rihl
Andrews, Frank Marion
Andrews, Marie Opperman
Beede, Joshua William
Bryan, William Lowe
Carmichael, Robert Daniel
Cogshall, Wilbur Adelman
Cumings, Edgar Roscoe
Davisson, Schuyler Colfax
Drew, David Abbott
Dutcher, John Benjamin
Eigenmann, Carl H.
Eigenmann, Carl H.
Eigenmann, Carl H.
Eigenmann, Carl H.
Eigenmann, Wary Telepenter, Melvin Everett
Hanna, Ulysses Sherman
Harman, Mary Theresa
Hufford, Mason Edward
Lee, Ira Elver
Lindley, Ernest Hiram
Lyons, Robert Edward
MacDill, Leslie
Martin, John N.
Mason, Thomas Edward
Mathers, Frank Curry
May, Clarence Earl
Moenkhaus, William J.
Mottier, David Myers
Myers, Burton Dorr
Ness, Alpheus Russel
Payne, Fernandus
Pohlman, Augustus Grote
Ramsey, Rolla Roy
Rothrock, David Andrew
Scott, Will
Van Hook, James M. BLOOMINGTON

BLUFFTON Williamson, Edward Bruce

BRISTOL Bordner, John Serenus CRAWFORDSVILLE Bodine, Donaldson Chapman, Edgar K. Reddick, Guy A. Thomas, Mason Blanchard EVANSVILLE Brooks, William Conrad FORT WAYNE
Graham, Fred Milo
Krueper, Harry Joseph
Mead, Franklin Bush
Stone, Thomas Wade Wagner, Edward Andrew

GARY Elm, Evar Emanuel McNamee, Lawrence Ross Wheeler, Arthur Wayne

HANOVER Boyd, Paul Prentice INDIANAPOLIS

DIANAPOLIS
Alburger, Henry Rihl
Blatchley, Willis Stanley
Brown, Charles Carroll
Gard, Russell Tyner
Hollis, Frederick Stearns
Kime, Virgil Morrison
Lewis, Otto L.
McMeans, Orange Edward
Shipp, Augustus Clyde
Simons, Etoile Bessie
Torian, Oscar Noel
EFERSONVILLE

JEFFERSONVILLE Willoughby, Levi Philip Ray

KEMPTON Holmes, Major Edward Warren, Joseph Allen

KOUTS Warren, Joseph Allen LAFAYETTE Arthur, Joseph Charles Baker, Linnaeus Earl

### INDIANA-Continued

LAFAYETTE—Continued
Benjamin, Charles Henry
Bill, Earl Gordon
Breeze, Frederick John
Burrage, Severance
Caswell, Albert Edward
Coulter, Stanley
Craig, Robert Alexander
Dukes, Richard Gustavus
Duncan, David Christie
Edmonson, John Benjamir Dukës, Richard Gustavus Duncan, David Christie Edmonson, John Benjamin Esterline, John Walter Evans, Percy Norton Ferry, Ervin Sidney Fitch, Mary Alida Fuller, Frederick Driggs Golden, Michael Joseph Goss, Arthur Harding, Charles Francis Harrison, Oliver Morton Hatt, William Kendrick Hewit, Benjamin Hartley Hoffman, James David Hunziker, Otto Fred Johnson, Arden R. Jones, William James, Jr. Kenyon, Alfred Monroe Kern, Frank Dunn Knapp, Willard Alfred Marshall, William McCarthy, Charles Stephen Middleton, Arthur Renwick Mitchell, Elizabeth Moore, Charles Ruby Oskant, Joseph Poorman, Alfred Peter Pipal, Francis John Price, Melvin Poorman, Alfred Peter Pipal, Francis John Price, Melvin Pumphrey, Ray Edgar Roberts, Paul Linch Rowell, Lewis Dow Sackett, Robert Lemuel Scofield, Herbert Henry Skinner, John Harrison Smalley, Harold Ryland Smith, Albert Smith, Charles Marquis Spitzer, George Spitzer, George Stone, Winthrop Ellsworth Terry, Oliver Perkins Topping, Alanson Niles

LAFAYETTE—Continued
Wainwright, Guy Alwyn
Westlund, Jacob
Weeks, Luther Cornelius
Wiancko, Alfred Theodor
Wiley, Ralph Benjamin
Woodbury, Charles Goodrich
Young, Gilbert Amos LINTON Haseman, Joseph Henry LOGANSPORT Geer, Isaac Wheeler Hesler, Robert MARION Bell, George Alfred, Jr. MISHAWAKA MacLean, Wilber Marshall Whittelsey, Theodore OWENSVILLE Thompson, Albert Warrick RICHMOND Hayes, Stanley Wolcott Hole, Allen David Mendenhall, William Orville Ross, Louis Francisco SOUTH BEND Edmonson, Oscar Norton Hitchcock, Walter Andrew Kephart, George Eaton TERRE HAUTE HRE HAUTE Hathaway, Arthur Stafford Hyde, Roscoe Raymond Knipmeyer, Clarence Carl Reckert, Frederick Carl Thomas, Harold Allen White, John VINCENNES

Brown, Simpson Leroy WABASH

Kracke, Ella W. WEST LAFAYETTE Knapp, Willard Alfred Mitchell, Elisabeth

WEST RICHMOND Gano, Laura WHITING Wolf, John Emerson

#### IOWA

BURLINGTON Leopold, Carl Starker Scholz, Herman Albert Witte, John Henry

CEDAR FALLS Kadesch, William Henry Mount, George Haines

CEDAR RAPIDS Brocksmith, John Cornelius Edinger, Paul Frederick Ivins, Harry Morgan Weld, LeRoy Dougherty

CENTERVILLE Adams, Joseph Quincy Robertson, Charles Adolph

COUNCIL BLUFFS
Mead, Lucy Winifred (Brant)
(Mrs. James Mead)

CRESCO Buckley, Grace Emma De Voe, Philip Kirby

DAVENPORT
Andrews, Launcelot Winchester Andrews, Launcelot Barr, William Milton

Straight, Halver Rufus

Buchanan, Robert Earle
Burnett, Esther Pearl (Hensel)
(Mrs. L. C. Burnett)
Colpitts, Julia Trueman
Coover, Forrest Winfred
Davidson, Jay Brownlee
Dox, Arthur Wayland
Evvard, John Marcus
Fish, Fred Alan
Ford, Howard Carlton
Ford, Howard Carlton
Fowler, Chester Charles
Guthrie, Joseph Edward
Hammer, Bernard Wernick
Hughes, Harold DeMott
Major, Charles Curtis
Marstin, Anson
Shane, Adolph
Shedd, Claude Kedzie
Summers, Henry Elijah AMES Summers, Henry Elijah Williams, Ira Abraham

ATLANTIC Aschenbrenner, Kathryn Theiss

#### IOWA—Continued

DAVENPORT—Continued Decker, George Edward Hill, Norman Haden Nabstedt, Arthur Theodore Watzek, Charles Harlan

DES MOINES IS MOINES
Beer, Paul
Berryhill, James Guest, Jr.
Crellin, Edward Webster
Hartupee, Harvey Wilfred
Lees, James Henry
Partch, Clarence Elmar
Posner, Edward R.
Richardson, Florence Ella

DYSART Jensen, Frank Thomas

FAIRFIELD Putnam, Karl Sobieski

GRINNELL
Conard, Henry Shoemaker
Norris, Harry Waldo
Norsworthy, Leonard D.
Swisher, Charles Lee

HAWARDEN Stone, Merle Rufus

HITEMAN Seidel, Earl Reinholdt

INDEPENDENCE Roney, Katherine

Roney, Katherine

IOWA CITY
Albert, Henry
Alexander, Clive Morris
Baker, Richard Philip
Brown, Fay Cluff
Cox, Arthur John
Cronin, Sarah Elizabeth
Dow, Edwin Arthur
Farr, Clifford Harrison
Fleming, Burton Percival
Ford, Arthur Hillyer
Fraser, Charles McLean
Glddings, Levi Alexander
Hayden, Beulah
Higbee, Frederick Goodson
Houser, Gilbert Logan
Howard, Campbell Palmer
Jepson, William
Karslake, William Jay
Kay, George Frederick
Knupp, Noah D.
Kuntz, Albert
Lambert, Byron James
Lambert, John Joseph
Macbride, Thomas Huston
Merrill, Dayton Eugene
Miles, Walter Richard

Macbridé, Thomas Huston Merrill, Dayton Eugene Miles, Walter Richard Moore, Fred Nutting, Charles Cleveland Pearce, James Newton Prentiss, Henry James Puckett, Ralph Clarkson Raymond, William Galt Reilly, John Franklin Rigler, Edith Gertrude Rockwood, Elbert William Seashore, Carl Emil

BALDWIN Porterfield, Roy Albert Randall, David Lindsey

BLUE RAPIDS Bartholow, Edmond Montgomery

BRADFORD Willard, Charles Julius

IOWA CITY—Continued Secrest, Charles Mahlon Shimek, Bohumil Shimek, Ella Shimek, Ella
Sieg, Lee Paul
Smith, Arthur George
Smith, Franklin Orion
Stewart, George Walter
Stoner, Dayton
Stromsten, Frank Albert
Stromsten, Minerva (Swaney)
(Mrs. Frank A. Stromsten)
Thomas, Abram Owen
Truman, Orley Hosmer
Uhde. Irma Augusta Truman, Orley Hosmer Uhde, Irma Augusta Van Epps, Clarence Van Tuyl, Francis Maurice Weld, Laenas Gifford Wickham, Henry Frederick Williams, Mabel Claire Woodward, Sherman Melville Wylie, Robert Bradford Yocum, Alike Emily Young, Frederick Charles Yule, Mildred Rebecca

KEOKUK Ketcham, Valentine Odell Kornfeld, Harry Schweier, Arthur

LAKEFIELD Brauch, Emma Beth (Achenbach) (Mrs. E. B. Brauch)

MASON CITY Albert, Frederick MUSCATINE Gardiner, Charles Rockwell OSAGE

Crum, Lilah B. OTTUMWA Taylor, Maud Estella PETERSON

Butler, Hortense

PRAIRIEBURG Wilkinson, Mary Louise (Woods) (Mrs. Levi Wilkinson)

SIOUX CITY
Beck, William Edmund
McCarty, Lawrence Justin
McClintock, Calvin Terry
Stephens, Thomas Calderwood Stiles, Harold

TABOR Jewell, Susan Grace

TAINTOR Ryan, John Gaston TOLEDO

Kenoyer, Leslie Alva WASHINGTON Churchill, Edward Perry

WATERLOO Burt, Austin

WESTGATE Wente, Edward Christopher

#### KANSAS

CLAY CENTER Stough, Howard

EMPORIA Agrelius, Frank Ulysses Grant Lowther, Lloyd Alonzo

FORT LEAVENWORTH Chubb, Wistar Morris Gibbs, George Sabin

## KANSAS-Continued

HAVILAND Fisher, Effie (Pyle)

HOLTON Hunter, Madone Carington

HUMBOLDT Byerley, Mable Rowena (Davis) (Mrs. W. A. Byerley)

INDEPENDENCE Frichot, Bert Charles

KANSAS CITY Greene, Marie Anna Hodge, John Alfred Thompson, Martha Alice White, Edward Ambrose

WRENCE
Allen, Herman Camp
Ashton, Charles Hamilton
Bailey, Edgar Henry Summerfield
Barber, Marshall Albert
Baumgartner, William Jacob
Billings, Frederick Horatio
Brock, Frank Peterson
Boughton, Thomas Harris
Bushong, Francis William
Cady, Hamilton Perkins
Carothers, Estella Eleanor
Charles, Grace Miriam
Clarke, Helen
Corp, Charles Ives
Dains, Frank Burnett
Dalton, B. J.
Duncan, Robert Kennedy
Dunmire, Elijah Herbert Dalton, B. J.
Duncan, Robert Kennedy
Dunmire, Elijah Herbert
Dyche, Lewis Lindsay
Emerson, Herbert William
Gruber, Charles Merl
Guffey, Don Carlos
Havenhill, L. D.
Haworth, Erasmus
Hoad, William Christian
Hood, George Jussen
Hunter, Samuel John
Hyde, Ida Henrietta
Jackson, Henry Louis
Johnson, Clarence Anthony
Jordan, Herbert Edwin
Kester, Frederick Edward
Learned, Albert Preisach
McClung, Clarence Erwin
MacGregor, Hazel Hope
Marvin, Frank Olin
Moodie, Roy Lee
Morscher, Lawrence Norton
Nowlin, Nadine
Pitcher, Arthur Dunn
Redman, Lawrence, Vincent
Rice, Martin Everett
Rupert, Frank Finch
Sayre, Luclus Elmer
Shaad, George Carl
Sterling, Charles Morgan
Stevens, William Chase Shaad, George Carl
Sterling, Charles Morgan
Stevens, William Chase
Sudler, Mervin Tubman
Tibbetts, Ernest Roy
Tillotson, Edwin Ward
Todd, James Edward
Twenhofel, William Henry
Van der Vries, John Nicholas
Vawter, Will Eibert
Walker, Perley
Walling, Lalia Viola
Weidlein, Edward Roy
Wetth, Archie James
Wenrich, David Henry
White, Edward Albert

LAWRENCE—Continued White, Marion Ballantyne Williams, Francis Xavier Young, Clifford Caudy Young, Clinton Mason

LEAVENWORTH Barkmann, Ernest Henry

LYONS Pulliam, Leonard MACKSVILLE Powell, Fred Cecil

MCPHERSON

Frizell, Arthur Bowes

Frizeil, Arthur Bowes
MANHATTAN
Call, Leland Everett
Chase, Carl Fred
Davis, Wilmer Esla
Fitch, James Burgess
Ford, Carlotta Marks
Gilman, Ray Edwin
Headlee, Thomas J.
Hughes, Joshiah Simson
Miller, Edwin Cyrus
Nabours, Robert Kirkland
Roberts, Herbert Fuller
Scott, John William
Stevens, Nell Everett
Van Ewing, Perry
Waters, Henry Jackson
Wright, Turner Richard Haden
NEWTON

NEWTON Wedel, Peter John

NEODESHA Hill, Burritt Howell

OTTAWA Judy, Wilbur Howden Shirk, James Abraham Garfield

Barnhill, John Firmen

Clark, Earl Finley

PITTSBURG Curfman, Lawrence Everett

ROSEDALE SEDALE Finney, Guy Gibson, Edward Thomas McCarty, Virgil Smith, Delbert O. Sutton, Walter Stanborough

ROSSVILLE Miller, Henry Blackburn

SALINA Harvey, John King

TABLE MOUND Williams, Warren Benjamin

TOPEKA PEKA
Edmondson, Charles Howard
Esterly, Daniel Edward
Loper, Cleveland Scott
Obrecht, Rufus Chauncey
Schumacher, Ramon
Smyth, Lumina (Riddle)
(Mrs. Bernard B. Smyth)
Tague, Edgar Lemuel
Twiss, Edith Minot
Young, Alexander Ririe

Young, Alexander Ririe

WICHITA Brockway, Paul Lemon Green, Wyman Reed Williams, Djalma Downey

WINCHESTER Curry, John Edward

## KENTUCKY

FRANKFORT Hoffman, Edson Allen

LEXINGTON Matthews, Clarence Wentworth Maxson, Ralph Nelson Shull, Charles Albert Surface, Frank Macy

LOUISVILLE Caldwell, Morley Albert Harris, Cebern Dodd

McFarland, Charles Stone

Loomis, Nathaniel Edward

Aley, Robert Judson Brown, Charles Barto Childs, Albert Theodore

Chrysler, Mintin Asbury Craig, Wallace Curtis, Maynie Rose

Johannsen, Oskar Augustus Lewis, Charles Edward Patch, Edith Marion

Wilson, J. Howard

LOUISVILLE—Continued
Hathaway, Joseph Henry
Jennison, Ralph Drury
Roberts, Shelby Sandfley
Tileston, Leroy
Tislow, Oswald Albert

MARION Sanders, Walter Murray OWENSBORO Jennison, Ralph Drury

#### LOUISIANA

ABBEVILLE NEW ORLEANS Eustis, Allan Chotard Bean, Robert Bennett Bean, Robert Bennett
Billingsley, James Wartelle
Bullard, H. Hays
Clo, J. Harry
Day, Reuben Noble
Grant, Ernest Holman
Gregory, William Benjamin
Hardesty, Irving
Loeber, Edith
Smith, Harrison ALEXANDRIA Crew, Charles Corwin BATON ROUGE
Bell, Albert Thomas
Edgerton, Claude Wilbur
Guell, Antonio Kidder, Albert Franklin

SHREVEPORT Young, Daisy

## MAINE

ORONO—Continued
Pearl, Raymond
Tower, Bessie (Leeds)
(Mrs. Gordon E. Tower)
Woodman, Leon Elmer

PORTLAND Allen, John Howard

WATERVILLE Obear, George Barrows Parmenter, George Freeman Roberts, Edwin Jay

WESTBROOK Beeber, Samuel Jacob

ANNAPOLIS Loeb, Leo BLACK RIVER

BRUNSWICK

CASTINE

ORONO

Gundlach, Henry Ralph

LITIMORE
Barker, Lewellys Franklin
Barnett, Charles Ridgely, Jr.
Barnett, George DeForest
Billau, Lewis Scoville
Bronson, Edith
Browne, William Hand, Jr.
Clark, Eliot Round
Clough, Harry Duffield
Cohoe, Benson Ambrose
Conover, Henry H.
Cowles, Rhinehart Parker
Dandy, Walter Edward
Davis, Edwin Greene
Davis, John Staige
Essick, Charles Rhein
Esslinger, Edwin Walter
Evans, Herbert McLean
Gates, Frederick Lamont
Goetsch, Emil
Gorham, Lemuel Whittington
Graham, Clarence Flack
Hartzell, Walter Lewers BALTIMORE Graham, Clarence Flack Hartzell, Walter Lewers Hooper, Charles Warren Hooper, Charles Wafren Jennings, Herbert Spencer Joslin, Lulu Broadbent Kellicott, William Erskine Kemp, George Theophilus King, Jessie Luella Krause, Allen Kramer

#### MARYLAND

BALTIMORE-Continued Livingston, Burton Edward Livingston, Burton Edward Longley, William Harding Mearns, Louis Zerega Norris, Paul Elfred Platt. Washington Padelings Louis Hall Platt. Washington
Redelings, Leslie Hall
Rothrock, Irvin R.
Rouiller, Charles Augustus
Sellards, Andrew Watson
Van Vleck, Frank
Voorhees, Henry Belin
Watson, John Broadus
Weed, Lewis Hill
Whipple, George Hoyt

BRANDYWINE Brooks, Ira Sanford COLLEGE PARK

Appleman, Charles Orval

DARLINGTON Edge, Walter Smith GAITHERSBURG

Ross, Frank Elmore HAVRE DE GRACE Starr, William Parvin

PERRYVILLE Stowe, Henry Daniells

PORT DEPOSIT Harrison, Frederick Brown Hutchinson, Lewis Orrin

SPARROWS POINT Raidabaugh, John Adam

## **MASSACHUSETTS**

AMHERST Cobb, Charles W. Doughty, Howard Waters Foord, James Alfred Gordon, Clarence Everett Hall, Eliot Snell Peters, Charles, Adams

ANDOVER Boyce, Frederick May Newton, Frederick Edwin ARLINGTON

Weed, Robert Campbell

ATTLEBORO Thompson, Ralph Cameron

AUBURNDALE Jewett, Harold Frederick

Jewett, Harold Frederick

BOSTON
Allington, Courtney Derby
Appleton, Paul
Bailey, Ervin George
Barnes, Joel Martin
Bernstein, Joseph
Blake, Lucien Ira
Blood, Alice Frances
Bresnahan, John Francis
Bugbee, Edward Everett
Burgess, Alexander Manlius
Burket, Ivan Roy
Burr, Frank Arthur
Cook, Ward Hance
Davis, Lewis
Denis, Willey
Edwards, Eyie James Davis, Lewis
Denis, Willey
Edwards, Evie James
Eldredge, Alfred Henry
Faragher, Paul Vance
Faragher, Warren Fred
Fisher, Henry Donald
Fiske, Cyrus H.
Foster, Vernon S.
Frary, Charles Samuel
Fritch, Howard Fowler
Gallagher, Francis Edward
Gann, John Adams
Gilbert, Ralph Davis
Hale, Robert Sever
Hartwell, John Bryant
Hazen, Howard Spencer
Heuser, Chester Henry
Hewes, Fred Leland
Higbie, Henry Harold
Jackson, Dugald Caleb
Johnson, Franklin Paradise
Karsner, Howard Thomas
Kilgore, Alson Raphael
Knight, Ira Winsor
Koon, Sidney Graves
Kraus, Charles August
Lang, James Sherburne
Loughlin, Gerald Francis
MacLane, Stanley Robinson Kraus, Charles August
Lang, James Sherburne
Loughlin, Gerald Francis
MacLane, Stanley Robinson
Main, Roscoe Conkling
Marvin, Henry Howard
Medlar, Edgar Matthias
Newell, Lyman Churchill
Norton, John Foote
Nunez, Vasco Emilio
Overlander, Charles Leonard
Parker, William Huntington
Peters, Amos William
Porter, Charles Huntington
Randall, Merle
Rudd, Edward Irvine
Russell, Joseph Heywood
Schorer, Edwin Henry
Shimer, Hervey Woodburn
Smith, Theobald
Solomon, Harry Caesar

Solomon, Harry Caesar Terwilliger, David Mills Thomson, Harry Freeman

BOSTON-Continued STON—Continued
Twomey, Francis Sylvestre
Warren, Charles Hyde
Warren, Edmund Leon
Wells, Roy Titus
West, Erastus Lovette
Williams Leoned Wessert Williams, Leonard Worcester Williston Arthur Lyman Wilson, Edwin Bidwell

BROOKLINE Haigler, Florence Harlow (Derby) (Mrs. Charles Edmund Haigler)

Haigler, Florence Harlow (De (Mrs. Charles Edmund Haig CAMBRIDGE Adams, Comfort Avery Barus, Maxwell Bovie, William T. Brown, John Howard Brues, Charles Thomas Bunker, John Wyman Miller Cushing, Philip Stone Daniels, Farrington Davis, Harvey Nathaniel Davison, Donald Berryhill Duncan, John Charles East, Edward Murray Graton, Louis Caryl Gross, Alfred Otto Harding, Adalbert Johnson, Douglas Wilson Jones, Grinnell Kyriakides, Lucas Petron Mann, William Montana Marks, Lionel Simeon Morgulis, Sergius Morse, Harry Wheeler Norton, Arthur Edwin Nourse, Chester Linwood Nusbaum, Christian Osterhout, Winthrop John Palache, Charles Johnson, Douglas Wilson Pound, Roscoe Putnam, Frederic Ward Raymond, Percy Edward Pound, Roscoe
Putnam, Frederic Ward
Raymond, Percy Edward
Robertson, William Rees
Sabine, Wallace Clement
Tyzzer, Ernest Edward

CHICOPEE FALLS Sparrow, Stanwood Willston

DORCHESTER Walton, Albert

EAST WALPOLE Landon, Horace Zebina Sands, Howard Emmet

EAST WATERTOWN Tousley, Nelson Elbridge

FALL RIVER Hicks, Leslie Robert

FITCHBURG Barnes, William Oliver

HOPEDALE Burnham, Edward Clifton

HOLYOKE Blount, Rufus Frank Boegehold, Carl Winter Greenwood, Arthur

LAWRENCE Ripley, Philip Franklin

LYNN
King, Harold Merriam
MEDFORD

Shrader, James Edmond MILLBURY

Ryan, George Herbert
MILLERS FALLS
Alden, Edward Mooee

## MASSACHUSETTS—Continued

NEWTON HIGHLANDS Banfield, Frederick Eugene

NEWTONVILLE Harrington, Charles Brigham

NORTHAMPTON Brant, Laura Cinderella Smith, Frances Grace Snow, Julia Warner

PITTSFIELD Blume, Louis Frederick Currie, Neil, Jr. Dickinson, William Jay Paddock, Brace Whitman Slade, Walter Clifton

QUINCY Crain, John Jay

ROXBURY Driske, Arthur H. SHARON

Field, George Wilton SHELBURNE FALLS
Hamilton, Edward Parmelee
Tuthill, James Foster

SOUTH EASTON Pierce, Robinson

SOUTH HADLEY Brightman, Charles Lewis Carr, Emma Perry Hayes, Samuel Perkins Stokey, Alma Gracey Talbot, Mignon

SOUTH HARWICH Julien, Alexis Anastay SWAMPSCOTT

Hamann, Henry George TAUNTON

Grisé, Romeo Arthur WATERTOWN
Duncan, Wiliam Wheeler
Flora, Charles Paxson
Whittemore, Herbert Lucius

WEBSTER Goldthwait, Charles Francis

WELLESLEY
Ferguson, Margaret Clay
Gamble, Eleanor A. McCulloch
McDowell, Louise Sherwood
Raymond, Katherine Platt
Ster Jacottle Morvie Raymond, Katherine Flatt Snow, Laetitia Morris Stevenson, Louisla Stone Wiegand, Karl McKay Wiegand, Maude (Cipperly) (Mrs. Karl McKay Wiegand)

WELLESLEY-Continued Willcox, Mary Alice WESTFIELD

Robbins, Laurence Ballard

WEST LYNN Moss, Sanford Alexander

WILLIAMSTOWN Agard, Harry Leslie Cleland, Herdman Fitzgerald Freli, Janet May (Sheldon) (Freli, Mrs. Theodore) Mears, Brainerd

WOODS HOLE Drew, Gilman Arthur

Drew, Gilman Arthur

DRCESTER
Allen, Charles Metcalf
Baird, John Wallace
Bird, William Warren
Bonnet, Frederic, Jr.
Butterfield, Arthur Dexter
Calhane, Daniel Francis
Conant, Levi Leonard
Cummings, Herbert Kimball
Duff, Alexander Wilmer
Ewell, Arthur Woolsey
Fish, Elmer Henry
French, Arthur Willard
Gallup, David Lamprey
Goddard, Robert Hutchins
Harvey, John Chapin
Hoffman, Leland Silas
Hull, Albert Wallace
Hull, Mary Shore (Walker)
(Mrs. Albert W. Hull)
Haynes, George Henry
Ives, Howard Chapin
Jones, Arthur Taber
Jennings, Walter Louis
Martin, George Francis
Miller, Newton
Olshausen, George Robert
Palser, George Norman
Phelon, Joseph Oliver
Pierce, Clarence Albert
Read, Carleton Allen
Richey, Albert Sutton
Roys, Francis William
Smith, Alton Lincoln
Smith, Harold Babbitt
Stevens, Lewis Chester
Sweetser, Robert Chauncy
Williams, Frank Blair
Woodbury, John Edward
Young, Foster Verne WORCESTER

#### MICHIGAN

ALBION Greene, Clarence Wilson ANN ARBOR

N ARBOR
Adams, Henry Fostor
Agnew, James Howard
Alden, Whiting
Allen, John Robins
Anderson, Henry Clay
Bailey, Benjamin Franklin
Baker, Horace Burrington
Barrett, Albert Moore
Bartell, Floyd Earl
Bauer, Owen Werner
Bigelow, Samuel Lawrence
Bragg, Edward Milton
Camp, Carl Dudley
Campbell, Edward DeMille
Carney, Robert John Carney, Robert John

ANN ARBOR—Continued Case, Ermine Cowles Clark, Robert Watson Colby, Walter Francis Colby, Walter Francis Cole, Harrie Newton Cone, Lee Holt Cook, Charles Wilfred Cook, Charles Wilfred
Cooley, Mortimer Elwyn
Cope, Otis Merriam
Cowie, David Murray
Crane, Harry Wolven
Cummings, Howard Hasting
Curtis, George Morris
Curtiss, Ralph Hamilton
Davis, Joseph Baker
Decker, Arthur James
Dunbar, Frances Jewett
Edmunds, Charles Wallis
Emswiler, John Edward

#### MICHIGAN—Continued

ANN ARBOR-Continued N ARBOR—Continued
Field, Peter
Finch, Frank Richard
Ford, Walter Burton
Garretson, William Van Nest
Gates, Frank Caleb
Gilbert, Quinter Olen
Glaser, Otto Charles
Gleason, Henry Allen
Glover, James Waterman
Gomberg, Moses Glover, James Waterman
Gomberg, Moses
Greene, Albert Emerson
Grossmann, Herman John August
Guthe, Karl Eugen
Halle, William Jay
Hall, Arthur Graham
Hamilton, Stuart McCune
Hegner, Robert Wilhelm
Henderson, William D.
Hewlett, Albion Walter
Higble, Henry Harold
Hildebrandt, Theophil Henry
Hobbs, William Herbert
Holland, Ray Kingsbury
Hubbard, Winfield Scott
Huber, Gotthelf Carl
Hunt, Walter Fred
Hus, Henri Th. Antoine de Leng
Huns, Henri Th. Antoine de Leng
Hussey, William Joseph
Jickling, Robert Lee
Johnston, Clarence Thomas
Kamperman, George Abel Paul
Kauffman, Calvin Henry
Kraus, Edward Henry
Langley, John Williams
La Rue, George Rogers
Leverett, Frank
Lind, Samuel Colville
Littleton, Jesse Talbot, Jr.
Lombard, Warren Plimpton
Love, Clyde Elton
Lovel, Alfred Henry
Marks, James Harmon
Marshall, Mark
McOmber, Loren Wallace
Mellencamp, Frank John
Nancrede, Charles Beylard de
Newcombe, Frederick Charles
Novy, Frederick George
Okkelberg, Peter Olaus
Otis, Charles Herbert
Parker, Ralzemond Drake
Patterson, George Washington
Perrine, James Owen
Peterson, Reuben
Pierce, Archle Burton
Pillsbury, Walter Bowers
Pollock, James Barkley
Randall, Harrison McAllister
Reed, John Oren
Reighard, Jacob Ellsworth
Rich, Daniel Leslie
Rich, Edward Dunbar
Riggs, Henry Earle
Roth, Filebert
Roth, Filebert
Roth, Filebert
Roth, George Byron
Rutherford, George Stanley
Rutherd, Jacob Ellsworth
Sink, Emory Walter
Scott, Irving Day
Shepard, John Frederick
Scholterbeck, Julius Otto
Schmidt, Harry Burke
Scott, Irving Day
Shepard, John Frederick
Shull, Aaron Franklin
Sink, Emory Walter
Slocum, George
Smeaton, William Gabb
Spooner, Charles Willett
Stevens, Alviso Burdett, Jr.
Streeter, George Linius ANN ARBOR—Continued
Tanner, Harry Laurence
Thompson, Crystal
Thorp, Lambert
Tilden, Charles Joseph
Van Zwaluwenburg, James Gerritt
Vaughan, Victor Clarence
Warren, Luther Fiske
Warthin, Aldred Scott
West, Clarence Jay
White, Alfred Holmes
Williams, Gardner Stewart
Wuist, Elizabeth Dorothy
Young, Leigh Jarvis
Ziwet, Alexander
Zowski-Zwierzchowski, Stanislaus
Jan

BATTLE CREEK
Benson, Walfred
Myers, Ralph E.
Thomas, Robert Richardson

BIG RAPIDS Karshner, Clyde Fenworth St. Peter, Wilfred Napoleon

ATROIT
Ayres, Louis Evans
Berry, Maxwell Rufus
Boxmeyer, Charles Herbert
Burton, Frank
Case, John Watrous
Closson, Oliver Eugene
Cooley, Thomas Benton
Coon, Thurlow Emmett
De Visser, John Henry
Diack, Archibald Warren
Fishleigh, Walter Turner
Fleshleim, Robert Stephenson
Flynn, James Howard
Garrels, John Carlyle
Gillett, Horace Wadsworth
Gillmore, Gertrude Assheton
Gutsche, Edward Jacob
Hastings, Donald Theodore
Helfman, John
Huff, Russell DETROIT Hastings, Donald Theodore
Helfman, John
Huff, Russell
Huntoon, Milton Byron
Irwin, Orlando W.
Jamieson, Andrew Douglas
Jones, Albert Barnett
King, Walter Edward
Levy, David J.
Loye, Benjamin W.
Mattern, Roy Edwin
McClelland, Carl C.
Miles, Ezeklel Jones
Miller, LeRoy F.
Morse, Plinn Frederick
Neerken, Adrian John
Norris, Paul Elfred
Norton, Henry Hazard
Nydegger, John
Pettengill, Irving Wilhert
Plumb, Roy Alfred
Russel, Sidney Rumney
Studer, Eliot William
Tinkham, Ralph Russell
Tracy, Kenneth William
Vaughan, John Walter
Vaughan, John Walter
Vaughan, John Walter
Vaughan, James Herbert
Walton, Hiram Lessiter
White, Eli
Wilhelm, Eugene B.
Wood, Cooper
Woolfenden, John Joseph
Zimmerschied, Karl Wilhelmj

## MICHIGAN—Continued

EAST LANSING ST LANSING
Bessey, Ernst Athearn
Bissell, George Welton
Bouyoucos, George John
Coons, George Herbert
Giltner, Ward
Hibbard, Rufus Percival Hibbard, Kurus Percival Hunt, Agnes Huston, Ralph Chase Marti, William Christoph Melick, Cyrus Alan Pettit, Rufus Hiram Robinson, Charles Summers Shafer, George Daniel

FLINT Baumgardner, John Andrew Gomph, Clarence Jeremiah Stimson, Morris Henry GLADSTONE

Katzenstein, Sidney W. GRAND LEDGE Niles, Byron Deloss

GRAND RAPIDS Baker, Abel James
Baldwin, Melvin Dana
Billings, Elton Pope
Darling, Lewis Andrew
Gordon, Thomas DeWitt Hefferan, Mary Parsons, Lewis Abraham Smith, Thomas Albert

HASTINGS McNall, Jessie Jones

HILLSDALE Alger, Harley Clifford HOUGHTON

UGHTON
Anderson, William
Denton, Frederick W.
Haigler, Florence Harlow (Derby)
(Haigler, Mrs. Charles E.)
Mendelsohn, Albert
Paine, Francis Ward
Sperr, Frederick William

ISHPEMING
Hawley, Charles Burridge
Taylor, Carl A.

JACKSON
Burd, Edward Morris
Davock, Harlow Noble
Maytharm, Walter John
Parnall, Christopher Gregg
Perkins, Wendell LeRoy
Pierce, Hugh Marion

KALAMAZOO Bach, Ellen Botsford Cooper, Grace Beers Fleming, Harry Cowles Harvey, LeRoy Harris Ward, Leslie Henry KALAMAZOO—Continued Willey, Vernon Justice Worth, Earl N.

LANSING Dixon, Robert Livingston Smith, Richard A. d'Zeeuw, Richard

LAKE LINDEN Benedict, Centennial Harry

LESLIE Greene, Arthur Emery

MANISTIQUE Schoemaker, William Ross

MARQUETTE Fracker, George Cutler Hebb, Thomas Carlyle Hebb, Evelyn Sherwell Hayden (Hebb, Mrs. Thomas Carlyle)

MIDLAND Barstow, Edwin Ormond Dow, Herbert Henry Griswold, Thomas, Jr. Strosacker, Charles John Wallis, Boy Clarence

MT. PLEASANT
Billings, Marion LeRoy
Calkins, R. D.

MUSKEGON Bates, Albert Henry McKee, Frank Eugene Wilson, Sherman Ray

NEGAUNEE Miller, Edgar Allan

Kendall, Valerius Horatio owosso

Arnold, Harry Loren RIVER ROUGE Outwater, Olive E.

SAGINAW Palmer, Russel Burr Sample, John Thomas

SAULT STE. MARIE Edmands, Horace Matthew French, Edwin Linton Strong, Sidney Davis

THREE RIVERS
Bilss, Guy L.
Hovey, William Simmons
TRI-MOUNTAIN
Work, Paul Bartholomew

WYANDOTTE Vorce, Lafayette Denton

YPSILANTI Bowen, Wilbur Pardon

#### MINNESOTA

ADAMS Smith, Ernest Vernon ALBERT LEA Jaquess, Agnes

AURORA Poore, Orson Birney

BIWABIK Stake, Alma Louise BRAINERD

Donovan, Percy Williams Ide, Arthur Wheaton

Hartley, Eugene C.

COLERAINE McCullough, Albert Steele

CROOKSTON Bilsborrow, James D.

DULUTH Bjorge, Oscar Bernard Buck, Frederick William Downing, Frank Eugene Gaumnitz, Florence Jones, Bessie Emily (Bowman) (Jones, Mrs. Lorin H.) Kelly, Earl Wallace Marble, Ralph

## MINNESOTA—Continued

DULUTH Ringsred, Arthur Christ Owens, William Abbott Tuohy, Edward Leo VanCleef, Eugene Arthur Christian

Walker, George Hamilton

FARIBAULT Crawford, Wallace T. Huxley, Frederick R. Kuhlmann, Fred

FERGUS FALLS Baker, Acel Conrad Grass, Charles Frederick

GAYLORD Johnson, Anna Josephine

GLENCOE Nickerson, Bernard S.

GRACEVILLE Cox, Richard Ferguson

HIBBING Wesbrook, Donald McDermid

HOPKINS Souba, W. H. HUTCHINSON

Berger, Nanda M. LUVERNE

Downey, Katherine Melvina

Downey, Katherine Melvina

MINNEAPOLIS
Allen, Harry Winslow
Allen, William Fitch
Anderson, Deborah M.
Anderson, John G.
Appleby, William Remsen
Ball, Frank Morris
Bartholow, Claude Apheus
Bass, Frederic Herbert
Bauer, George Neander
Bean, Arthur Neal
Becker, George Neander
Bean, Arthur Neal
Becker, George
Bell, Elexious Thompson
Bennett, Cora
Bliss, Frank Walker
Bowles, Oliver
Brenton, Benjamin Francis Parlett
Brooke, William Ellsworth
Brown, John C.
Bruce, Rosamond (Thompson)
(Bruce, Mrs. Charles A.)
Burgum, Harry Pitkin
Bussey, William Henry
Butters, Frederic King
Caplin, Jessie F.
Challmers, Charles Henry
Christianson, Peter
Clements, Edith (Schwartz)
(Mrs. Frederic Edward Clements)
Clements, Frederic Edward
Cohen, Lillian

Clements, Edith (Schwatz)
(Mrs. Frederic Edward Clet
Clements, Frederic Edward Clet
Cohen, Lillian
Cole, Ruth Fitch
Constant, Frank Henry
Cooke, Louis Joseph
Cooper, Thomas Poe
Corbett, J. Frank
Craig, Robert
Cutler, Alvin Sayles
Dalaker, Hans H.
Davis, Perley Alton
Derby, Ira Harris
Dorsey, Maxwell Jay
Downey, Hal
Downey, Hal
Downey, John Florin
Drake, Charles Ralph
Eddy, Henry Turner
Edmonds Irene (Radcliffe)
(Mrs. F. N. Edmonds)

MINNEAPOLIS—Continued
Emerson, Byron Todd
Erikson, Henry Anton
Evans, Nevade Sutherland
Ewy, Edwin Walter
Fidlar, Edward
Finke, Walter J.
Flather, John Joseph
Frankforter, George Bell
Frary, Francis Cowles
Frazier, William Hardy
Frear, Jenness B.
Gates, Frederic William
Gibson, Robert Banks
Grout, Frank Fitch
Hall, Christopher Webber
Hamilton, Arthur Stephen
Hanauer, Monroe
Harding, Everhart Percy
Harrington, Guy Pirnbrake
Hartzell, Mary Kezie
Haynes, Arthur Edwin
Head, George Douglas
Herrick, Carl Albert
Hibbard, C. Truman
Hickok, Jessie (Stevens)
Hickok, Mrs. Harvey M.)
Hill, Hibbert Winslow
Hilton, William Atwood
Hoag, William Ricketson
Holman, William Frank
Holway, Edward Willet Dorland
Houston, Charles Kent
Hovda, Olaf
Huff, N. L.
Hummel, John Adolph
Hunter, William Hammett
Jaquet, George Emile
Johnson, Charles Eugene
Johnson, Charles Eugene
Johnson, Charles Eugene
Johnson, Ohn Black
Jenks, Albert Ernest
Jensen, Estelle Louise
Jensen, Estelle Louise
Jensen, Estelle Louise
Jensen, Frank J.
Kirchner, William Herman
Kovarik, Alois Francis
Kunze, William Frederick
Leavenworth, Francis P.
Leavitt, Clara K.
Lee, Thomas George
McCarty, Edward Prosper
McDaniell, Orianna
MacDermid, Kate
McKeehan, Louis Williams
MacMillan, Conway
McMillan, Franklin R.
Magnusson, Gustav Alfred
Maland, Clarence
Marsh, Richard Dana
Martenis, John Van Sickle
Maxeiner, Stanley R.
Miner, James Burt
Misz, Alice Margaret
Mohler, Bruce Monroe
Mullin, Robert Hyndman
Nachtrieb, Henry Francis
Newkirk, Burt Leroy
Nicholson, Edward Everett
Nye, Lillian L.
Otto, Robert Walter
Parcell, John Ira
Paulson, Marjorie (Cole)
(Mrs. Clarence A. Paulson)
Pease, Levi Beckley
Pitchford, G. Leonard
Poppe, Frederick

## MINNESOTA—Continued

MINNEAPOLIS—Continued Priester, George Cornelius Robertson, Harold Eugene Rosendahl, Carl Otto Rowley, Frank B. Ryan, William Thomas Ryan, William Thomas
Sardeson, Frederick William
Sedgwick, Julius Parker
Scammon, Richard Everingham
Schlutz, Frederick William
Scott, Frederick Hughes
Schrader, Herman F.
Schumacher, John Henry
Shenehon, Francis Clinton
Shepardson, George Defrees
Shipley, Sylvanus Carl
Shoop, Charles Franklin
Shumway, Royal Raiss Shepardson, George Defrees Shipley, Sylvanus Carl Shoop, Charles Franklin Shumway, Royal Raiss Sidener, Charles Frederick Sigerfoos, Charles Frederick Sigerfoos, Charles Peter Slobin, Herman L. Smith, Charles Horton Smith, Roy Howard Snyder, Harry Soper, Edward Kirke Souba, Frederick J. Soule, Stephen Barber Springer, Frank Wesley Stacy, Elmer Neill Stakman, Elvin Charles Stewart, John T. Sundt, Matthias Svendson, George Peter Swenson, David Ferdinand Tilden, Josephine Elizabeth Underhill, Anthony Lispenard Ungerman, Carl Mugg Vincent, Jay Carter Walker, George Thompson Walker, George Thompson Walker, George Warren Washburn, Frederick Leonard Webber, Frederick Walter Wentling, John Philip Wesbrook, Frank Fairchild West, Rodney Mott White, Solon Marx Whittaker, H. O. Wilhoit, Albert Davis Winchell, Newton Horace Woodrow, Herbert Woods, Albert Fred Wyman, Alanson Phelps Zeleny, Anthony Zeleny, John DOREHEAD Frences Rebecca

MOOREHEAD Freeman, Frances Rebecca Hockett, Sebern Waldo

NEW LONDON Oppegard, Manford O. NORTHFIELD

KTHFIELD Cowling, Donald John Dungay, Neil Stanley Exner, Franz Frederick Glasoe, Paul Maurice Kent, Carleton Volney

PIPESTONE

Arzt, Emmanuel Arthur RED WING

Smith, Paul Sherbourne

Smith, Faul Sherbourne
ROCHESTER
Smithles, Frank William
Steinke, Carl Rossow
Wilson, Louis Blanchard
Zander, Charles H.
SLEEPY EYE
Hillesheim, Clara
Schmidt, Gottfried

ST. ANTHONY PARK Wilson, Archie Dell

ST. CLOUD Hone, Daisy S. Johnsrud, Iver F. Sutton, Charles Stewart

ST. HILAIRE Dahl, Christen Frederick

Dahl, Christen Frederick
ST. PAUL
Beckjord, Walter Clarence
Berger, Ella Gustavia
Bull, Coates Preston
Bracken, Henry Martyn
Briggs, Florence Mayfred
Campbell, John E.
Cheyney, Edward Gheen
Cole, Wallace
Dobbin, Emily Elisabeth
Fanning, Mary Gilmore
Freeman, Edward Monroe
Gaumnitz, Daniel Asher
Haecker, Theophilus Levi
Hartwell, George Wilbur
Hoff, Alfred Hattwell, George Willour
Hoff, Alfred
Jackson, Earle Daniel
Kennedy, William Walker
Ladd, Albee Lovejoy
Larsen, Martin L.
Moore, W. A.
Olander, Joshua Edwin Emanuel
Otto, Frederick Arthur
Robbins, Orison B.
Roehrich, Victor H. Martini
Ruggles, Arthur Gordon
Shepard, George M.
Smith, Byron Eton
Smith, Roy Howard
Stanton, Raymond Edward
Thompson, Mackay James
Walker, Frank Bates
Yager, Louis
ILLWATER Hoff, Alfred

STILLWATER Veblen, Andrew Anderson TWIN VALLEY Nilson, Wilhelm

VIRGINIA Partridge, Jarvis Montgomery

WORTHINGTON Mason, Frank Melville

#### MISSISSIPPI

ABERDEEN Ewing, Early Cunningham AGRICULTURAL COLLEGE Brown, Harry Bates Logan, William Newton

AGRICULTURAL COLLEGE-Continued Reid, Clarence Erle JACKSON Kirkpatrick, Walter Gill

### MISSOURI

CAPE GIRARDEAU Wagner, Claude L.

CENTRALIA Starr, Chester Gibbs

COLUMBIA Allison, Harry Orson Ames, Lewis Darwin Allison, Harry Orson
Ames, Lewis Darwin
Backus, Lee Seldon
Branson, Edwin Bayer
Brown, William George
Calvert, Sidney
Calvert, William Jeptha
Chandler, William Henry
Charters, Jessie (Allen)
(Mrs. Werrett Wallace Charters)
Connaway, John Waldo
Curtis, Winterton Conway
Dodds, Gideon Stanhope
Dolley, David Hough
Douglass, Thomas Rankin
Dunkel, Otto
Durand, Elias Judah
Eckles, Clarence Henry
Fessenden, Edwin Allen
Flowers, Alan Estis
Ford, Lester R.
Gainey, Percy Leigh
Gibson, Robert Banks
Greene, Charles Wilson
Haseman, Leonard
Haigh, Leonard Greene, Charles Wilson Haseman, Leonard Haigh, Leonard Dixon Hedrick, Earle Raymond Hibbard, Herbert Wade Hill, Agnes Sime Baxter (Mrs. Albert Ross Hill) (Mrs. Albert Ross Hill)
Hill, Albert Ross
Hogan, Albert
Howard, Walter Lafayette
Hutchison, Claude Burton
Hyde, Abraham Lincoln
Ingold, Louis
Jackson, Clarence Martin
Keene, Mary Lucille
Kellogg, Oliver Dimon
Lefevre, George
Lowrey, Lawson Gentry
McNatt, Homer Elkanah
Marbut, Charles Fletcher
Meyer, Max
Miller, Merritt Finley
Miller, Walter McNab
Moulton, Charles Robert
Mumford, Frederick Blackmar
Noyes, Guy Lincoln
Palmer, Leroy Sheldon
Pyle, William Henry
Reed, George Matthew
Reese, Herbert Meredith
Rentschler, Harvey Clayton
Rodhouse, Thomas Jacob
Root, Ralph Eugene
Schlundt, Herman Hill, Albert Ross Schaefer, Oscar Charles Schlundt, Herman Shaw, Howard Burton Steele, Matthew Stewart, Oscar Milton Stokes, Stanley Tanreuther, George Washington Tanreuther, George Washington Tarr, William Arthur Trowbridge, Perry Fox Vanatta, Elmer Elsworth Weaver, Luther Abraham Weinbach, Mende Penco Weiss, Albert Paul Westfall, Wilhelm David Allen Wheelock, Frank Elbert Whitlow, Joseph Andrew Whitten, John Charles Woodward, Edwin Garder

DONIPHAN Martin, Charles Knox

FLAT RIVER Ring, Ambrose Ely Stannard, Earl Tappan

JOPLIN Cook, Frederick Stephen Saathoff, George Webster

Cook, Frederick Stephen Saathoff, George Webster KANSAS CITY
Burns, Clinton Sumner Castle, Otto Leslie Cross, Roy Duke, William Waddell Ellis, George Ezra Emley, Samuel Charles Farwell, Ellmer Selah Goodman, James Franklin Gustafson, Carl Frederic Hardesty, Shortridge Harrington, John Lyle Hoxie, George Howard Kackley, Walter John Kizer, Raymond Alvan Lee, Colin Kingsley Long, Verne Vere Lusk, Charles Winslow McDonnell, Robert Emmett McVey, Karl Absalom Medes, Grace Meyers, Alfred Moyer Nisbet, Verner Ogden, Floyd Price Palmer, Walter Kiefer Prince, John Walter Rinker, (Fenner) Hattie (Rinker, Mrs. Robert L.) Russell, George Silas Schell, Edward John Schrenk, Trifon von Schumacher, Ramon See, Russell Alva Worley, John Stephen KENNETT Elsea. Earl Newton

KENNETT Elsea, Earl Newton

LEXINGTON Rogers, Hugh Chilton

LIBERTY Crossley, Moses Leverock Goodson, William Hammack

MARSHALL Seawell, Benjamin Lee Stephens, Virgil Ray

MARTIN CITY Rusk, Earl Wilson

MONETT Meany, James M.

PARKVILLE Findlay, Merlin Chamberlin

RIDGEWAY Walker, Lora Hennessey (Walker, Mrs. J. H.)

ROLLA Greene, Frank Cook

SPRINGFIELD
Brooking, Joseph Hugh
Finkel, Benjamin Franklin
Fitch, Ruby
Hall, Edward Bennington

ST. JOSEPH Farnum, Ellen (Pendergast) (Farnum, Mrs. A. W.) Favor, Ernest Howard Good, Clarence Allen Seitz, William Kerlin

## MISSOURI—Continued

MISS

ST. LOUIS

Abbott, James Francis
Alford, Leland Barton
Alt, Arnold Dettman
Baldwin, Frederick Amos
Bowles, John Davis
Brown, Orville Harry
Coburn, Maurice
De Witt, Lydia Maria Adams
(DeWitt, Mrs. Alton D.)
Dock, George
Drushel, J. Andrew
Eales, Herbert William
Eddy, Ernest Arthur
Edgar, Thomas Oscar
Edsall, David Linn
Emilg, William Harrison
Emmel, Victor Emanuel
Engler, Edmund Arthur
Erlanger, Joseph
Fischer, Robert
Fleisher, Moyer Springer
Galt, Charles Elijah
Garrey, Walter Eugene
Gill, Charles M.
Gould, Myrtle Pearl (Campbell)
(Mrs. Benjamin B. Gould)
Hardy, Chester Harvey
Hilllard, Frank Wyman
Holman, Minard Lafever
Hopkins, Ross
Huntington, Albert Henry
Jackson, Dennis Emerson
James, George Oscar
Jolley, Harold Dean
Kaiser, William Henry
Kammerer, Alfred Lewis
Kelser, Edward Harrison
Kessler, John Jacob, Jr.
Kirchner, Walter Charles George
Kunkel, Louis Otto
Kuntz, Guy Theodore
Lamke, George William
Langsdorf, Alexander Suss
Lindsay, George Allan
Loeb, Leo
Losse, Louis Henry
Lyon, Elias Potter
McCourt, Walter Ed-Losse, Louis Henry Lyon, Elias Potter McCourt, Walter Edward

ST. LOUIS—Continued
McGuigan, Hugh
McMaster, LeRoy
Mann, Ned Chester
Marietta, Clyde Orlando
Mathiason, Gertrude Karen
Moody, Seth Enoch
Moore, George Thomas
Morris, Roger Sylvester
Myer, Max Washington
Neilson, Charles Hugh
Nipher, Francis Eugene
Nolte, August George
North, William Atkinson
Ohle, Ernest Linwood
Ohlweiler, William Woodward
Opie, Eugene Lindsay
Pearse, Arthur Sperry
Rayworth, Joseph Chappell
Richards, Ethel Leigh
Ringer, Frank
Roever, William Henry
Rosing, Marjory Scheel
Sackett, Clark Harold
Schoemaker, Daniel Martin
Sonramm, Jacob
Schrenk, Hermann von
Shaffer, Philip Anderson
Shebrerd, Charles William Sehramm, Jacob Schrenk, Hermann von Shaffer, Philip Anderson Shepherd, Charles William Smith, Frank Edwin St. John, Richard Collier Terry, Robert James Thompson, Charles Henry Trimmerman, Arthur Henry Trelease, William Turner, Charles Henry VanOrnum, James Lane Veeder, Borden Smith Vanorhum, James Lane Veeder, Borden Smith Waldo, Clarence Abiathar Wallace, Erwin Van Doren Woodward, Calvin Milton Yates, Clinton Talbot

WARRENSBURG McAllister, Cloyd North Stigall, Bennett Merriman WEBB CITY Williams, Bruce

#### MONTANA

ANACONDA Laist, Fred

BILLINGS Garnsey, William Smith, Jr. Sneckenberger, Earl Miner

BOZEMAN Chesnut, Victor King Spaulding, Milo Herrick Sullivan, George Leonard Thaler, Joseph Auken Weatherhead, Drury Lee

Billingsley, Paul
Bowman, Charles Henry
Cahoon, Charlotte Deming
Dow, James Chase
Fear, Lyle Gordon
McGill, Caroline
Rodes, Charles Bradford GREAT FALLS

Church, John Adams GLENBEG, WICKES Robison, Archer R.

HAUSERLAKE Stussy, William HAVRE

Haverson, Henry David

HEDGESVILLE Vasku, Frank

HELENA Gerry, Martin Hughes Pratt, Arthur Clarence Smyth, Arthur Porter

HYSHAM Buckingham, Henry Hine

LAND COULEE Fugman, Victor Charles LIBBY

Ransom, Webster Hamilton MILES CITY Buskirk, William Henry

MISSOULA Greely, William Beckhout Harkins, William Draper Kirkwood, Joseph Edward

Rowe, Jesse Perry Sibley, Robert MOORE

Manchester, James Eugene

ST. IGNATIUS Prendergast, Arthur

VIRGINIA CITY McConnell, Robert Earll

# **NEBRASKA**

AGATE Cook, Eleanor (Barbour) (Cook, Mrs. Harold James)

ASYLUM Pilsbury, Lawrence Bell

BELLEVUE Tyler, Ansel Augustus

BLAIR Capps, Earl Vanhise

CLARKS Little, Donna Lavonne (Withey)

CRAIG
Anderson, Charles Edward

FREMONT Johnson, Earle George

HAVELOCK Forman, William Olivet

LINCOLN NCOLN
Almy, John Edwin
Alway, Frederick James
Angle, Edward John
Avery, Samuel
Barker, Franklin Davis
Barbour, Carrie Adeline
Barbour, Erwin Hinkley
Bengtson, Nels August
Bessey, Charles Edwin
Borrowman. George Bengtson, Neis August
Bessey, Charles Edwin
Borrowman, George
Bouton, Rosa
Boyce, John Shaw
Brenke, William Charles
Bruner, Lawrence
Burnett, Edgar Albert
Candy, Albert Luther
Chase, Leon Wilson
Chatburn, George Richard
Condra, George Evert
Dales, Benton
Davis, Ellery Williams
Emerson, Rollins Adams
Emgberg, Carl Christian
Fordyce, Charles
Fossler, Mary Louise
Frankforter, Clarence Jackson
Gere, Mariel Clapham
Gilmore, Melvin Randolph
Guenther, August Ernest Gilmore, Melvin Randolph Guenther, August Ernest Hilton, David Clark Hinman, Alice (Hamlin) (Hinman, Mrs. Edgar Lenderson) Hoagland, Albert Leroy Hoff, Robert Lee Hollister, Vernon Leo Hopt, Erwin Howard, Robert Francis Honister, vernon Leo
Hopt, Erwin
Howard, Robert Francis
Klesselbach, Theo Alexander
Kohn, Nella Gabrielle (Schlesinger)
Laughlin, Joseph William
Loveland, George Andrew
Lyman, Rufus Ashley
McComb, Harold Edgar
Martin, Wade Randall
Mickey, Clark Edwin
Mitchell, Claude William
Moore, Burton Evans
Moore, George Hart
Nicholson, Henry Hudson
Pepperberg, Roy
Pool, Raymond John
Powers, Joseph Horace
Schramm, Eck Frank
Shaw, Ora James LINCOLN—Continued
Skinner, Clarence Aurelius
Sponsler, Olenus Lee
Stout, Oscar Van Pelt
Sturdevant, LaZelle Brantly
Swenk, Myron Harmon
Swezey, Goodwin DeLoss
Tate, John Torrence
Trumbull, Robert Samuel
Tuckerman, Louis Bryant
Waite, Herbert Harold
Waiker, Elda Rema
Waiker, Elda Rema
Weiker, Leva Belle
Weaver, John Ernest
Webster, Edith Leonore
Westgate, Vernon Vilas
Wilcox, Edwin Mead
Willard, William Albert
Wolcott, Robert Henry
Zimmer, John Todd

LONG PINE Wortman, John L.

McCOOK Jenkins, William Gibson

MARTELL Moore, William Henry Harrison

MILLARD Fossler, John Jacob

NORMAL Ames, Adeline Sarah

NORTH PLATTE Birge, Alice Miranda Welch, Hershey Samuel

OAKLAND Swenson, Samuel August

OMAHA
Anderson, William Nance
Bennett, Charles Abel
Bourg, Joseph Nicholas
Davis, Byron Bennett
Denny, Frank Earl
Ernst, Flora Grace
Hamilton, William Garfield
Hoffhine, John
Lieber, Charles
Lott, Antone Lyman
Noyes, Hiland Bachellor
Pelster, Edwin Rudolph
Peterson, Alfred Olaf
Ross, Samuel Holcomb
Rubendall, Clarence
Senter, Herbert Almon
Stebbins, Eunice
Stringer, Caroline Effle
Tucker, James C.

ORD Almy, Billings Grinnell Squires, David Henry

PERU Hofman, Fred Wenzl

SCHUYLER Nieman, Henry William

STROMSBURG Boostrom, Emil August

UNIVERSITY PLACE Latimer, Homer Barker Scarborough, Ray James Williams, Cyrus Vance

YORK Ryan, Walter J.

#### **NEVADA**

ELY Dobbins, John Leslie Lakenan, Cornelius B.

EUREKA Aspinall, Rupert Frederick

GOLDYKE Bishop, Wheeler Scott

McGILL Mucklow, Wilford Barber

RENO Hartman, Leon Wilson Haseman, Charles Johnston, Oscar Perry

Hirst, Edgar Clarkson Nelson, Theophilus

O'Kane, Walter Colline

Black, Caroline Anna Brooks, Charles Gibbs, Perla (Bowman)

Gibbs, Feria (Bowman)
(Gibbs, Mrs. Wm. David)
Gibbs, William David
Jackson, Alma Drayer
(Jackson, Mrs. C. Floyd)
Jackson, Cicero Floyd
Katz, Sidney Hershberg
Perley, George Arthur

CLAREMONT

CONCORD

DUNHAM

DURHAM

Walker, Allison

RENO-Continued Jones, J. Claude Mack, Winfred Berdell Smith, William Sydney Tangier Young, George Joseph

ROUND MOUNTAIN Ernest, Richard Hermann

TONOPAH Elftman, Arthur Hugo

WONDER Burgess, John Albert

YERINGTON Weck, Charles Albert

### NEW HAMPSHIRE

DURHAM—Continued
Pickett, Bethel Stewart
Taylor, Frederick Wellington

HANOVER NOVER
Bingham, Walter VanDyke
Dines, Charles Ross
Goldthwalt, James Walter
Haskins, Charles Nelson
Nichols, Ernest Fox
Pitcher, Arthur Dunn
Proctor, Charles Albert
Stewart, Colin Campbell
Stetson, Harlan True
Young, John Wesley

MILTON Barrows, Walter Irving Reid, Alexander Hugh NEW LONDON Hall, Henry Jewett

# NEW JERSEY

ATLANTIC CITY Wescott, William Carter

BAYONNE Dodge, Francis Despard McAfee, Almer McDuffie MacKenzie, Kenneth Gerald Thompson, John Fairfield

BLOOMFIELD OOMFIELD Hall, Roy Dykes Harskeeper, William Gibbons Hiatt, Cassius Eugene Marbaker, Edward Ellsworth Meyer, John Franklin

CAMDEN Howe, Samuel Purdy CAPE MAY COURT HOUSE Geyer, George Washington

CHATHAM Hewitt, Charles Elbert

CHROME Duffy, Edward Allen

COLLINGSWOOD Garland, Claud Mallory

CONVENT STATION Dorety, Sister Helen Angela

DOVER Ayer, William Travis Canfield, Frederick A. Willcox, Oswin William William Travis

EAST ORANGE
Berry, Morphy Edison
Dellenbaugh, Frederick S., Jr.
Higby, Seth Morton
Hill, Ernest Rowland
Parker, John Emilius
Porter, Ethel (Chamberlin)

EAST ORANGE-Continued Steuber, Henry John Van Duyne, Wilmer Charles Williamson, George EDGEWATER

Carleton, Robert Andrew Wood EIJZABETH
Miller, Mary Farrand (Rogers)
(Miller, Mrs. Wilhelm)

FLEMINGTON Ludy, Albert Kienzle

FRANKLIN FURNACE Johnson, Arthur Michael GLOUCESTER

Breckenridge, James Miller White, Arthur Jennings GLOUCESTER CITY

Knoedler, Elmer Louvestus Palmer, Howard Earle

HAMSON Freeman, Herbert Augustine

HARRISON
Amrine, Thomas Hamer
Frear, Henry North

HOBOKEN Hodge, Percy Woods, Samuel Hamilton

JERSEY CITY Eurich, Frank, Jr. Graham, Margaret

LONG BRANCH Flowers, Dean Wilcox

MAPLEWOOD Chamberlain, Aimes Reading

# NEW JERSEY-Continued

MARTINSVILLE English, Harry Crawford

MILLBURN Jewett, Fannie Cornelia Frisbie (Jewett, Mrs. Frank Baldwin)

MONTCLAIR
Bedell, Raynor Monroe
Hart, Howard Farnum
Leonhauser, Harry Alexander
Kent, William
Newell, William
Walker, Ralph Eric

NEWARK WARK
Benham, Harrison Merwin
Bixel, Edward C.
Blood, Bryant Harmon
Coe, Frederick Sears
Darrow, Wirt Edward
Gay, Frazer Walker Hinsdale, Paul Milton Krementz, Richard Krementz, Richard Losee, Frank Ira Martin, Frank Merz, August Olshausen, George Robert Sargent, Charles Lawrence Sinclair, J. Edwin Smith, Temple Clifford

NEWARK WARK Thorp, Isaac Jay Willard, Frederic Wilson Wilson, Cecil Floyd

NEW BRUNSWICK W BRUNSWICK
Chidester, Floyd Earle
Cook, Melville Thurston
Davis, Kary Cadmus
Lipman, Jacob Goodale
Palmer, Erik Schjoth
Smith, Ralph Ogden
Van Dyck, Francis Cuyler

NEW LISBON Chambers, Franklin Smith

ORANGE Beach, Edwin Donald

ORANGEBURGH Mettler, Arthur J.

PALMYRA Hitch, Lola Sevilla

Hilferty, Charles Dutton Trowbridge, Elisha Grant

PERTH AMBOY Fisher, Henry Wright Lee, Engbert A. McNitt, Robert Joseph Merriss, Marion Hawthorne PERTH AMBOY—Continued Sell, Harvey Ambrose Wilson, Clarence Edgar PHILLIPSBURG

Redfield, Snowden Bayard Winslow, George William

PLAINFIELD Anthony, William Henry De Lamater, Van Ness Hopton, Lemuel Robert

PLAINSBORO Jeffers, Henry William

Jeffers, Henry William
PRINCETON
Anderson, Walter Edmund
Bennett, Albert Arnold
Birkhoff, George David
Conklin, Edwin Grant
Harvey, Edmund Newton
Heaps, Claude William
Hulett, George Augustus
Kampmeler, Otto Frederic
Martin, James Cook
Shapley, Harlow
Sinclair, William John
Smith, Keith Kuenzie
Smyth, Charles Henry, Jr.
Suydam, Vernon Andrew
Thomas, Phillips
Veblen, Oswald
Williams, Kenneth Powers
RAHWAY

RAHWAY Murray, Benjamin Lindley

RIDGEWOOD Hutton, Robert Leroy

RIVERSIDE Pitts, Robert Mackey

SEWAREN Lacy, Burritt Samuel

SUMMIT Merriam, Henry Franklin SUSSEX

Peck, Ellery Newell

TRENTON
Bellis, Horace Doolittle
Braunworth, Percy Lewis
Moore, Emmeline TRENTON

Morrison, Max Philip Sanders, Walter Edward Vermuele, Cornelius Clarkson

TRENTON, JUNCTION Secor, Wandell B. WEST ORANGE Geiger, George Augustus

WHARTON Menefee, Arthur B.

#### NEW MEXICO

AGRICULTURAL COLLEGE Burkey, Joseph Raymond Hammond, Howard Spurr

ALBUQUERQUE Angell, Martin Fuller Bryan, Kirk Recknagel, Arthur Bernhard Weese, Asa Orrin

Hinman, Harry Winfield Lank, William John

HURLEY Jourdin, Willis Wallace

LAS VEGAS Springer, Frank

SACARRO Coghlan, Byron Kemp MacKay, Thomas Calvin

SANTA FE Neel, Charles Herbert

#### **NEW YORK**

ADAMS

Penney, Albert Silas BANY
Adey, William Henry
Amer, Hiley Newton
Boss, Lewis
Berry, John McWilliams
Beradley, Theodore James
Cameron, Edward Madison
Carpenter, Campbell, Colon
Carpenter, William Morgan
Chapman, Arnold Goodwin
Cleveland, H. Burdett
Cooper, Charles Proctor
Deutschbein, Harry Johnson
Dunham, Caroline Louise (Allen)
(Mrs. Frederic G. Dunham)
Eames, Frederick Marshall
Felt, Ephraim Porter
Hartnagel, Chris Andrew ALBANY Eames, Frederick Marshall Felt, Ebnraim Porter Hartnagel, Chris Andrew Kelley, Frederick Williams Kelly, John Francis Leighton, Henry McCleilan, William McKeefe, Edward Patrick Miller, Edward Waite Miller, Harlan Dewey Myers, Victor Caryl Newland, David Hale Pearson, Raymond Allen Peck, John Calvin Pollock, Horatio Milo Porter, Frank Donald Roy, Arthur Jay See, George Corliss Taylor, Henry William Taylor, Walter Jennings Tucker, Willis Gaylord Van Name, Willard Gibbs Waterbury, Webster Earle Wheeler, Edward Jonathan Wills, John Gordon Whitlock, Herbert Perey

ALFRED Lake, Dyer Barker

AMSTERDAM

Conover, Archie Randall Stewart, George C. Wilson, David

Whitlock, Herbert Perey

ANGELICA Wilgus, Herbert Sedgwick ARKVILLE

Newton, Edmund

AURORA Gaehr, Paul Frederick

BATAVIA Alexander, Charles Anderson Blight, Julia Norum BEDFORD HILLS

Weidensall, Clara Jean

BINGHAMTON Conlee, George Dyer Johnson, Herman Norton Ross, Mary Jane

BROOKLYN OOKLYN Adams, Leon George Aurlinger, Arthur Jay Bartley, Elias Hudson Best, Lyman Austin Beyer, Albin H. Breitwieser, Heman George Carter, Effie Adeline Clark, Tracy Earl Cleaver, Charles
Deiser, Norman Arthur
Dix, Frank Stillman
Dixon, De Forest Halstead

BROOKLYN—Continued
Enger, Arthur Ludvig
Fiedler, Albert
Fort, Edwin John
Freedman, William Horatio
Gager, Charles Stuart
Gannett, Ray Willard
Gobel, Frank Conant
Harris, Lena
Hoffman, Alfred Hoffman, Alfred Hulst, Francis A.
King, Warner
Kroger, Fred Hutton
Leiser, Ferdinand, Jr.
Lyall, Harold William Lyall, Harold William Macon, William Watts Moody, Jessie (Holmes) (Moody, Mrs. H. I.) Noyes, Robert Edgar Oman, Charles Malden Payne, Edgar Long Peele, Grace Darling Rogers, Allen Ryon, Henry Shearer. Harold Hutchis Ryon, Henry
Shearer, Harold Hutchison
Schumann, Carl Julius
Smith, Eugene Randolph
Smith, Marco Carmelich, Jr.
Wagenseil, Oswald Martin
Watson, Cassius Hinds
Wheeler, George Benson
White, Benjamin
Wright, Richard Avery
Wyckoff, Charles Rapelyia, Jr.

BROWN'S STATION Miller, Herbert Eugene

BUFFALO
Bissell, Arthur Douglas, Jr.
Busch, Frederick Carl
Cole, Robert Titcomb
Davis, Lynn Leroy
Dubois, Wilbur Latimer
Fritz, Walter Edward
Hoslam Erwin Ernest Haslam, Erwin Ernest Herden, Byron Voltaire Johnson, Albert Lincoln Kuhn, Joseph Lawton, Elmer Claud Love, Frank William March, Harry Joseph Reamer, Maude Josephine Roberts, John Thomas, Jr. Shepard, Alwin W. Sherry, Ralph Harrison Sibole, Barton Presley Wardwell, Mary Margaretta Witmer, Joseph Franklin Lawton, Elmer Claud

CANANDAIGUA Gelder, Walter Hudson

CHAPPAQUA Cox, Mary Alice (Nichols) (Cox, Mrs. John, Jr.)

CLINTON Carruth, William Massey Fitch, Anna Louise (McKinnon) (Fitch, Mrs. Edward) Saunders, Samuel J.

COLD SPRING HARBOR, L. I.
Banta, Arthur Mangum
Danielson, Florence Harris)
Davenport, Gertrude Anna (Crotty)
(Davenport, Mrs. C. B.)
Davenport, Charles Benedict
Goodale, Hubert Dana
Gortner, Ross Alken
Harris, James Arthur
Shull, George Harrison

COHOES Furbeck, George H. Johnston, Harold Eddy Penrose, Edward, Jr.

COOPERSTOWN Multer, Monte Josiah

COPENHAGEN Lockner, Sidney J.

RNING Duschak, Lionel Herman Duschak, Frances (Eschenburg) (Duschak, Mrs. Lionel Herman) (Bage, Henry Phelps Maxon, Arthur Lyman

CORNWALL-ON-HUDSON King, Eric Ture West, Karl Frederick

Higgins, Reuben Paul

COVENTRYVILLE Parker, Charles Joel

DEPEW Hitchcock, James Ladd Sayers, Boyd Ray

EDMESTON Ackerman, Fred Lee ELMHURST, LONG ISLAND Austin, Herbert Sidney ELMIRA

Bovier, John Hammond Jaggard, Herbert Armstrong Kern, John William Richmond, Francis Alanson

ELMIRA HEIGHTS Preston, Henry Wray

FREDONIA Hartzell, Frederick Zeller FLUSHING

Breckenridge, Clarence Edward Ferguson, William C. Slater, Mary Florence Wells

FORT PLAIN Williams, Joseph Dimock FREEPORT

Malcomson, Alfred Sidney FULTON

Emerick, Louis Warren Shutler, Philip Foster GARDEN CITY, L. I. Miller, Wilhelm

GENESEO Fraser, Samuel

GENEVA Conn, Harold Joel Grossenbacher, John Casser Harding, Harry Alexis O'Neill, James George Parrott, Percival John Watson, Frank Elbert

GLEN CONE Tresselt, Oswald Herman

GLENS FALLS Patterson, Arthur Adams Rhodes, Charles Foster

GLOVERSVILLE Cassedy, William Spencer

HAMILTON Child, Clement Dexter HASTINGS-ON-HUDSON Beach, Harold Kenney Kenyon, Otis Allen HERKIMER

Baker, E. Brown

HIGHLAND Lent, Andrew Wright

HINCKLEY Bennett, Louis Ray

HOLLIS, L. I. Marshall, D. T.

HOOSICK FALLS Cluett, Sanford Lockwood HORNERSVILLE

Stephens, Frank William HUDSON FALLS
Derby, Archibald Stewart
Lewis, Leon Roy

IRONDEQUOIT Anderson, Hugh McVean

ITHACA Albert, Calvin Dodge Allen, Arthur Augustus

Allen, Arthur Augustus
Anderson, Ross Peter
Atkinson, George Francis
Ayres, Hiram Douthitt
Balley, Liberty Hyde
Barnard, William Nichols
Barnes, Fred Asa
Barrus, Mortier Franklin
Barton, Calvin Lewis
Beal, Alvin Casey
Bedell, Frederick
Bentley, Isaac Madison
Bentley, John, Jr.
Bizzell, James Adrian
Black, John Alexander
Blaker, Ernest
Bradley, James Chester
Breed, Frank
Brown, Harry Philip

Breed, Frank
Brown, Harry Philip
Briggs, Thomas Rowland
Browne, Arthur Wesley
Buehler, Albert George Frederick
Burnett, Samuel Howard
Capron, William Cargill
Carver, Walter Buckingham
Carpenter, Rolla Clinton
Cavanaugh, George Walter
Chamot, Emile Monnin
Church, Irving Porter
Clark, Charles Frederick
Comstock, Anna Botsford
Comstock, John Henry
Coville, Luzerne

Comstock, Anna Botsford
Comstock, John Henry
Coville, Luzerne
Craig, Clyde Firman
Craig, John
Crandall, Charles Lee
Crosby, Cyrus Richard
Cross, Louis Josephus
Cushman, Blin Sill
Delbridge, Thomas G.
Dennis, Louis Munroe
Dickey, Malcolm Gillespie
Diederichs, Herman
Douglas, John Frederick Howard
Dresbach, Mervin
Duggar, Benjamin Minge
Durand, Albert Cyrus
Edwards, Austin Southwick
Embody, George Charles
Engeln. Oscar Diedrich von
Fish, Pierre Augustine
Fisher, Willard James
Fitch, Clifford Penny
Ford, Walter Stebbins
Forman, Alexander Hardie

ITHACA—Continued
Frost, Howard Brett
Fuertes, Louis Agassiz
Gage, Susanna (Phelps)
(Gage, Mrs. Simon Henry)
Gage, Simon Henry
Gage, Victor Raymond
Galajikian, Alexander Sarkis
Galajikian, Haig
Galpin, Sidney Longman
Gibbs, Roswell Clifton
Gilbert, Arthur Witter
Gill. Adam Capen Gibbs, Roswell Clifton
Gilbert, Arthur Witter
Gill, Adam Capen
Gillespie, David Clinton
Gilmore, Ralph John
Givens, Maurice Hope
Harris, Gilbert Dennison
Haskell, Eugene Elwin
Hayes, Rud Bryant
Herrick, Glenn Washington
Hess, Howard Drysdale
Hill, George Richard
Hirshfeld, Clarence Floyd
Hitch, Emmet Francis
Hopkins, Grant Sherman
Hopper, Herbert Andrew
Houlehan, Arthur Earl
Howe, Harley Earl
Hoy, David Fletcher
Humbert, Eugene Peter
Hunter, Andrew
Hurwitz, Wallie Abraham
Hutchinson, John Irwin
Hyde, Tom Bruce
Illingworth, James Franklin
Ives. Robert Austin Hyde, Tom Bruce
Illingworth, James Franklin
Ives, Robert Austin
Jacoby, Henry Sylvester
Jensen, Jes Peter Frederick
Jones, Frederick Sowden
Karapetoff, Vladimir
Kerr, Abram Tucker
Kimball, Dexter Simpson
Kingsbury, Benjamin Freeman
Kingsbury, Marguerite (Hem Kimball, Dexter Simpson
Kingsbury, Benjamin Freeman
Kingsbury, Benjamin Freeman
Kingsbury, Marguerite (Hempstead)
Knudson, Lewis
Kramm, Hugo Edmund
Law, James
Leighty, Clyde Evert
Leland, Ora Miner
Livermore, Kenneth Carter
Livermore, George Lewis
McCorneth, George Lewis
McCracken, George Lewis
McCracken, George Lewis
McCracken, George Robert
McMahon, James
Mann, Albert Russell
Martin, Harriett Marie
Matheson, Robert
Mayer, Edwin Charles
Mayes, Harry Welday
Miles, Egbert J.
Milks, Howard Jay
Mills, Adelbert Philo
Minns, Edward Russell
Merritt, Ernest George
Molby, Fred A.
Moler, George Sylvanus
Montgomery, Edward Gerrard
Moore, Veranus Alva
Moore, Veranus Alva
Morgan, Anna Haven
Mulford, Walter
Murdoch, Carleton Chase
Nasmyth, George William
Needham, James George
Nichols, Edward Lemington
Norris, Henry Hutchinson Ogden, Henry Neely
Ogden, Henry Neely
Ogden, Henry Neely
Owens, Fred Williams
Owens, Helen Barten (Brewster)
(Owens, Mrs. Fred William)
Pawling, Jesse Randolph
Peebles, James Clinton
Pertsch, John George, Jr.
Preswick, Eugene Henry
Prucha, Martin John
Ranum, Arthur
Rathjen, Edwin Frederick
Reddick, Donald
Redfield, Harry Westfall
Reed, Hugh Daniel
Rice, James Edward
Richtmyer, Floyd Karker
Ries, Heinrich
Riley, William Albert
Rodgers, Ralph Chapman
Rogers, Clarence Arthur
Rosenbaum, Joseph
Ross, Harold Ellis
Rowiee, Willard Winfield
Sawdon, Will Miller
Schideler, William Henry
Schoder, Ernest William
Sharpe, Francis Robert
Shearer, John Sanford
Sheldon, Pearl Gertrude
Shetterly, Fred
Simpson, Sutherland
Smith, Albert William
Smith, Lucy Wright
Smith, Philip Edward
Smith, Ruby Green Bell
(Smith, Mrs. Albert William)
Snyder, Virgil
Somerville, Albert Alexander
Stewart, Vern B.
Stocking, William Alonzo, Jr.
Stryke, Anna Clegg
Tailby, George Walter, Jr.
Tanner, John Henry
Taylor, Hawley Otis
Thomas, Melvin Francis
Thompson, George Ellsworth
Tinker, Martin Buel
Titchener, Edward Bradford
Turner, Ebenezer Tousley
Udall, Dennie Hammond
Upton, George Burr
Warren, George Frederick
Warren, Mary (Whitson)
(Warren, Mary (Whitson)
(Warren, Mrs. George Frederick)
Webber, Herbert John
Welsh, Thomas Whitney Benson
Whetzel, Herbert Hice
Whipple, Guy Montrose
White, Gorrell Robert
White, Ward Benjamin
Wilber, Davld Truxton
Williams, Harvey Danle
Williams, Harvey Danle
Williams, Henry Shaler
Williams, Roger Butler, Jr.
Williams, Roger Butler, Jr.
Williams, Henry Shaler
Williams, Roger Butler, Jr.
Williams, Harvey Danle
Williams, Henry Shaler
Williams, Henry Shaler
Williams, Roger Butler, Jr.
Williams, Harvey Danle

JAMAICA French, James Benton Linville, Henry Richardson Massey, Myrtle Lothrop

JORDAN
Howe, Anna Mayme
KINGSTON
Tremper, Burton Morss
LAKE GEORGE
Imrie, Daniel Ferguson
LAMONTVILLE
Hutchins, George Pelton
LEWISTON
Morgan, James Warren
LITTLE FALLS
Feldmeler, Harvey
LGCKPORT

Millar, Roger Alexander LONG ISLAND CITY Bond, Stanley Frank Zons, Frederick William

LYONS Volcker, Paul Adolf

MASSENA
Groat, Benjamin Feland
Rickey, James Walter
Ward, Roy Elsen
Whitsit, Lyle Antrim
MECHANICVILLE
Crowell, Francis Sterling
Shoemaker, Harry

MIDDLEBURGH Van Wormer, Wellington Eugene

MT. McGREGOR Howk, Horace John NEWBURGH Millett, Kenneth Ballard NEW ROCHELLE Schell, Orville Hickok Otten, Leonard Flagge

NEW YORK CITY
Aigeltinger, Arthur
Allen, William
Amend, Carl Gustave
Anderson, Rudolph Martin
Appleton, Francis Wirt
Arendt, Morton
Arnold, Harold DeForest
Austin, William Eugene
Baehr, George
Balcom, Homer Gage
Balcom, Homer Gage
Baldwin, Wesley Manning
Ball, Albert
Bancroft, Frank Watts
Barlow, DeWitt Dukes
Barnes, Frank Edwin
Barnum, Charles Gardiner
Barr, John Henry
Barre, Herbert Aubrey
Barton, Calvin Lewis
Bayley, Charles Abercrombie Dunbar

bar
Beans, Hal Truman
Beardsley, Frederick Armour
Beardsley, Frederick Armour
Beardsley, Walter Douglas
Beck, George Elbert
Beckwith, Nathan
Beebe, Silas Palmer
Beinecke, F. W.
Beggs, George Erle
Belcher, Verner A.
Belmont, Franklyn Edward
Bennett, Charles William
Benedict, Stanley Rossiter
Berkey, Charles Peter
Bigelow. Maurice Alpheus
Biggs, Hermann Michael
Black, Adolph
Blake, Edwin Mortimer

NEW YORK CITY—Continued Blanchard, Arthur Horace Blanchard, Arthur Horace
Boas, Franz
Bogert, Marston Taylor
Bokop, Frederick Andrew
Boorman, Kitchell Monckton
Borg, Sydney Cecil
Bostroem, August, Jr.
Bouchard, Harry
Bradley, Phillip Reed
Brainin, Clement S.
Bredt, Edward Arthur
Briggs, Robert Wesley
Briggs, Zenas Marston
Britton, Nathaniel Lord
Browne, Kenneth Caulfield
Bruère, Alice Henrietta
Brun, Clement Benjamin
Bryan, Charles Walter
Burby, James Dennis
Burgoon, Charles Ell Bryan, Charles Walter
Burby, James Dennis
Burgoon, Charles Ell
Burr, William Hubert
Burrows, Montrose Thomas
Caldwell, Edward
Caldwell, Edward
Caldwell, Edward
Caldwell, Sugene Wilson
Calkins, Gary Nathan
Campbell, William
Carpenter, Allan Wadsworth
Carples, Victor Hugo
Carr, Homer Lyman
Carrel, Alexis
Carter, Alfred Ellsworth
Casler, Melvin David
Cattell, James McKeen
Cauchois, Reginald Wadsworth
Cerussi, Peter Bragio
Chambers, Ralph Hamilton
Chandler, Charles Frederick
Channing, John Parke
Church, Ellhu Cunyngham
Clark, Ernest Dunbar
Clark, Ernest Dunbar Clark, Alva Benson Clark, Ernest Dunbar Clark, Frederick Huntington Clark, John Powell Clark, Paul Franklin Clark, Sidney Milton Clemmer, John Hugh Clock, Ralph Oakley Clemmer, John Hugh
Clock, Ralph Oakley
Coburn, Edward Bernard
Coelos, Jules Auguste
Cohen, Nathan
Coleman, Harry Shipp
Coley, Clarence Tallman
Colyer, Charles Irving
Congdon, Edgar Davidson
Congdon, Howard Wilbur
Cooper, Ralph Stuart
Corbett, Harvey Wiley
Cornell, Charles Lorin
Corthell, Elmer Lawrence
Cox, Merlin Lee
Craft, Warren Moore
Crampton, Henry Edward
Crane, Albert Sears
Crocker, Francis Bacon
Crohn, Burrill Bernard
Crossman, Gilbert
Cummings, Noah
Curtis, Carleton Clarence
Curtis, John Greenleaf
Curtis, Robert William
Darrow, Leo Harvey
Darrow, Raymond Cornwell
Davis, Bergen
Davis, Hugh Garnett
Davis, Reuben
Dawley, Clarence Augustus Dawley, Clarence Augustus

NEW YORK CITY—Continued Day, William Schofield De Forest, Nora Stanton (Blatch) (De Forest, Mrs. Lee) Dennenberg, Carl Otto von Denno, Willard Joseph Derleth, Walter Taubert Dickerson, Mary Cynthia Ditman, Norman Edward Dodd, Frederick F. Dodge, Norman Dodge, Richard Elwood Dorsey, Herbert Grove Doubrava, Harry Wilfred Doyle, Edgar Dwight Drowne, Henry Bernardin Duncan, Harry Lee Dunn, Charles Dunn, Gano Sellick Eddy, Walter Hollis Edwards, James Harvey Egbert, Henry Drew Eide, Torris Elser, William James Ellenwood, Frank Oakes Elmen, Gustavus Waldemar Ewing, James Faber, Harold Kniest Falk, Myron Samuel Falkenau, Robert Morris Famulener, Lemuel William Farr, Charles Everett Farrand, Livingston Farwell, Herman Walden Farr, Charles Everett
Farrand, Livingston
Farwell, Herman Waldo
Ferguson, Jeremiah Sweetser
Fettke, Charles Reinhard
Finch, James Kip
Fine, Morris S.
Fisher, Harry Linn
Fischer, Henry Baldwin
Fisher, Joel Ellis, Jr.
Fite, William Benjamin
Flamulener, Lemuel William
Flexner, Simon
Folwell, Amory Prescott
Ford, Frank Richards
Ford, Hannibal Choate
Forest, Henry Pelouze de Forest, Henry Pelouze de Freas, Thomas Bruce Freeman, Alfred Freund, Otto Albert Freund, Mortimer Frissell, Lewis Fox Gaines, John Marshall Geer, Howard Earl Genung, Nelson Howard Gherardi, Bancroft Gibert, Frederick Edward, Jr. Giddings, Franklin Henry Gies, William John Gill, Frederick William Gillespie, Louis John Gladden, Charles Stephen Goddard, Pliny Earle Goehle, Otto Louis Goentner, William Beans Going, Charles Buxton Goldfarb, Abraham Jules Gorsline, Ernest Elisha Grabau, Amadeus William Gratacap, Louis Pope Gray, Clyde D. Greene, Russell DeCosta Groesbeck, George Swetland Grove, William Garrett Hale, Frank Eugene Hallock, William Halpin, Zachariah Power Forest, Henry Pelouze de Freas, Thomas Bruce

NEW YORK CITY—Continued Halsey, Frederick Arthur Hamilton, Francis Marion Hanson, Wilmer Crooks Harper, Robert Almer Harrington, Waiter Gardiner Harper, Robert Almer
Harrington, Walter Gardiner
Hart, Benjamin F.
Hartwell, Fred W.
Haseman, John Diedrich
Hastings, George Tracy
Hastings, Thomas Wood
Hawkes, Herbert Edwin
Hawkes, Herbert Edwin
Hawkes, Herbert Edwin
Hays, Harold Melvin
Hays, Harold Melvin
Hazen, Tracy Elliott
Healey, William Patrick
Heidenberger, Michael
Henry, Philip Walter
Herrick, William Worthington
Hering, Rudolph
Hess, Edward
Hilditch, Warren Witherell
Himmelwright, Abraham Lincoln A.
Hollick, Charles Arthur
Hollingworth, Harry Levi
Holmes, Gerald Anderson
Hoobler, Bert Raymond
Hood, Richard Hayden
Hooker, Elon Huntington
Houghton, Charles Edwin
Howard, Anna Townsend
(Howard, Anna Townsend
(Howard, Charles Walter) Hovey, Walter Freeman
Howard, Anna Townsend
(Howard, Mrs. Charles Walter)
Howard, Charles Walter
Howe, Marshall Avery
Howe, Marshall Avery
Howe, Paul Edward
Humphrey, Calvin B.
Humphreys, Frederick Brewster
Humphreys, George Hoppin, Jr.
Humphrey, Oswald D.
Huntington, George Sumner
Huntoon, Louis Doremus
Hutton, Frederick Remsen
Ingersoll, Howard Lyman
Irwin, David Duryaa
Ives, Frederick Merwin
Jackson, Abraham Wendeli
Jackson, Holmes Condict
Jebejlan, Nejib H.
Jenkins, James Edgar
Jewett, Frank Baldwin
Joannes, Francis Eugene Yeates
Johnson, Alexander
Jouard, Farel Louis
Joüet, Cavalier Hargrave
Judd, Edward Knight
Kaestner, Albert Carl
Kains, Maurice Grenville
Keller, Frederick Rowe Kaestner, Albert Carl Kains, Maurice Grenville Keller, Frederick Rowe Kemp, James Furman Kendall, Burton Warren Kendall, Edward Calvin Kern, Edward Frank Key, Benjamin Witt Kinsman, Richard Ellard Kinsman, Richard Ellard Kirk, Charles Townsend Klaber, William Klein, Frederick Kleiner, Israel Simon Knowlton, Theodore Ely Kraus, Arthur Kress, Otto Kroff, Alfred Hemmer Kruse, Frederick, Jr. Kurtz, Ford Lambert, Charles Irwin Lamme, Maurice Allison Lancaster, George Y., Jr. Landers, Charles Scott

NEW YORK CITY—Continued Lawrence, George Alfred Lawton, Arthur Hamilton Lee, Frederic Schiller Lennes, Nels Johann Leggett, Wills Sargent, Jr. Levy, Arthur Bernard Llano, Antonio Loeb, Jacques Loening, Grover Cleveland
Loewenstein, Jacob
Lothrop, Alfred Pierce
Lovell, Earle Brink
Lotka, Alfred James
Lucas, Daniel Ralph
Lucke, Charles Eduard
Ludwig, Julius Alfred
Luke, David Lincoln
Luquer, Lea McIlvaine
Lush, Cuyler Warfield
Lusk, Graham
Lutz, Frank Eugene
Lynn, Henry Hudson Edwin
McAllister, Addams Stratton
McClendon, Jesse Francis
McGregor, James Howard
MacNeal, Ward J.
Manly, Charles Matthews
Mann, Paul Blakeslee
Manwaring, Wilfred Hamilton
Marks, Louis Benedict
Matthews, Alberta Cory
(Matthews, Mrs. Fred E.)
Matthew, William Diller
Maury, Carlotta Joaquina
May, David Thorpe
Mead, Charles Searing
Mead, Harry Levi
Mehren, Edward John
Merrill, Earl Abbott
Mershon, Ralph Davenport
Metzger, Floyd Jay
Michallovsky, Benjamin
Miller, Myrtle Helen
Mills, John
Mitchell, Samuel Alfred
Mitchell, Walter Louis
Moore, Benjamin
Morecroft, John Harold, Jr.
Morehouse, Lyman Foote
Morgan, John Livingston Rutgers
Morrill, Charles Virgin
Morris, Frederick Kuhne
Morris, Frederick Kuhne
Morses, Alfred Joseph
Mosscrop, William Addams
Munroe, Henry Smith
Murrill, William Addams
Munroe, Henry Smith
Murrill, William Stockton
Nelson, John Raymond
Myers, John Hays
Nelms, William Stockton
Nelson, John Raymond
Myers, John Hays
Nelms, William Stockton
Nelson, John Raymond
Myers, John Hays
Nelms, William Stockton
Nelson, John Raymond
Myers, John Hays
Nelms, William Wallace
Nye, Algernon Sidney
Oplitz, Russell Burton
Osborn, Henry Fairfield
Osburn, Raymond Carroll
Osterud, H. L.
Ottenberg, Reuben
Packard, Charles
Parish, Walnwright
Parker, Herschel Clifford
Parr, Harry Lillienthal
Parsons, William Barclay
Patterson, Silas Beach NEW YORK CITY—Continued Pedersen, Frederick Malling Peebles, Leighton H.
Pegram, George Braxton Pegram, George Braxton Pegram, George Braxton Perry, Clarence Arthur Pike, Frank Edson Perry, Clarence Arthur Pike, Frank Henry Pistor, George Emil John Polk, William Mecklenburg Popp, William Joseph Potter, Winfield Scott Potts, Clyde Powell, Frederick James Prentiss, Henrietta Prosser, Herman A.
Pupin, Michael Idvorsky Quass, Ralph Leroy Rautenstrauch, Walter Read, Henry Lewis Reddick, Harry Wilfred Reynolds, Winfred Everett Richards, Herbert Maule Riddle, John Scott Riegel, Ross Milton Riker, George Newton Riley, Henry Alsop Riley, Wells Littlefield Roberts, Charles Asaph Robinson, Charles Albert, Jr. Robinson, Ernest Franklin Robinson, Floyd Lucien Rogers, John Rosenbloom, Jacob Rossiter, Ehrick Kensett Rothschild, Walter Louis Rulison, Elbert Theodore Ryan, John Joseph Rydberg, Per Axel Ryder, Ely Morgan Talcott Sanderson, Edwin Nash Sanford, Warren Bixby Saurel, Paul Louis Schieffelin, William Jay Schlapp, Max Gustav Schilchter, Walter Irvine Schulte, Hermann von Wechlinger Scripture, Edward Wheeler Seaver, Fred Jay Senior, Harold Dickinson Sever, George Franklin Heverin Shape, Robert Louis Sharp, Clayton Halsey Shaw, James William James Shakespeare, Franklin Heverin Shape, Robert Louis Sharp, Clayton Halsey Shaw, James William James Shakespeare, Franklin Heverin Shape, Robert Louis Sharp, Clayton Halsey Shaw, James William Griffith Slosson, Edwin Emery Smith, Hervamder Smith, Hevander Smith, Hevander Smith, Howard Dwight Soper, George Albert Spencer, Charles B. Stacy, Henry Pomeroy Steinhardt, Edna Stevenson, Reston Stiffer, William Warren Stinson, Joseph Whitla Stockard, Charles Rupert Stone, George Cameron Stout, Arlow Burdette Storey, Thomas Andrew Stoughton, Bradley Strong, Oliver Smith Strong, Wendell Melville

NEW YORK CITY—Continued Struthers, Joseph Talkes, Louis Nelson Talmadge, Jesse Moore Tanz, Isadore Taylor, Alfred Ernest Taylor, Edwy Lycurgus Tea, Peter Louis Teeple, John Edgar
Terrasse, George Louis
Thacher, Henry Clarke
Thomas, Clarence Proctor
Thomas, Charles W.
Thomasen, Edgar George
Thorndike, Edward Lee
Thro, William Crooks
Thurston, Edward Day, Jr.
Timmerman, Charles Edward
Tombo, Carl
Torrance, William Martin
Tour, Reuben Simkin
Tower, Ralph Winfred
Trowbridge, Charles Christopher
Tucker, Benjamin J.
Tucker, Samuel Auchmuty
Tugman, Orin Teeple, John Edgar Trowbridge, Charles Christopher Tucker, Benjamin J.
Tucker, Samuel Auchmuty Tugman, Orin Turner, Daniel Lawrence Tuthill, James Foster Van Dusen, Gardner Lewis Van Slyke, Donald Dexter Van Vleck, Ernest Allen Vehslage, Harold Edwin Vulte, Herman T.
Wait, John Cassan Walker, Arthur L.
Walker, Elisha Walker, Howard George Wallbridge, William Knickerbocker Wallin, Ivan Emanuel Walton, Joseph Barnard Ware, Howard Thomas Ward, George Merritt Webb, Harold Worthington Weed, Walter Harvey Weick, Charles William Weingarten, Frederick Seymour Wells, Arthur Cleveland Welty, Harry True Wendell, George Vincent Westfall, John Van Etten Wheeler, Edwin Bennett Wessler Harry Whipple, Doris William Arthur White, James Gilbert Wiechmann, Ferdinand Gerhard Wiggers, Carl John Williams, Harvey Daniel Williams, Harvey Daniel Williams, Roland Hugh Williams, Samuel Byron, Jr. Wills, Albert Potter Wise, Louis Elsberg Wills, Albert Potter
Wilmot, Sydney
Wilson, Edmund Beecher
Wise, Louis Elsberg
Wise, Sidney Leo
Wolff, Alfred Daniel, Jr.
Wolf, Charles George Lewis
Wood, Francis Carter
Woodrow, Harry Ray
Woticky, Charles Boyd
Wright, Roydon Vincent
Young, Rowland Lawrence

NIAGARA FALLS Beers, Harold Smith Brown, Mortimer Jay

NIAGARA FALLS—Continued Carpenter, Campbell Colon Carveth, Hector Russell Eshelman, Clarence Metz Graling, Verney Perkins, Alfred Emery Russell, Alexander Snowdon, Ralph Cuthbert NORTH TONAWANDA Vroman, Dow NORTH TROY Betts, Anson Gardner NORWICH Sage, Lillian Belle NUNDA Barron, John Hail NYACK Doig, Arthur Knox ONEIDA Allen, Grosvenor Noyes Baker, Harold Wallace Leonard, Stephen Rose OSSINING Walrath, Otto Jean OSWEGO Lawton, Walter Lewman Reddish, Thomas Henry Wadhams, Darius Thompson OXFORD

Holmes, Harvey Nelson PERRY Benedict, Charles Holbrook PHOENIX Maider, Joseph Plaisted PINE PLAINS Merchant, John Crap PLEASANTVILLE Knight, Annabel (Beach) (Knieght, Mrs. Bertram G.

PORT CHESTER McWeeney, Lawrence Riley POTSDAM Brooks, John Pascal Wheeler, Edwin Bennett

POUGHKEEPSIE Abbott, Edwina Eunice Blunt, Katherine Doan, Martha Doan, Martina Murray, Elsie Pilcher, Lewis Frederick Todd, Leona Estelle Washburn, Margaret Floy White, Henry Seely Wick, Frances Gertrude PORT JERVIS

Eldredge, Frank Ernest PURLING Emigh, William Chester

RAY BROOK

Garvin, Albert Henry

REBER West, George Hutton RICHMOND HILL Macomber, Irwin John

RIVERDALE Dean, Bashford

ROCHESTER
Bloxham, Thomas Earl
Britton, George Chester
Chambers, Victor John
Chapman, Carlton Thorp
Edmondson, George Joseph Nelson
Ernsberger, Millard Clayton

ROCHESTER—Continued
Fairchild, Herman Le Roy
Gale, Arthur Sullivan
Hastings, Herbert
Higby, Edwin Barker
Hunter, Fred Walter
Keyes, Frederick George
Keller, Lloyd Marley
Lawrence, Henry Edmund
Little, Beekman Cox
Lomb, Henry Charles
Mosher, Howard Townsend
Mosscrop, Alfred Milton
Nims, Albert Armstrong
Peck, Henry Waterman
Punnett, Milton Baxter
Wilcox, Perley Smith
Wilder, Edward Lyman
Winans, Edwin Henry
ROME

Clark, Ida Adella Ross

(Clark, Mrs. J. Edwin) JOHNSVILLE Horn, Adam John

SCHENEVUS

Bennet, Raymond S. SENECA FALLS Allen, William Gordon Sharp, Stella Emily

SHERBURNE Kutschbach, Harold Newton SONYEA

Munson, James Frederick

SOUTHAMPTON

SOUTHAMPTON
Cameron, Walter Scott
TONAWANDA
Ayrault, Miles
Barrally, Thomas Webster
TRUMANSBURG
McLallen, Henry Crane
SCHENECTADY
Allee, David Arthur
Barnes, Alfred Henry
Bassett, John Besler
Becker, Walter J.
Bell, James Clark
Blair, Nathan Doud
Broderson, Harry Peter
Brunnett, Robert Leonard
Callan, John Albert Charlton
Chapman, Charles Herbert
Champlin, Franklin Jerome
Cheney, Edward Joseph
Clark, Rodolphus Philip
Cooper, Frank Cooper, Frank
Cooper, Sidney Bruce
Craighead, James Ray
Creighton, Elmer Elsworth Farmer

Creighton, Ellmer Elsworth Farmer Cunningham, James Hannah Dalton, Ida (Hill) (Dalton, Mrs. William) Dantsizen, Christian Davies, Arthur Edgar Davis, Cassius Miles Day, Winterton James Doherty, Robert Ernest Ellery, Edward Ferguson, Olin Jerome Finch, Raymond J. Garls, Charles Frederick Flemming Garrison, Wilbert A. Garrison, Wilbert A. Girvin, Fred Gray, George Francis

Grover, Harland Haviland Hambleton, Thomas Hamilton, William S. H. Hannigan, Thomas Edward Hull, John Irving

SCHENECTADY—Continued
Kawara, Masaki
King, Morland
Knowlson, James Somerville
Kruesi, August H.
Lacy, Frederick Thurlow
Landreth, Olin Henry
Landreth, William Baker
Lichtenberg, Chester Alan Arthur
Lyon, George John
Marx, Augustine
Nash, Charles Anson
Opdyke, Howard
Parker, Glowacki Redfield
Paul, William Edward
Pepper, Albert Hartwell
Phillips, Frank Dewey
Rask, Louis
Reid, George Harold
Robinson, Lloyd Nash
Sheldon, Lucian Ambler
Stansel, Numan Reid
Steinmetz, Charles Proteus
Stoller, James Hough
Teegarden, Chester Henry
Thompson, George Ellsworth
Travis, S. Vernon
Truax, James Reagles
Trumbull, Charles W,
Turner, Leonard Whittier
Van Alstyne, H. A.
Vandergrift, Wayne Avril
Van Dyke, Clifford Steele
Watson, Wallis Cowl
Weller, William Earl
Westcott, Bayee Newcomb
Whitmore, Peter J.
Williams, Ernest Daniel

Westcott, Bayes Newcon.
Whitmore, Peter J.
Williams, Ernest Daniel
Wood, Dann Leonard
Wright, William Howard
Young, Daniel Albert

SYRACUSE

RACUSE
Archibald, Ebenezer Henry
Blackman, Maulsby Willett
Brainerd, Arthur E,
Bray, William L.
Brown, Harold Hiram
Brunel, Roger Frederic
Bullard, Warren Gardner
Cashman, Marie Elizabeth
Chamberlin, Dan Woleaver Clark, Dean

Chamberlin, Dan Woleaver Clark, Dean
Clark, Hervert Anthony
Clark, Elizabeth Garrett
Clark, Herbert Anthony
Conway, Ernest Franklin
Cuningham, John Wesley
Decker, Floyd Fiske
Dooley, Marion S.
Gardenler, Howard Tompkins
Gordon, Neil E
Graham, William Pratt
Hager, Edward Charles
Hanford, George Arthur
Hargitt, Charles Wesley
Harris, Walter David
Harvey, Frederick Addison
Haskell, Robert Henry
Holmes, Arthur
Hopkins, Thomas Cramer
Houghton, Alexis Charles
Jones, Louis Cleveland
Keenan, Ernest C.
Knowlton, Frank Pattengill
Lambert, Alice (Venters)
Lambert, Mrs. Charles A.
Lay, Robert Phinney
Lindsey, Louis
McCarthy, Edwin Florince

SYRACUSE—Continued
Mathews, John Alexander
Mavor, James Watt
Meader, Fred Marlen
Merritt, Elizabeth Read
Metzler, George Frederick
Mitchell, Louis
Morton, Darwin Abbot
Murphy, Ralph
Northeott, John Arthur
Nugent, Paul Cook
Pattee, Ernest Noble
Peck, Henry Allen
Pennington, Leigh H.
Perry, Clinton W.
Phillips Ruth Laura
Pratt, Daniel
Rice, Lepine Hall
Richardson, Charles Henry
Roe, Edward Drake, Jr.
Rogers, Charles Gardner
Saunders, Frederick Albert
Smallwood, Julian Chase
Smallwood, William Martin
Smith, Burnett
Smith, Harry Monmouth
Steensland, Halbert Severin
Sperry Earl Eugene
Vickers, Thomas McElderry
Ward, Herbert C.
Weiskotten, Herman G.

Andros, Charles Henry
Babcock, Charles David
Calkins, Charles Dow
Cary, Edward Richards
Chillman Edward Fenemore
Clark, Elwyn Maxson
Clark, LeRoy Walter
Crockett, Charles Winthrop
Doty, John William
Edwards, Frederick
Greene, Arthur Maurice, Jr.
Headden, William Ralston
Hechler, Fred George
Hunter, Matthew Albert
Jones, Edward Crosby
Lawson, Thomas R.
Lincoln, Azariah Thomas
McClellen, Hugh Herbert
McGiffert, James, Jr.
Mason, William Pitt

TROY—Continued
Moody, Lewis Ferry
Palsgrove, Grant Knauer
Puffer, Louis Blackmer
Rice, Edward Young
Ricketts, Palmer Chamberlain
Robb, William Lispenard
Rousseau, William White, Jr.
Schulte, Edward Delavan Nelson
Slatcher Alfred Gale
Taylor, David Brier
Thompson, Dwinel Burt
Thompson, Dwinel French
Thompson Gordon Saxton
Thompson, Harold Grant
Turner, Benjamin Mitchell
Weber, John Leroy
Whitney, William Earl
Williams, Wyant James
Willson, Frank J.

UTICA
O'Brien, Abigail Adaline
Pond, Raymond Ashley
VICTOR
Osborne, David Henry
WALTON
Rose, Alston Orange
WARWICK
Hitchcock, Fanny Rysam Mulford

WATERFORD
Abbott, Walter Russell
Knickerbacker, John
Koerner, Frederick Charles, Jr.
Willis, Harry P.

WELLSVILLE
Schaller, Alvin Louis
WEST CAMDEN
Smith, Arma Anna
WHITE PLAINS
Allen, Frank William
WILTON
Brown, Harry Baldwin
WORCESTER
Genung, Lewell T.

YONKERS
Crehore, Albert Cushing
Harris, Isaac Faust
Kennedy, Herbert Leopold
Miller, Max Merrill
Ord, Herbert James
Sikes, Zenas Harrison
Wadsworth, Joel Edward

### NORTH CAROLINA

CHAPEL HILL
Bell, James Munsie
Brown, Wade Hampton
Chrisler, Vivian Leroy
Pratt, Joseph Hyde

CHARLOTTE
Firth, Joseph
Wright, Thomas Judson, Jr.

GREENSBORO Gilbert, George Herbert Little, Thomas Robinson Strong, Cora

HORSE SHOE Morgan, James Oscar LINVILLE Gage, John Gray

RALEIGH
Mowbray, Albert Henry
Ray, Burton Justice
Sherman, Franklin, Jr.
Tillman Opal Ione
Withers, William Alphonso

WAKE FOREST Brewer, Charles Edward

WEST RALEIGH Vaughan, Lillian Lee

### NORTH DAKOTA

AGRICULTURAL COLLEGE Dynes, Oliver Wesley Reynolds, Ernest Shaw

DOUGLAS Grangaard, Henry Oswald

FARGO
Bell, William Bonar
Putt, Earl Berger
Shaw, John Austin
Spence, Bartholomew John
Ziefle, Adolph

GRAND FORKS
Brannon, Melvin Amos
Ruediger, Gustav Ferdinand
Spence, Bartholomew John
Stephenson, Edward Beattle

GRAND FORKS—Continued Taylor, Albert Hoyt Young, Robert Thompson HUNTER

Critchfield, L. R.
LIDGERWOOD
Parsons, Arthur Leonard

STANLEY Miller, R. C.

TAYLOR Weyrens, Joseph Peter

UNIVERSITY Hitchcock, Raymond Royce Thompson, Clinton Adam

VALLEY CITY James, McNeal Cole

## OHIO

CLEVELAND—Continued
Bidle, William Sanford
Black, Homer Samuel
Blaser, Arthur Frederick
Blaser, William Edward
Bliss, Carl Edwin
Boertlein, John Charles
Bohrer, August Jacob
Boynton, Napoleon Hiram
Brechner, Claude
Brooks, Chester Kingsley
Burns, Dean
Burrell, Edward Parker
Cadwell, Charles Arthur
Chillas, Richard Burt, Jr.
Christian, Charles Henry Burell, Edward Parker
Cadwell, Charles Arthur
Chillas, Richard Burt, Jr.
Christian, Charles Henry
Collens, Clarence Lyman
Comstock, Frank Masson
Coppersmith, Charles William
Croxton, David Thomas
Cunningham, John Ferguson
Cushing, Henry Platt
Dates, Henry Baldwin
Dawson, Jean
Dingle, Howard
Dubois, Norman Armin
Eddy, Clarence Leroy
Eynon, Howard Blaine
Fay, Harvey William
Fernald, Robert Heywood
Finck, Albert
Focke, Theodore Moses
Friedman, Adolph Jacob
Fulton, Charles Herman
Gaede, Oscar Louis
Gannett, Joseph K.
Geissler, Ludwig Reinhold
Goffing, Charles
Grant, Richard Frank
Hall, George Herbert
Henninger, John Gordon
Henry, Smith Tompkins
Hibben, Frederick Martin
Hodgman, Charles David
Hoffman, Robert
Howe, Charles Sumner
Hubbell, Benjamin S.
Hulett, Frank Erastus
Ives, Herbert Eugene
Jones, Lewis Meredith
Kappler, Harry John
Kemble, Thomas Seth
Klingman, Charler
Kingman, Arthur Martin
Knirk, Carl Fred Kemble, Thomas Seth Klingman, Arthur Martin Knirk, Carl Fred Kurtz, Cyrus Bosworth Lofquist, Harry Stephen Lorenz, Charles Frederic

AKRON

AKRON
Bissell, Frank Edward
Brookover, Charles
Frost, Harry Henry
Geer, William Chauncey
Meredith, Kenneth Llewellyn
Schade, James Walter
Steele, Frank Amos
Whitney, Francis Luther

BARBERTON
Austin, Arthur Oswin
Cruser, Frederick Van Dyke
Harter, Isaac, Jr.

BEREA Fullmer, Edward Lawrence Hoddinott, Richard James

BLUFFTON Hirschler, Edmund John

CANTON Petersen, John William

Petersen, John William
CINCINNATI
Benedict, Harris Miller
Carman, Joel Ernest
Dock, Howard
Eddy, Horace Taylor
Fabian, Francis Gordon
Fenneman, Nevin Melanchthon
Fischer, Martin Henry
Goettsch, Henry Max
Guillaudeu, Arthur
Hadfield, Frank Stanley
Hart, Joseph Hall
Howe, William Thomas Hildrup
Jones, Lauder William
Long, Carlos Pointon
More, Louis Trenchard
Powell, William Henry
Price, Victor Taylor
Ruth, Edgar Kingsbury
Slocum, Stephen Elmer
Steere, Charles Childs
Upson, Fred Wilbert
Wernicke, August Ludwig Paul
Whitacre, Horace J.
Wieman, Harry Lewis
CLEVELAND

CLEVELAND
Abbott, Robert Rowell
Adams, Ira James
Allen, Harry Lee
Ambler, William
Ayers, Augustine Ridenour
Barnes, Frederick Arthur
Baxter, Burke Morgan
Beahan, William
Bergen, William Joseph
Beman, Ralph

#### OHIO-Continued

CLEVELAND—Continued
Lovell, Frederick William
Mabery, Charles Frederic
Melendy, Jesse George
Merrill, Albert Ell
Merrill, George Schambs
Miller, Dayton Clarence
Neff, Frank Howard
Nelson, John Harland
North, Carl Uno
Olivenbaum, John Emanuel
Olmsted, Charles Thomas
Osborn, Kenneth Howard
Palmie, Anna Helene Olmsted, Charles Thomas Osborn, Kenneth Howard Palmie, Anna Helene Plum, Harley Martin Pomeroy, Lawrence A. Porter, Charles Talbot 2nd Prentice, Philip Boynton Price, Howard Wade Pulman, Oscar Stoddard Roberts, Arthur Boardman Sheal, Robert Erwin Skiff, Warner Mason Smith, Albert William Smith, Stephen Herbert Snow, Harry Alfred Snyder, Robert Earle Spooner, Robert Earle Spooner, Robert Earle Spooner, Robert Henry Springsteen, Harry William Staley, Cady Stauffer, Clinton Raymond Steuer, Arthur Henry Stewart, George Neil Stocking, William Arthur Stratton, Harry Frost Strosacker, Charles John Sullivan, Walter Edward Sweetser, William Jordan Trumbuil, Alonzo George Van Horn, Frank Robertson Veazey, William Reed Vose, Fred Hale Welfare, Harry George Whitman, Frank Perkins vose, Fred Hale
Welfare, Harry George
Whitman, Frank Perkins
Wilker, Arthur Victor
Williams, Arthur Baldwin, Jr.
Wilson, Delonza Tate
Winckler, Isaac Lewis
Worthing, Archie Garfield
Zesiger, Albert William

Arnold, Charles Lincoln
Bachtel, Myron Ansel
Barnett, Lelia (Harvie)
(Barnett, Samuel Jackson)
Barnett, Samuel Jackson)
Barnett, Samuel Jackson
Barrows, William Morton
Bear, Firman Edward
Beer, James Anderson
Blake, Frederic Columbus
Bleile, Albert Martin
Bohannan, Rosser Daniel
Boord, Cecil Ernest
Bownocker, John Adams
Boyd, James Ellsworth
Bradford, Joseph Nelson
Brenholts, Roy
Caldwell, Francis Cary
Coddington, Edward Foster
Cole, Alfred Dodge
Condit, Daniel Dale
Crane, Evan Jay
Dachnowski, Alfred Paul
Davis, Vernon Hayes
Davison, Alfred Watson
Demorest, Dana James
Detmers, Fredericka
Dye, Clair Albert

COLUMBUS—Continued Earhart, Robert Francis Edmonds, Mary Elizabeth Edmonds, Mary Elizabeth
Emo, Frank Harvey
Erf, Oscar
Evans, William Lloyd
Foulk, Elma (Perry)
Foulk, Mrs. Charles William
Foulk, Charles William
French, Thomas Ewing
Funk, Agnes (Smiley)
(Funk, Mrs. Lee W.)
Giesy, Paul Miller
Gill, James Herbert
Griggs, Robert Fiske Griggs, Robert Fiske Haines, Thomas Harvey Hallnes, Thomas Harvey Hall, Ralph Edwin Hambleton, James Chase Henderson, William Edwards Hills, Thomas McDougall Hilne, James Stewart Hinkle, Albert Harrison Hinkle, Albert Harrison Hitchcock, Embury Asbury Hoskins, Roy Howell, Carl Eugene Hunt, John Herman Jaros, Zillah Heldenheim (Mrs. Ernest S. Jaros) Judd, Horace (Mrs. Ernest S. Jaros)
Judd, Horace
Kauffman, George Beecher
Kellogg, David Raymond
Kern, William Frederick
Knight, William Frederick
Knight, William Frederick
Knight, William Abner
Kuhn, Harry Waldo
Landacre, Francis Leroy
Landacre, Walter Alexander
Lazenby, William Rane
Lord, Henry Curwen
Lord, Nathaniel Wright
Lyman John Franklin
McCampbell, Eugene Franklin
McClure, Charles Walter
McCoard, George Washington
McCune, John Stokes
McLellan, Marie Fansher
McOmber, Loren Wallace
McPherson, William
Maclean, Margaret
Magruder, William Thomas
Manson, Edmund Sewall, Jr.
Mark, Clara Gould
Marshall, Frederick Rupert
Metcalf, Clell Lee
Mills, William C.
Morrey, Charles Bradfield
Morris, Clyde Tucker
Morse, William Clifford
Murray, Gerard Archibald
Nold, John H.
Norton, Edward, Jr. Norton, Sidney Augustus Orton, Edward, Jr. Osborn, Herbert Osborn, Herbert
Patterson, Austin McDowell
Phillips, James McIlvane
Plumb, Charles Sumner
Price, Homer Charles
Prosser, Charles Smith
Purdy, Ross C.
Rasor, Samuel Eugene
Ratalczak, Thomas Francis
Ray, Franklin Arnold
Rickard, Hortense
Riddle, Howard Sterling
Sanborn, Frank Edwin
Schaffner, John Henry
Shattuck, Howard Francis
Sheard, Charles Sheard, Charles Sheets, Cree Sherman, Christopher Elias Simon, Trevor Burchfield

### OHIO-Continued

COLUMBUS—Continued
Sisson, Septimus
Smith, Alpheus Wilson
Smith, Clara
Somermeir, Edward Elsworth
Staley, Homer Francis
Starin, William Alfred
Stertzbach, Harry Walter
Stratton, George Weatherworth
Swartzel, Karl Dale
Thomas, Benjamin Franklin
Vivian, Alfred
Weber, Henry Adam
Weiser, Harry Boyer
West, Carl Joseph
White, David Stuart
Wilkinson, John Anderson
Withrow, James Renwick
Witzemann, Edgar John
Wyer, Samuel S.
CONNEAUT

CONNEAUT
Phelps, Roscoe Gaylord
Treat, Frank Edward

DAYTON
Clements, Frank Orville
Gebhart, Henry
Kettering, Charles Franklin
King, Roy Stevenson
Kohr, Donald Alexis
Mougey, Harry Clifford
Williams, Harry Markley

DELAWARE Higley, George Oswin

ELYRIA Lloyd, Karl Ernest

FOSTORIA Cogger, William Thomas Lee Cross, Edward Ostrom Kline, Zenas Clyde

FREMONT Goodwin, Joseph Hugh Holmes, Willis Boit

GAMBIER Walton, Lee Barker Weida, George Francis

GENEVA Beach, Burr A. GRANVILLE Carney, Frank Coghill, George Ellett Lawton, Ellis Earle

HAMILTON Lake, Charles Henry Pfau, William Henry Vaughn, Frank

HARTWELL Cragg, Shirley Ray

HILLSBORO Jeans, Philip Charles

LAKEWOOD Lynn, Ralph Bell

LANCASTER McCleery, Edna May

LEXINGTON Smith, Harry Ford LORAIN

Brown, Earle Wayne Farkell, George C.

MANSFIELD Woltmann, Harro

MARIETTA Coar, Henry Livingston Krecker, Frederick Hartzler MIAMI Fink, Bruce

MT. VERNON
Dorr, Albert Wilford
Fink, Bruce
McNiece, Charles Rex
Miller, Clyde Raymond
Shuptrine, Harry Augustus
Woltmann, Harro

NORWALK Morse, Ralph Luther

OBERLIN
Branson, Edwin Bayer
Chapin, William Henry
Hubbard, George David
McCullough, James Caldwell
Moore, Edward James
Nichols, Susan Fercival
Sinclair, Marye Emily
Williams, Samuel Robinson

ORVILLE Scott, Walter Glenn

OTTAWA Johlin, Jacob M., Jr.

OXFORD Brill, Harvey Clayton Davis, Benjamin Marshall Leach, Mary Frances

PAINESVILLE
Cumings, Homer P.
Fernald, Grace Maxwell
Noyes, Mary Chilton

PEEBLES
Wittenmyer, James Graham
PERRY

Tyler, Frederic Jared PLAIN CITY Davis, William Joseph Ruhlen, Frank

RACINE Cross, Jessie Floy

RAVENNA Mendenhall, Thomas Corwin

REYNOLDSBURG Fitzgerald, Albert Daniel

SANDUSKY King, Clifford Marshall Newberry, Andrew White Newbury, Spencer Baird Phelps, Gurley Sloan

ST. MARYS Heisler, Charles Louis

TOLEDO
Britton, Gienn B.
Demorest, Ralph Hugo
McClure, Harry Clifford
Price, Claude Elmer

WELLINGTON Pratt, Jean Paul

WOOSTER
Carmichael, Berton Eugene
Collison, Reginald Clinton
Forbes, Ernest Browning
Houser, John Samuel

YOUNGSTOWN Campbell Louis J. Fawcett, Luther Thomas Thayer, Paul Folsom

ZANESVILLE Pence, Forrest Kizer Whitmer, J. D.

# **OKLAHOMA**

ALVA Hubbard, Albert Kemp

ENID Heaney, Arthur Noble

GUTHRIE Howard, William Edward

MILL CREEK Bloom, Jay George

NORMAN
Bozell, Harold Veatch
Gould, Charles Newton
Haseman, William Peter Lane, Henry Higgins

NORMAN—Continued Perrine Irvine Shannon, Charles William Snider, Luther Crocker

OKLAHOMA CITY Carter, Jesse Lee MacKintosh, William

STILLWATER Chandler, Richard Edward Etherton, William Alonzo Moorehouse, Llewellyn Alexander Sanborn, Charles Emerson Stoner, Minnie Ava Nella

## OREGON

ALBANY Harrington, Arthur Strong MacDuff, Nelson Ferris ASHLAND

Staples, Charron Monell CASCADE LOCKS Thompson, Clark Wallace

COBURG Washburn, Orson Monroe

CORVALLIS COVEII, Grant Adelbert
Ewing, Henry Ellsworth
Hillebrand, William Arthur
Jackson, Herbert Spencer
Lewis, Claude Isaac
Shepard, Edgar Raymond
Sykes, George Francis

CRESSWELL Swift, Frank Houston

CRYSTAL Rose, Jessie Perkins THE DALLES White, Clarence Lester

EUGENE GENE Boyard, John Freeman Gullion, Omar Ray Leonard, Heman Burr Pierce, Raymond Clark Shinn, Frederick Lafayette Stafford, Orin Fletcher

KLAMATH FALLS Geiger, Arthur Edwin MEDFORD Janney, Emily Florence O'Gara, Patrick Joseph

MILWAUKEE Hall, Elmon Lawrence

PORTLAND Ames, Fred Elijah Baird, Alvin Walter Barber, John Raymond Bittner Adolf Frederick Bittner Adolf Frederick
Brandon, Henry Clay
Coldwell, Oring
Davenport, Royal William
Donald, Robert L'Amy
Gilbert Josiah Allen
Green, Clarence Jasper
Griffin, Frank Loxley
Hollister, Bertha Anta
Kummel, Julius Frank Kummel, Julius Frank
LeTourneau, Edward Harold
MacLaren, John Dice
McLean, Franklin Chambers
Moore Joseph K.
Rands, Harold Alva
Sabin, Charles Gilbert
Selling, Lawrence
Solhaug, Jens Johan
Stevens, John Cyprian
Thorne, Norman Campbell

SALEM Lewis, John Howard

SILVERTON Kleinsorge, Rudolph Ernst

### PENNSYLVANIA

ALLEGHENY Affelder, Harry Flei Hall, William Charles Fleishman

ALTOONA Dunklin, Gilbert Turner Thomas, John Hastings Williams, Alan Gillespie

AMBLER Hough, William Jarrett H. AMBRIDGE

Garlinghouse, Leslie Holmes Paine, Clifford Emmett Ruff, Edward John

ANNVILLE Krelder Joseph Lehn

ARDMORE Sellers, Horace Wells

ASHLEY Northrup, Arthur Miller

BEAVER FALLS Walker, Francis William, Jr.

BLAIRSVILLE Ihlseng, Magnus Colbjarn

BRADYS BEND Dewey, Edward Wilkins BROOKVILLE

Corbet, William Wakefield

BRYN MAWR
Ferree, Clarence Errol
Johnston, William Demorest
Plnney, Edith
Reeds, Chester Albert
Stevens Nettle Maria
Weeks, Eula Adeline

CLARK SUMMIT Rutherford, Thomas Arthur

CANONSBURG Bosworth, Rowland Sherwood Schade, Charles George

Bird, Harold Crusius Klaer, Henry Jacob Wyman, Levi Parker

CHESWICK
Cowell, Sophie Harriet (Lynden)
(Mrs. Arthur Wescott Cowell)

## PENNSYLVANIA—Continued

CLEARFIELD Stawart, Lever Flegel COLLEGEVILLE Fox, Henry Rapp, Isaiah March CONNELLSVILLE Veser, Lucius Otto CORAOPOLIS Braden, Frank Robert CORRY Rowe, Harte Langdon CREIGHTON Kerr, Charles Henry CYNWYD Corson, Edward Foulke DALEVILLE Medway, Herbert Edwin DONORA Acomb, William Edward DU BOIS Blakeslee, Robert Byron EASTON Goldbeck. Albert Theodore Kirkpatrick, Donald Morris Mackay, Charles Smick, Jr. Saxon, Louis SAXON, LOUIS
EAST PITTSBURGH
Chubb, Lewis Warrington
Hale, Fred James
Hardin, Charles Marks
Herr, Herbert Thacker
Kinsell, William Leonard
Shearer, Conway Wing
Skinner, Charles Edward EDGEWORTH Rorty, Malcom Churchill **EPHRATA** Fry, John Martin

ERIE

Clemens, Hays Hutchinson
Hughes, John Wilbur
Kessler, Armin George
Roth, Augustus Henry Halyard
Sprau, Benjamin William
Strickland, Charles Gunnison
Thompson, Alfred Whittecar

ETNA McKee, William John

FRANKLIN Bulmer, William Carr Milton, William Ossian

GERMANTOWN Andrus, Walter Haskell

GETTYSBURG Granville, William Anthony Kirby, Richard Shelton Parsons, Louis Alexander

GREENVILLE Samans, Walter

GROVE CITY Sieplein, Otto Julius

GWYNEDD Knapp, Kenneth Ralph

HAMBURG Jacobs, Michael William, Jr. HARRISBURG

Coover, Carson Gilbert, Henderson Hoffert, Henderson Hoffert, John Raymund Miller, David Isaac Romine, Edward Chapin Surface, Harvey Adam HERSHEY
James, Delas Lawrence HOKENDAUQUA
Thomas, Samuel Richards
Williams, Edward Hall

JOHNSTOWN

HNSTOWN
Clarke, Edgar Whitney
Cook, James Monroe, Jr.
Dillenbeck Arvin J.
Kress, James Edward
Marshall, Stewart McCulloch
Ottinger, Harry
Weaver, Frank Roderic
Winkler, Lewis Harry

KINGSTON Jordy, Louis Cleveland

LANCASTER Atlee, John Light

LEBANON Light, Seth Andrew

LEWISBURG Stewart, Norman Hamilton MCDONALD

Barrett, Arthur MEADVILLE Akers, Oscar Perry Hempstead, Louise

MIDLAND

Jett, Carter Coleman MIFFLINBURG Bikle, Paul Harold

MILTON Jenkins, David John MYERSTOWN Stober, James Palm

NEW CASTLE DeWeese, Dwight Combs Fitzpatrick, Victor Benedict

NEW KENSINGTON

Chesley, John Osborne

NORRISTOWN
Richardson, William Waddle
Swalm, Charles Joseph
Tompkins, Ernest

NORTH GIRARD Kepler, William Robertson

PENCOYD Gregory, Arthur Main Pollitt, Edward

Pollitt, Edward

PHILADELPHIA
Abbott, Alexander Crever
Addison, William Henry Fitzgerald
Albrecht, Herman Carl
Alliger, William Thomas
Armstrong, Alexander Floyd
Ashhurst, Astley Paston Cooper
Astley, George Mason
Austin, James Harold
Babb, Maurice Jefferls
Bache, Franklin
Bacon, Francis Rogers
Bainbridge, Empson Haines
Bair, Joseph Hershey
Bark, Elmer
Barker, Charles Whitney
Barker, Harold Charles
Bartle, Henry
Bartle, Henry John
Baxter, Harold Alexander
Bechtel, John Clemmer
Beergey, David Hendricks
Berry, Herman Claude
Boehm, Walter Martinus
Boers, John Augustus
Bower, William Henry

## PENNSYLVANIA-Continued

PENNSYLV

PHILADELPHIA—Continued
Brown, Amos Peaslee
Brown, Raymond Lester
Burr, Charles Walts
Butterfield, Thomas Edward
Calvert, Philip Powell
Carnahan, Orson Allen
Carnett, John Berton
Carpenter, Howard Childs
Casey, George Whitman
Chambers, George Gailey
Church, Arthur Latham
Colton, Harold Sellers
Cope, Thomas Darlington
Costello, John Lawrence
Cowell, Harriet (Lyndon)
(Mrs. Arthur Westcott Cowell)
Crawley, Edwin Schofield
Cret, Paul Philippe
Croll, Walter Lewis
Crowell, Walter Stilwell
Davis, Bradley Moore
Day, Franklin Miles
Deichler, Lyn Waller
Detwiler, Samuel Bertolett
Dickey, Samuel Jackson
Donaldson, Henry Herbert
Doolittle, Eric
Dorsett, Rae Shepard
Downs, Ardrey Whiddin
Easby, William, Jr.
Eckfeldt, Frederick William
Eckhardt, Engelhardt August
Ehlers, Henry Edward
Ehrenfeld, Frederick
Eisenbrey, Robert Howard
Eliason, Eldridge Lyon
Elliott, Augustus Hull
Emlen, John Thompson
Evans, Henry Brown
Evans Owen Brooks
Faires, James Dobbin
Fawley, James Linwood
Fetterolf, George
Filkins, Claud William Leroy
Fisher, George Egbert
Fisher, Wager
Fisher, Wager
Fisher, Wager
Fisher, William Lewis
Fitzmaurice, Edmund Joseph
Fox, Benjamin
Frazer, John
Frazier, Charles Harrison
Friend, George Egbert
Gildersleeve, Nathaniel
Gill, Arthur Bruce
Gilliand, Samuel Howard
Gilliander, James
Gilpin, Francis Hopkinson
Glenn, Oliver Edmunds
Goldbaum, Jacob Samuel
Good, Paul Eckert
Goodspeed, Arthur Willis
Goodwin, Harold, Jr.
Gordon, George Glenn, Oliver Edmunds
Goldbaum, Jacob Samuel
Good, Paul Eckert
Goodspeed, Arthur Willis
Goodwin, Harold, Jr.
Gordon, George Byron
Graham, John Howard
Gray, Robert Lochead
Greenman, Milton Jay
Groben, William Edward
Hallett, George Hervey
Harbeson, John Frederick
Harkins, Melvin Reese
Harrison, Charles Custis
Harshberger, John William
Hattai, Shinkishi
Hattield, Charles James
Haupt, Max
Havens, Franke Stuart

PHILADELPHIA—Continued Hering, Carl
Herman, J. Leon
Herring, James
Hexamer, Charles John
Hildebrand, Joel Henry
Hilts, Roy Wilson
Hitchens, William Frank
Holmes, Arthur
Hotchkiss, Homer James
Howard, George Merriam
Hoyt, John Ezra
Huggins, George Augustus
Ingram, Edward Lovering
Jacobs, Merkel Henry
Jordan, Thomas
Hoyard, Thomas
Hoyard, George Merriam
Hoyt, John Ezra
Huggins, George Augustus
Ingram, Edward Lovering
Jacobs, Merkel Henry
Jordan, Thomas Barnett Lewis
Kabakjian, Dicran Hadjy
Kapp, David
Karcher, Walter Thompson
Keen, William Williams
Keller, Harry F.
Kirk, Edward Cameron
Klaer, Fred Harlen
Kneass, Samuel Stryker
Koyl, George Simpson
Kraemer, Henry
Kribs, Herbert Guy
Krumbhaar, Edward Bell
Laib, Walter
Laird, Warren Powers
Lambert, Walter Davis
Leyg, Simon
Lewis, Paul Adin
Lillie, Ralph Stayner
Linker, William Shannon
Loos, Paul R.
Lysle, Frederic Bowers
McCarthy, Daniel Josef
McCutcheon, Thomas Potter, Jr.
Macfarlane, John Muirhead
McGowin, Richard Smyth
Mackenzie, George Pierce
Mackinney, William Humplirey
McKinstry, Guy Hale
McMillan, Conway
Marshall, John
Marbourg, Edgar
Martin, Edward
McGowin, Richard Smyth
Mackenzie, George Pierce
Mackinney, William Shainline
Mickle, Robert Thomas
Miller, Sarah Pleis
Milligan, Elizabeth (Bolger)
(Mrs. Oswald Milligan)
Mills, Charles Karsner
Mills, Coleman Sellers
Moore, John Percy
Morgan, Randal
Moyer, Jay Bird
Miller, John Hughes
Nichols, Edson Hoyt
Nolan, Thomas
Norton, John Treadwell, Jr.
Nutt, John Budd
Oakley, Thornton
Osborne, Charles Francis
O'Shaughnessy, Louls
Outerbridge, George Whitney
Owens, Robert Bowel
Partridge, Edward Asa
Patterson, Carl Van Schaick
Partridge, Edward Asa
Patterson, Garles Bingham
Pemberton, Ralph
Penrose, Charles Bingham
Piersol, George Arthur

### PENNSYLVANIA-Continued

PHILADELPHIA—Continued
Piersol, George Morris
Platt, Haviland Hull
Plummer, George William
Pyle, Clyde Beethoven
Reichert, Edward Tyson
Richards, Horace Clark
Riesser, Webster Luther
Riesman, David
Rivas, Damaso
Robinson, Frank Crowl
Rockwell, George Ward
Roe, Ralph Burt
Rogers, Frank Henkels
Rose, William Cumming
Rosengarten, George David
Rosengarten, George David
Rosengarten, Walter Edward
Rosin, Joseph
Rowland, William Lee
Rumbold, Caroline
Safford, Frederick Hollister
Sautter, Albert Carl
Saxon, Gordon Joel
Schatz, Harry Abraham
Schlatter, Hugo
Schramm, Adolph William
Schwatt, Isaac Joachim
Schweinitz, Georg Edmond de
Scofield, Edson Mason
Scofield, Glenn Mason
Scal, Alfred Newlin
Schweinitz, Georg Edmond de
Scofield, Glenn Mason
Seal, Alfred Newlin
Shin, Owen Louis, Jr.
Silverman, Jacob George
Silverman, Max
Simon, Fred Lester
Singer, Edgar Arthur, Jr.
Sinkler, Francis Wharton
Skinner, James Mortimer
Smith, Althen John
Smith, Althen John
Smith, Arthur Thomas
Smith, Edgar Fahs
Smith, George Lathrop
Smith, Livingston
Spangler, Henry Wilson
Spangler, Henry
Spoerl, Christian George
Stanford, J. Verne
Stauffer, John Barr
Stengel, Alfred
Sternfeid, Harry
Stradling, George Flowers
Schweintz, George Edmund de
Sweeney, Orland Russell
Sweet, Joshua Edwin
Taggart, Walter Thomas
Taylor, Alonzo Englebert
Taylor, William Purves
Terry, Arthur Linville, Jr.
Thomas, Nathaniel Wiley
Torian, Oscar Noel
Tourison, Ashton Steven, Jr.
Towle, Elizabeth
Tracy, Joseph Henry
Travis, Charles
Troilesch, Henry William
Turnbull, William Gray
Tuttle, Lucius
Twittmyer, Edwin Burket
Urban, Frederick Maria
Udinsky, Hyman Josepf
Van Loon, Frank Russell
Vogelson, John Albert
Wagner, Samuel Tobias
Warwick Charles Laurence
Webb, Walter Loring
Webster, George Smedley
Weiss, John Morris
Welker, William Berry
Whitney, Philip Richardson
Wildman, Edward Embree

PHILADELPHIA—Continued
Wilkinson, William MacIlhenny
Williams, Samuel Borton
Willis, Clarence Addison
Wills, Louis Albert
Winterstein, Clarence C.
Witmer, Lightner
Wood, Henry Dunn
Wynkoop, Frederick
Zieber, Edward Herman PHOENIXVILLE Coyle, David Cushman Rulon, Samuel Archer, Jr. Rulon, Samuel Archer, Jr.
TTSBURGH
Albrech, Maximilian Claude
Alger, Jarvis Howard
Amsler, Walter Otto
Ashley, Harrison Everett
Atherton, Alfred Leroy
Atherton, Carlyle Adams
Bacon, Raymond Foss
Baker, Samuel Sweigart
Barney, Jesse Edmund
Beck, William Porter
Bethel, Charles Hugh
Birney, Emmet Hamilton
Bishop, Frederic Lendall
Boyd, William, Jr.
Brooks, Clyde
Brownlee, Roy H.
Brunker, Albert Ridgely
Carpenter, David Elisworth
Chandler, Sellers McKee
Clark, Clinton Willard
Clark, Clinton Willard
Clark, Hugh
Comstock, George Frederick
Connor, Isaac Baum
Cornelius, Martin
Conssfield, Albert Scott
Darrah, William Austin
Dennison, Boyd Coe
Dyche, Howard Edward
Easton, William Hastings
Egy, Willard Leo
Farnsworth, Sidney Woods
Fay, Albert Hill
Feicht, Bertha (Lamme)
(Mrs. Russell Stemson Feicht)
Fieldner, Arno Charles
Fleeger, Burtner
Fleming, Thomas, Jr.
Gemmill, Edwin Leroy
Glibbs, Jesse Berthold
Gray, Leslie Jackson
Griffith, John Howell PITTSBURGH Fleming, Thomas, Jr.
Gemmill, Edwin Leroy
Gibbs, Jesse Berthold
Gray, Leslie Jackson
Griffith, John Howell
Guthrie, Charles Claude
Hallman, James Dickey
Hardin, Charles Marks
Haythorn, Samuel Reese
Hector, Lewis Henry
Hendrickson, George Lansing
Henry, Donald Alison
Hoffman, Charles
Hower, Harry Sloan
Hufnagel, Frederick Bernhard
Ireland, Harold Leader
Jennigs, Otto Emery
Jessel, Henry Rose
Kahl, Paul Hugo Isador
Keetch, Harry Livingston
Kemble, Edwin Crawford
Kernohan, Robert
Kerr, Allen Meredith
Kindl, Fred Henry
Kingsbury, Albert
Kieln, Abraham Albert
Knote, John McBride
Kohman, Henry Adolph
Kunkel, Fred Raymond

## PENNSYLVANIA—Continued

PENNSYL

PITTSBURGH—Continued
Lamme, Benjamin G.
Lincoln, Paul Martyn
MacChesney, James Everingham
McGoodwin, Henry Kerr
Mace, Donald Howe
Mackey, John Francis
Merrill, Ferrand Seymour
Mott, William Elton
Myer, Arthur Henry
Newbury, Frank Davis
Ovitz, Frank Keehn
Parmelee, Paul Ross
Pendergrass, Robert Allen
Phelps, Wyllys Irvin
Randall, Karl Chandler
Rowe, William Alphonso
Schleiter, Howard Gustav
Schleiter, Howard Gustav
Schleider, Howard Gustav
Schleider, Howard Gustav
Schuederberg, Carl George
Scholes, Samuel Ray
Schwab, Henry Arthur
Sheldon, Ralph Edward
Shuey, Ralph Clement
Stimson, George William
Storer, Norman Wilson
Taber, Ray Howard
Taylor, Horace Van Sands
Taylor, Granville Lewis
Taylor, Robert Cromwell
Thompson, William
Tylee, Don Orville
Utley, Frederick Brown
Vogt, Clarence Charles
Vogt, Lou Helen Morgan
(Vogt, Mrs. C. C.)
Wadsworth, Frank Lawton Olcott
Walton, Jesse Pusey
Watkins, Clarence Bingham
Wenrich, Calvin Naftzinger
Wilson, Herbert Michael
Wolenberg, Walter Jacob
Wood, Harrison Haskell
Work, William Roth
Wright, George Jesse
Zahnleiter, Albert William
Zeller, Carl Abell

OTTSTOWN
Evans, Charles Tyndall
Jones, Jonathan
Smitt

POTTSTOWN
Evans, Charles Tyndall
Jones, Jonathan
Smith, Stanley
Wilds, Joseph Smith, Jr.

POTTSVILLE
Powers, Frank Ethelwulf
Wright, Reginald Ashmun

READING Bertolet, William Shaeffer Gerhard, Charles Herbert Gerhard, James Rleser Illmer, Louis May, Albert John Rbode Homen Rhode, Homer Jonas

RIDGEWAY Balderston, Lloyd Bell, Cliff Roland Hall, Thomas Thompson, Milton Ellsworth

ROSEMONT Vanclain, Samuel Matthews

ST. DAVIDS Tomlinson, Howard Earle ST. MARYS Sohn, Erwin

SAYRE Bishop, Howard Elmer

SCRANTON Belin, Paul Beck

SCRANTON-Continued Falkowsky, Charles, Jr. Kiesel, Ernest Louis Alexander Martin, John Lowrey Sanford, Edwin William

Kranz, William George Marquardt, William Benjamin

SOUTH BETHLEHEM UTH BETHLEHEM
Babasinian, Vahan Simon
Beattle, Frederick Steere
Colby, Albert Ladd
Cressy, Charles Royal
Dolt, Maurice Lois
Franklin, William Suddards
Hall, Robert William
Howarth, Harry Arthur Stevens
Miller, Benjamin Leroy
Wherry, Edgar Theodore

WHERTY, EUGAT INCOMES

STATE COLLEGE
Brown, Thomas Clachar
Bartholomew, Harold Criswell
Myers, Charles Emory
Clevenger, Joseph Franklin
Cochel, Wilbur Andrew
Crane, Walter Richard
Diemer, Hugo
Eddy, Milton Walker
Fulton, Harry Roscoe
Ham, William Ross
Hill, John Benjamin
Hunt, Thomas Forsyth
Linville, Clarence Philander Linville, Clarence Philander Moore, Elwood S. Myers, Charles Emory Moore, Eiwood S. Myers, Charles Emory Noll, Charles Franklin Smith, Edwin Raymond Steeker, Henry Freeman Stewart, John Pogue Stoddart, Charles William Walker, Elton David

STEELTON Asseln, Emil Hilpert, Meler George

SWARTHMORE ARTHMORE
Barton, Samuel Goodwin
Blessing, George Frederick
Gay, Catherine Emily (Andrews)
(Gay, Mrs. C. W.)
Lewis, George William
Marriott, Walter Ross
Miller, John Anthony
Trotter, Spencer
Ward, Hiram Lee

SYLVANIA Card, Fred Wallace TARENTUM

Magee, Louis Austin

WALLINGFORD Baker, John Alexander WASHINGTON

Winchester, George

WAYNE O'Neal, Alexander Hay WELLSBORO

Harrison, George Albert WERNERSVILLE Tonnelier, John Edmund

WEST CHESTER Evans, Henry Sebastian

WESTGROVE Jones, Lloyd Balderston

WILKINSBURG Flanders, Warren Beebe Hornung, Frank Walter Shear, Verne Warren

## PENNSYLVANIA-Continued

WILKES-BARRE McClintock, Andrew Todd WILMERDING Dudley, Samuel William

### RHODE ISLAND

GREENE Perry, Charles Manchester

KINGSTON Hadley, Philip Bardwell Hartwell, Burt Laws Webster, Samuel Harvey

NEWPORT Howe, Ernest Irvine, William Lorne

PAWTUCKET

Clapp, Samuel Hopkins Davison, Herbert Franklin

Davison, Herbert Franklin
OVIDENCE
Abramson, Harry Louis
Appleton, John Howard
Bailey, William Whitman
Barus, Carl
Brooks, J. Ansel
Brown, Charles Wilson
Browne, William Ward
Bucher, John Emery
Burton, Ada Irene
Cady, William Hamlin
Calder, Edwin Eddy
Caswell, Robert Gamble
Chace, Arnold Buffum
Chambers, Robert Foster
Chapin, Charles Value
Collier, Janet (Sheldon)
(Collier, Mrs. Theodore Frelinghuysen)
Collins, James Franklin
Cooke, Charles Osmond
Currier, Clinton Harvey
Dale, Nelson Clark
Davis, Nathaniel French
Delabarre, Edmund Burke
DeWitt, Stewart Lloyd
Edmundson, Harold Bowen
Elliott, Huger
Farwell, Albert Potter PROVIDENCE

Edilott, Huger
Farwell, Albert Potter
Ferrey, Fred Gilbert
Field, Robert Franklin
Flagg, Arthur Leonard

PROVIDENCE—Continued
Fulton, Frank Taylor
Gorham, Frederick Poole
Hall, James Alexander
Hill, John Edward
Holt, Norman Edward
Holt, John Vincent
Kenerson, William Herbert
Lasker, Julius
Loepsinger, Albert John
Madison, Harold Lester
Manning, Henry Parker
Mead, Albert Davis
Mead, Ada Geneva (Wing)
(Mead, Mrs. Albert Davis)
Meiklejohn, Alexander
Miller, Harold Edmund
Mitchell, Philip Henry
Palmer, Albert de Forest
Patterson, Irving Wooster
Perkins, Jay
Phetteplace, Thurston Mason
Purdie, David James
Rackle, Oscar William
Randall, Otis Everett
Richardson, Roland George Dwight
Ross, William Misbet
Smith, George Hawthorne
Smith, Walter Edward
Taylor, Frank Carter
Upton, Winslow
Walter, Herbert Eugene
Watton, Arthur Eugene
Watt, Martha Wilbur
Wilcox, Alice Wilson
Winslow, Arthur Melvin
York, Harlan Harvey
ICKFORD
Barnes, Ernest Warren

WICKFORD Barnes, Ernest Warren

WARWICK Suffa, Mary Clegg

### SOUTH CAROLINA

CHARLESTON Rockwell, James Vincent CLEMSON Barre, Henry Walter CLEMSON COLLEGE Gee, Wilson Parham

COLLETON Frank, John Nickalas SOCIETY HILLS Blair, Frank Joseph, Jr. SPARTANBURG Kreisinger, Henry

### SOUTH DAKOTA

ABERDEEN Poore, Charles Delos Walter, Frederick Joseph

BROOKINGS
Brackett, Byron Briggs
Cook, Robertson
Corbin, Charles Edgar
Hume, Albert Nash
Miller, Shirley Putnam
Olive, Edgar William
Severin, Harry Charles
Wagner, Adolph W.

Herz, Nathaniel Sharwood, William John

MITCHELL Sherwood, Edward James Wheeler, William Archie

RAPID CITY Coolbaugh, Melville Fuller

REDFIELD Norris, John Hiram

SIOUX FALLS Wilson, Josle

SUMMIT Lindberg, Arvid C.

TROJAN Hiltner, Martin Edward

## SOUTH DAKOTA-Continued

VERMILION Pell, Anna, (Johnson) (Pell, Mrs. Alexander)

WATERTOWN Hatz, Earl Washington WEBSTER

Ebert, Michael Higgins

YANKTON Leibee, Hugh Case

#### TENNESSEE

CHILHOWEE Ramser, Charles Ernest

CONCORD Phillips, Adams

COPPER HILL Case, Albert Hermon

DECHERD Hines, Bedford Forrest

KNOXVILLE
Bentley, Gordon Mansir
Buchanan, Herbert Earle
Cotton, Edwin Charles
Gordon, Charles Henry

KNOXVILLE—Continued Jarvis, Royal Preston Jones, Forrest Robert Ogden, Robert Morris

MEMPHIS
Backes, Walter Peter
Houk, Ivan Edgar
Williams, Wilbur S.

NASHVILLE Alnsile, George Gooding Balcom, Reuben Wilfred Hight, Jonas Ewing Pranke, Edward J. Washburn, Frank Sherman

#### TEXAS

AUSTIN

Bantel, Edward Christian Henry
Brown, Newton Henry
Casteel, Dana Brackenridge
Dodd, Edward Lewis
Gracey, George Fay
Heald, Frederick DeForest
Kuehne, John Matthias
Lewis, Isaac McKinney
Patterson, John Thomas
Porter, Milton Brockett
Simonds, Frederick William
Yoakum, Clarence Stone
COLLEGE STATION

COLLEGE STATION
Blake, John Charles
Francis, Mark
Smith, Harry Ezra

DALLAS
De Hart, Otto Dell
Hess, Frederick Edward
McGregor, Ernest Alexander
Maryott, Carlton Howard
Noyes, Edward Newton
Pierce, William Dwight

EI PASO Kohlberg, Herbert S.

FORT WORTH Zane-Cetti Carolus Hermann

HONDO Shaw, William Francis

HOUSTON
Baldwin, John Mayhew
Higginbotham, Blanche
Jacobs, Julius Lilien

KINGSVILLE
Miles, Martin Emmet
Miles, Amy Bell
(Miles, Mrs. Martin Emmet)

LA PRYOR Van Berg, Ora Elmer

RAYMONDVILLE Newhall, William Barrett

TEMPLE Schenck, Charles Plume

### UTAH

Beckstrand, Elias Hyrum
Beyer, Theodore Alexander
Bradley, Henry Franklin
Brown, Robert King, Jr.
Chamberlin, Ralph Vary
Ebaugh, William Clarence
Eager, Katharine Louise
Filer, Walter George
Hanauer, Monroe
Hovey, Ray Palmer
Kelly, Walter Lockwood
Kirtley, Luther Lycurgus
Knowlton, Ansel Alphonso
Kremers, Clarence Henry
Lyman, Richard Roswell
Mattill, Henry Albright
Pack, Frederick James
Peterson, Joseph
Reeves, Mirlam Ursula (Welles)
(Reeves, Mrs. G. J.)
Schulte, Walter Gustav Adolph
Snow, Clarence
Sundwall, John
Thiessen, Alfred Henry
Twiss, Wilfred Charles
Tyree, Joseph Edgar
Vorhies, Charles T.

TOOELE Kuchs, Oscar M.

BEAVER Haddaway, Thomas Sherwood EUREKA

Griggs, Charles Clifton Squire, Everett Adams

GUNNISON Roush, Leroy Walter

LOGAN

Ball, Elmer Darwin

Harris, Franklin Stewart

Jensen, Christian Nephi

Stewart, Robert

West, Franklin Lorenzo

ODERVILLE Carroll, William Ernest

OGDEN Henderson, William Williams

PARK CITY Blood, George Deroy

PROVO
Blood, George Deroy
Davoud, Vahram Edward
Homer, Philena Fletcher
(Homer, Mrs. William Harrison)
Jarvis, Clarence Sylvester
McMinn, Walter James
Mcrill, Ambrose Pond
Wright, Albert Eugene

### VIRGINIA

ASHLAND Mallory, William Garfield

BLACKSBURG Barlow, William Edward Reed, Howard Sprague

BLUEMONT
Blair, William Richards
CHARLOTTESVILLE
Bird, Robert Montgomery
Edgar Graham
Watson, Thomas Leonard

HAMPTON Sniffen, Ernest William

KEOKEE, LEE CO. Judd, Harry Edson

LYNCHBURG Douglas, Gertrude Elisabeth

NEWPORT NEWS Norton, Harold Frederick

NORFOLK Chambers, Frank Taylor Cole, Pleasant Theodore

NORTH HOLSTON Wilder, Frank Alonzo

PORTSMOUTH Burrell, Glenn Smith Noyes, Ellis Bradford Rice, Ray Howard

RICHMOND Hoadley, Edward Mills La Roque, George Paul

STUARTS DRAFT
Cline, Justus Henry
SWEET BRIAR
Howland, Ruth B.

WILLIAMSBURG Harvey, Edward Maris

WINCHESTER Hart, William Edward

### VERMONT

BENSON Washburne, Robert Hoosick

BURLINGTON RLINGTON
Bennett, Charles Barrows
Burns, George Plumer
Chamberlain, Frank Wilbut
Cummings, Marshall Baxter
Stetson, John Minor
Upson, Walter Lyman ENOSBURG FALLS Best, Everett J. RUTLAND

Stevens, Franklin Rand SOUTH STARCKSBORO Birdsall, Joseph Cooper

WESTMINSTER STATION Parkhurst, Harleigh

## WASHINGTON

BELLINGHAM Philippi, Henry Clair

BREMERTON Foster, Richard Squire, Harry Edwin

BURLINGTON Clark, Lois

CENTRALIA Scace, Lee Arbor

CHENEY Hungate, Joseph Wynne

COLFAX Johnson, Arthur Monrad St. Sure, Frank A.

DU PONT Gladding, Ernest Knight

ELLENSBURG Pope, Arthur Baker Stanley

EVERETT Fee, Louis Henry FORT CASEY

Sargent, Erle Hoxsie GRANDVIEW

Thompson, Harriet E. (Thompson, Mrs. N. H.) (Dunton)

IRONDALE Merzbacher, Aaron

METALINE Dehuff, Arthur Isadore

MILES CITY
Burger, Ellen Adelia (Lamoreaux)
(Burger, Mrs. J. Archie)

NORTH YAKIMA
Hasbrouck, Philip Bevier
Lane, John Edward
Keeler, Sybll May (Wheeler)
(Keeler, Mrs. Charles Edgar)
Loudon, John Parker

OMAK Keller, Frank H.

OLYMPIA Lovejoy, Parish Storrs Lovejoy, Ruth Harrison (Lovejoy, Mrs. Parish Storrs)

PULLMAN Akers, Milton Kent Beattie, Rolla Kent Fulmer, Elton ruimer, Elton
Humphrey, Harry Baker
Melander, Axel Leonard
Millington, Howard Guy
Shedd, Solon
Thatcher, Roscoe Wilfred
White, Paul J.

PUYALLUP Lawrence, William Hurford

ROSLYN Flaherty, Guy

Flaherty, Guy
SEATTLE
Allen, Louise Marie
Beaulieu, Richard Laurence
Beckett, Bergie Barrie
Beecher, Henry Ward
Benson, Henry Kreitzer
Bowlby, Henry Louis
Brandel, Irvin Walter
Buol, Edward Martin
Burkheimer, Ira Arthur
Bushnell, Horace Leland
Byers, Horace Greeley
Clise, Charles Francis
Corbet, Darrah
Crawford, Magnus Tate
Dehn, William Maurice
Denny, Edward Harold
Dewey, Albert Haskin
Eastwood, Everett Owen
Engstrom, Roy Victor

### WASHINGTON—Continued

WASHING?

SEATTLE—Continued
Frye, Theodore Christian
Fuller, Almon Homer
Gibbons, Charles Bayard
Gould, James Edward
Grondahl, Lars Olai
Harris, Charles William
Hemmingway, Ernest Eugene
Hopkins, Raymond Allen
Howard, Arthur Day
Hunt, John Wilson
Isham, Alonzo Keyt
Johnson, Charles Willis
Johnson, Charles Willis
Johnson, Frank Edward
Kahan, Sarah Edna
Karrer, Enoch
Karrer, Enoch
Karrer, Enoch
Karrer, Sebastian
Kincaid, Trevor
Kurt, Friedrich Johannes Kirsten
Landes, Henry
MacLachlan, Margaret Mae
McCaustland, Elmer James
Magnusson, Carl Edward
Mallory, Charles Earl
Maxson, Louis Herbert
Miller, Alvin Augustus
Miller, Frank Garner
More, Charles Church
Moritz, Robert Edouard
Morrison, Frank Marion
Morrison, Bessie Eleanor Crowe
(Morrison, Mrs. Frank Marion)
Neikirk, Lewis Irving Morrison, Bessie Eleanor Crowe (Morrison, Mrs. Frank Marion) Neikirk, Lewis Irving Osborn, Frederick Arthur Phipps, Thomas Elmer Provine, Loring Harvey Quense, John Henry Roberts, Milnor Rose, Robert Evstafieff Shamel, Charles Harmonas

SEATTI.E—Continued
Small, Lloyd Leroy
Smith, Eli Victor
Stevens, Herman Campbell
Stranberg, George Robert
Wagner, Walter Calvin
Weaver, Charles Edwin
Weber, Ervin L.
Weinzirl, John
West, Judson Ray
Wilson, George Samuel Wilson, George Samuel Winkenwerder, Hugo Zimmerman, Louis Peter

SPOKANE Dodds, Fabian Bouton Foster, Ebert Arnold Kjosness. Ingram Gerhard Linney, William Henry McDougal, Taine Gilbert

SUMNER Shannon, William Dav

TACOMA Breedlove, John Cromwell Breedlove, John Cromwell
Ellis, Walter Crosby
Green, Herlwyn Ruggles
Kastner, Jessie Jane (Bullock)
(Kastner, Mrs. Herebert)
Lewis, Burt A.
Rathbun, John Charles
Rowell, Philip Jones
Wheeler, Harold Sayre

VANCOUVER Gearheart, Olive Merrill (Chase) (Gearheart, Mrs. George W.)

WASHTUCUA Bogue, Nathan Herschel WENATCHEE Holland, Jay Clark

### WEST VIRGINIA

CHARLESTON Demmler, Paul Edward FAIRMOUNT

Bonnett, Edwin Spilman GLEN FERRIS Koch, Alfred Richard

GLENOVA Bedell, Carl Ensley

MARTINSBURG

Grimsley, George Perry
MORGANTOWN
Jones, Clement Ross Jones, Clement Ross Kortright, Frederick Lawrence Munson, Welton Marks Reese, Albert Moore Sanderson, Ezra Dwight MORGANTOWN—Continued Sheldon, John Lewis Waggoner, Chauncy William

NORFOLK Stamford, Albert PARKERSBURG Carll, Samuel Peaslee

SHEPARDSTOWN Schedler, Carl William

ST. ALBANS Stark, Medary Wilson

WEIRTON, HANCOCK CO. Collins, John Edward

WHEELING Speidel, Jesse Wheat

### WISCONSIN

APPLETON Bagg, Rufus Mather

BARKSDALE Lawley, Walter Fred

BELOIT LOIT Culver, Charles Aaron Densmore, Hiram Delos McLeod, Andrew Friedley Waugh, Karl Tinsley Yost, Lloyd

BERLIN Walker, Emory Lafayette

ELSWORTH Oyen, Martin

DISON
Allen, Bennett Mills
Allen, Charles Elmer
Aston, James
Baker, Ray Luzerne
Bardeen, Charles Russell
Barnebey, Oscar Leonard
Baumgartner, Edwin Abraham
Beebe, Murray Charles
Bennett, Edward
Birge, Edward Asahel
Birge, Raymond Thayer
Blackwelder, Eliot
Bradley, Harold Cornelius
Bristol, Howard Stanley
Bumpus, Hermon Carey
Bunting, Charles Henry MADISON

### WISCONSIN-Continued

MADISON—Continued
Burgess, Charles Frederick
Burgess, Charles Frederick
Burgess, Horace Thomas
Burnett, Earl Smead
Burns, Josephine Eilzabeth
Butler, Ormond Bourke
Carleton, Paul Whittier
Christie, Alexander Graham
Cline, Mcgarvey
Cole, Leon Jacob
Comstock, George Cary
Conrey, Guy
Corp, Charles Ives
Currie, James Nimrod
Dahm, Thomas Matthew
Daniells, William Willard
Davis, George Jacob, Jr.
Davis, John Jefferson
Deming, Horace Grove
Denniston, Rollin Henry
Dietrichson, Gerhard
Disque, Robert Conrad
Doolittle, Frederick William
Dowling, Linnaeus Wayland
Dresden, Arnold
Ellingson, Emil Oscar
Eyster, John Augustine Engli Dowling, Linnaeus Wayland Dresden, Arnold Ellingson, Emil Oscar Eyster, John Augustine English Faber, Daniel Cleveland Farrington, Edward Holyoke Finch, Vernon Clifford Fischer, Richard Filmt, Albert Stowell Forsythe, William Elmer Frost, William Dodge Fulcher, Gordon Scott Fuller, Caleb Allen Gage, Otis Amsden Glibert. Edward Martinius Gray, Frank Griffith, Edward Merriam Guyer, Michael Frederick Hambuechen, Carl Hart, Edwin Bret Hastings, Edwin George Havard, Francis Thompson Hawley, Lee Fred Hawley, Lee Fred Henmon, Vivian Allen Charles Henry, William Arnon Hill, Charles Warren Hoffman, Conrad, Holden, Edwin Chapin Holmes, Samuel Jackson Hotchkiss, William Otis Humphrey, Clarence John Ingersoll, Leonard Rose Jansky, Cyril Methodius Jastrow, Joseph Jones, Lewis Ralph Juday, Chancey Kahlenberg, Louis Kempfer, William Herbert Kinne, William Spauling Klein, David Koenig, Alfred Edward Kressman, Frederick William Kundert, Alfred Emil Lawrence, James Nelson Lee, Carl Emil Leith, Charles Kenneth Kundert, Alfred Emil Lawrence, James Nelson Lee, Carl Emil Leith, Charles Kenneth Lenher, Victor Loevenhart, Arthur Solomon Ludy, Llewellyn V. Mack, John Givan Davis Mann, Charles August March, Herman William Marshall, William Stanley Martin, Lawrence Mason, Max

-Continued

Maddison—Continued
Mathews, Joseph Howard
Maurer, Edward Rose
McBride, Russell Smith
McCauley, George Vest
McCollister, Marcus Sanders
McCollister, Marcus
Mead, Walter Joseph
Melhus, Irving E.
Mendenhall, Charles Elwood
Miller, Eric Rexford
Miller, Eric Rexford
Miller, William Snow
Musback, Fred Ludwig
Nebel, Walter
Nyberg, Joseph Antonius
Overton, James Bertram
Packard, Horace Nelson
Palmer, Robert Conrad
Pence, William David
Peterson, Peter Powell
Phillips, James David
Price, John Reese
Ravenel, Mazyck Porcher
Reber, Louis Ehrhart
Richter, Arthur William
Roark, Ruric Charles
Roebuck, John Ransom
Russell, Harry Luman
Sanders, James Glosbrenner
Sanford, Herbert Brooks
Sandsten, Emil Peter
Skinner, Ernest Brown
Slichter, Charles Sumner
Smith, Leonard Sewall
Snow, Benjamin Warner
Starch, Daniel
Steenbock, Harry
Steidtmann, Edward
Stewart, Alban
Surface, Henry Earl
Tatum, Arthur Lawrie
Terry, Earle Melvin
Thelen, Rolf
Thorkelson, Halsten Joseph Berford
Thomas, Carl Clapp
Thwates, Frederick Turville
Trueman, Joseph Douglass
Tully, Edward Jace ford
Thomas, Carl Clapp
Thwates, Frederick Turville
Trueman, Joseph Douglass
Tully, Edward Joseph
Turneaure, Frederick Eugene
Turner, Ebenezer Tousey
Van Hise, Charles Richard
Van Vleck, Edward Burr
Vosskuehler, Joseph Henry
Wagner George Vosskuehler, Joseph Henry
Wagner, George
Walton, James Henri
Walster, Harlow Leslie
Watson, James Webster
Watts, Oliver Patterson
Weidman, Samuel
Welss, Howard Frederick
Whitbeck, Ray Hughes
White, Earl Archibald
Whitson, Andrew Robinson
Wilcox, Wendell Garrett
Winchell, Alexander Newton
Withey, Morton Owen Withey
Wolff, Henry Charles
Woll, Fritz Wilhelm
Zobel, Otto Julius
NITOWOC MANITOWOC Richter, Arthur William Wallace, William Lewis,, Jr.

MENOMONEE
Egdahl Anfin,
MILWAUKEE
Balzer, George John
Barrett, Samuel Alfred

# WISCONSIN—Continued

MILWAUKEE—Continued
Burrill, Paul Colburn
Candee, Allan Harry
Child, Alice May
Clark, William Otterbein
Collins, Willis
Foote, Edward Thaddeus
Hall, Allan Everett
Harmon, Lucie
Harsh, Earl Clarence
McKinnon, William Rennie
McMaster, Robert Keith
Nicht, Alexander Joseph, Jr.
Rose, Jennie M. (Speer)
Sanford, Arthur Hawley
Scherner, John
Shorey, Marian Lydia
Smith, Kenneth Gardner
Sperry, Leonard Boyd
Stevens, William Thomas
Thorpe, Joel Rex
Torelle, Ellen
Twining, Granville Howard
Wagner, Richard George
Welborn, Edgar Calvert
Williamson, Robert Balrd
Wilson, John Crosier

MINERAL POINT Kelsey, Weston Maynard NASHOTAH Easton, Burton Scott OSHKOSH Ferguson, Frank Alexander PHILLIPS Guthier, Cora RACINE Standish, Sherwood Hubbard REEDSBURG Quimby, Catherine (Hillesheim) (Quimby, Mrs. H. B.) SHELL LAKE Lewis, Charles L., Jr. SUPERIOR Goddard, Henry Newell Squire, Carrie Ranson (Squire, Mrs. William Nelson) WEST ALLIS Einig, Alvin Bart WILLIAMS BAY
Barnard, Edward Emerson
Frost, Edwin Brant Slocum, Frederick

#### WYOMING

LARAMIE——Continued
Heyl, Frederick William
Knight, Henry Granger
McGee, John Merritt
Stromquist, Carl Eben
Swingle, Leroy Dey
FORT D. A. RUSSELL
Park, Charles Abraham
YELLOWSTONE PARK
Lindelee, Charles Gustav

#### ALASKA

LA TOUCHE Dunkle, Wesley Earl SKAGUAY Sweet, Anna Edith Corey (Sweet, Mrs. Lester)

#### ALASKA

CULEBRA

Wollenberg, Harry Lincoln

Kinzie, Robert Allen

Grant, R. C.

JUNEAU Thane, Bartlett Leo

Baker, LeRoy Nelson Prosser, Dean Truxell

Wescott, Frank Howard

Boyle, Albert Clarence, Jr. Downey, June Etta

Sheidler, Paul King

Fraser, Guy Owen Grauten, Sylvester Henry Larzelere, Charles Benham Rousseau, Harry Harwood

ANCON Zetek, James

CHEYENNE

CODY

HUDSON

LARAMIE

DOUGLAS

HOLLIS

## CANAL ZONE

GATUN Morris, Thomas Carlyle

PANAMA Brown Arthur Robert

# HAWAII

HONOLULU
Cooke, Charles Montague, Jr.
Forbes, Charles Noyes
Fulloway, David Timmons
Glimore, John Washington
Judd, Charles Sheldon
Lyon, Harold Lloyd
Lyon, Maud (Fletcher)
(Lyon, Mrs. Harold Lloyd)

HONOLULU—Continued Norris, Robert Stewart Severin, Henry Herman Paul Swezey, Otto Herman Young, John Mason

KEALAKEKUA Smith, Jared Gage

## PHILIPPINE ISLANDS

LOS BAÑOS Copeland, Edwin Bingham

ANILA
Adams, George Irving
Beyer, Forrest B.
Brooks, Benjamin Talbot
Brown, Roy Alton
Clark, Elbert
Collins, Ray Arthur
Cox, Alvin Joseph
Cutler, Stanley Gardner
Foxworthy, Fred William
Glbbs, Harry Drake
Gomez, Liborlo
Griffin, Lawrence Edmonds
Kendall, Charles Hanford
Lhamon, Ruskin
McConoughuy, David Char MANILA McConoughuy, David Charles MANILA—Continued
McGregor, Richard Crittenden
Matthews, Donald Maxwell
Pratt, David Shepard
Puckett, Roswell Clair
Richmond, George Fletcher
Robinson, Charles Budd
Robinson, Kendall Edward
Rosario, José I. del
Schulte, Gerd Hayen
Shaw, Walter Robert
Smith, Warren DuPre
Stroebe, George Gottlieb
Veillla, Timotoe Dar Juan y
Wade, Clarence West
Ward, Archibald Robinson
Whitford, Harry Nichols
Wrentmore, Clarence George
Wright, James Remus

## PORTO RICO

AGUADILLA Torregrosa, Arturo ARECIBO Casellas, Ramon Ramos MAYAGUEZ Fawcett, George Lorenzo SAN JUAN Fassig, Oliver Lanard Hildreth, Edward Raymond

### CANADA

ANNAPOLIS ROYAL, N. S. Magee, William Henry BRANTFORD, ONT. Burke, Charles Eldrid

BRITANNIA BEACH, B. C. Mitchell, Clark Godell

CALGARY, ALBERTA Schutt, Herbert Davis Wall, George Albert DAUPHIN, MANITOBA Dickson, James Robert

EDMONTON, ALBERTA Revell, Daniel Graisberry

FILLMORE, SASK.
Allison, Fred Gray
FREDERICTON, N. B.
McGinnis, Claude Stonecliffe

GRAND MERE, ONT. Sabbaton, Frederick Augustus

GREENWOOD, B. C. Keffer, Frederick

GUELPH, ONT. Howitt, John Eaton

HALIFAX, N. S.
Adams, Arthur
Bronson, Howard Logan
Macneill, Murray

KINGSTON, ONTARIO Buchanan, Daniel Dickson, Charles William Gordon, George Huntly Hyde, Jesse Earl

MONTREAL NTREAL
Bancroft, Joseph Austen
Cartmel, William Bell
Danziger, Joseph Louis
Hawksworth, David West
Klein, John Edward
Krieble, Vernon Krieble
McCormick, Bradley Thomas
Murray, Daniel Alexander
Porter, John Bonsall
Riley, Harold James
Wright, Bertram Joseph MOOSE JAW, SASKATCHEWAN Austin, Clarence Elliott NEW WESTMINSTER, B. C. Ferebee, Alan McPherson

OTTAWA

TAWA
Collins, William Henry
Drysdale, Charles Wales
Foster, Henry Hubbard
Harvie, Robert, Jr.
Keele, Joseph
Reinecke, Leopold
Swaine, James Malcomb
Young, George Albert

PORT COLBORNE, ONT. Kepner, Ben Hur

REGINA, SASK. Wenger, Edgar I.

SAULT STE. MARIE, ONT. Millspaugh, Martin Lawrence STE. ANNE DE BELLEVUE, QUEBEC

Lynde, Carleton John ST. CATHARINES, ONT. Heitmann, Edward

STRATHCONA, ALBERTA Sheldon, Ernest Wilson

TORONTO RONTO
Adams, Erwin Avery
Darby, Clarence Raymond
Fernow, Bernhard Eduard
Howe, Clifton Durant
Isham, Robert Melyne
Knight, Cyril Workman
Lightner, George W. Cass
McMurrich, James Playfair
Sims, Ernest McPherson
Triggerson, Charles John
Wurster, Oscar Herman
LIRO, N. S.

TRURO, N. S. Linton, Orlando Hayward

VANCOUVER, B. C. Clark, Judson Freeman Davidson, James Grant Fletcher, Arthur Bansford

VICTORIA HARBOR Carter, Edward Fairbank

# CANADA—Continued

WALKERVILLE, ONT. Colby, Archie Lyman Zabriskie, Charles Christian

WINDSOR, ONT. James, Carl

WESTMOUNT, QUE. Ballantyne, Norman Frank WINNIPEG Allen, Frank Wilson, Norman Richard

#### MEXICO

AVINO Mead, Harry Levi CAMPAS, SONORA

Wilson, Philip Danforth

CANANEA, SONORA Hardy, Norman Gladding Ruth, Abraham John

EMPALME, SONORA Weaver, Clarence Eugene IZANAH, YUCATAN Gaumer, George F.

LAS ESPERANZAS COAH Zeller, Howard Patterson

MATEHUALA, S. L. P. Prescott, Basil

MEXICO CITY Baum, Isaac M.
Davis, John R.
Judson, Walter Raymond
Mishler, Ralph Thomas MONTEREY Bolles, Myrick Nathaniel Gonzalez, Arturo V.

PACHUCA, HIDALGO Van Law, Carlos Whitney PUEBLO

Kyser, Kathryn Belle ROSINI, SINALOA Beals, Roger Lee

SONORA

Jackson, Charles Freeman TEMASCALLEPEC, EST. Kellogg, Lee Olds

TORREON Rose, Rial Catlin

TRIUNFO, BAJA CAL. Nahl, Arthur Charles

VERA CRUZ Hobert, Mary (McClure)

# CENTRAL AMERICA AND WEST INDIES

CARRÊNO, CUBA Carrêno, Alejo Augustin

CAMOGUEY, CUBA Burke, William Edmund Ricarda, Leandro Jose

HAVANA, CUBA Claret, Francisco Pujals Y Haggard, Homer Huston

LA PAZ, HONDURAS Lednicky, Victor Elmer

MATAGALPA, NICARAGUA Nobs, Frederick William

SAGUA LA GRANDE, CUBA Brown, Grover Charles

SANTIAGO DE CUBA, CUBA Chibas, Eduardo Justo

SAN PEDRO, ISLE OF PINES, W. I. Mead, Charles Searing

# SOUTH AMERICA

BUENOS AIRES, ARGENTINA Jones, Wellington Downing McKittrick, Frederic James Alexander

ander Pemberton, John Rothwell Smith, Pemberton Washburne, Chester Wesley

CORDÓBA, ARGENTINA Albrecht, Sebastian

SAN LUIS, ARGENTINA Quiroga, Modesta Sanford, Roscoe Frank

LA PAZ, BOLIVIA Miller, Hiram

ORURO, BOLIVIA Newsom, John Flesher Taggart, Arthur Fay

RIO JANEIRO, BRAZIL Crandall, Roderic Derby, Orville Adelbert

RIO JANEIRO, BRAZIL—Continued Waring, Gerald Ashley Williams, Horace Elbert

SAO PAULO, BRAZIL Rankin, Robert

COLLAHUASI, CHILE Mayreis, Louis John

BOGOTA, COLOMBIA Nieto, Julio Garzon Reyes, Octavio Mario

MEDELLIN, COLOMBIA Posada, Juan de la Cruz

CASAPALCO, PERU Ross, Herbert William

LIMA, PERU Bües, Christian Rudolf August Marsters, Vernon Freeman

MONTEVIDEO, URUGUAY Lee, Montrose Lucius Salmon, Daniel Elmer

#### EUROPE

LONDON, ENGLAND Cushny, Arthur Robertson Gates, Reginald Ruggles Hay, Henry Hoover, Herbert Clark Hoover, Lou (Henry)

VIENNA, AUSTRIA Böhler, Richard Frederick Kann, Leopold

LIVERPOOL, ENGLAND Higgins, Eric Berkeley

### **EUROPE**—Continued

LONDON, ENGLAND—Continued Means, John Harrison Wang, Chung Yu Webb, Harry Howard EBBW VALE, MANCHESTER, ENG-

LAND Davies, John Percival

OXFORD, ENGLAND Taber, Howard Alfred

WALES, ENGLAND Evans, Tringad Knight

PARIS, FRANCE Duane, William Rehfuss, Martin Emil

BERLIN, GERMANY
Glacomini, Frank Anthony
Hsia, Yuen-ii
Ostwald, Karl Wolfgang
Reinke, Arthur Eduard
Tool, Arthur Quincy
Williams, Robert Neil

FREIBURG, GERMANY Bolza, Oskar

MUNICH, GERMANY Augspurger, Louis Fred Bissell, Leslie Dayton Gregory, Elisha Hall Janney, Nelson Wilson BUCHAREST, ROUMANIA Murgoci, George Munteami

KISHINEV, RUSSIA Michael, Louis Guy

PETROVSKY, KHARCOV, RUSSIA Soukatschoff, Platon Vladimir EDINBURGH, SCOTLAND

Lawson, Anstruther Abercrombie

MADRID, SPAIN Fisher, Mary Jones

FINSPONG, SWEDEN
Beckman, Fredrik Ferdinand
Woods

GENEVA, SWITZERLAND Germann, Albert Frederick Ottmar

CONSTANTINOPLE, TURKEY Burns, Eleanor Irene

## ASIA MINOR

BUSRAH, TURKISH ARABIA Bennett, Anna Christine (Iverson) SMYRNA Fontrier, Mico Militiades Achilles

#### ASIA

CANTON, CHINA Hu, Tung Chao Ow, Ching Ko Tong, Yau Hang Wen, Ching Yu

CHANGSHA, CHINA Hume, Edward Hicks Yen, Foh-Chung

FOOCHOW, CHINA Black, Edward Freyling

KOSHING, CHEKIANG, CHINA Chang, Tatsung

MUKDEN, MANCHURIA Parker, Edward

NANKING, CHINA Evans, Philip Saffery, Jr.

PEKING, CHINA
Eckstein, Oskar
Hall, Francis Jenks
Whitmore, Ralph Delano Wold, Peter Irving

SHANGHAI, CHINA Patten, William Edgar Fullerton, Ellen Clark

TIENTSIN, CHINA Bateman, William George

TSINAN, SHANTUNG, CHINA Schultz, William Magill

WEIHSIEN, SHANTUNG, CHINA Chandler, Horace Edward

WEIHSIEN, CHINA Chandler, Horace Edward

YOCHOW, CHINA Moran, Edward Eugene

CALCUTTA, INDIA Sil, Surendra Nath

RAWAL PINDI, INDIA Stewart, Ralph Randles

KITAYAMASAKI, IYO, JAPAN Saiki, Tadasu

KUMAMOTO, JAPAN Nambu, Tsunejiro

KURUME, JAPAN Sakac, Yasudiro

KYOTO, JAPAN Matsumoto, Matataro Nakaseko, Rokuro

NAMAZU SHIZUOKA-KEN, JAPAN Hayashi, Kiyonori

OKAYAMA, JAPAN Mijake, Ishiro

TAKAHASHI, JAPAN Makino, Kengo

Makino, Kengo
TOKIO, JAPAN
Arakawa, Bunrokn
Kuwana, Shinkai Inokichi
Mayessawa, Hatsuji
Miaké Küchi
Mishima, Yataro
Nakano, Hatsune
Nakashima, Taizo
Sano, Shiro Sano, Shiro Takahashi, Katashi Yamanouchi, Shigeo Yatsu, Naohide

YAMATO, JAPAN Yamazaki, Shiro YOKOHAMA, JAPAN

Messer, Paul Oi, Hiromitsu

NAGAWA, YOKOSUKA, JAPAN Kimura, Skunkichi Onuki, Riojo

KANGKAI, KOREA Bigger, John Dinsmore

SEOUL, KOREA Lewis, Margo Lee

SONGDO, KOREA Higgins, Daniel Franklin

SUA MOT KOL SEOAL, KOREA Smith, Roy Kenneth

TARACOL, KOREA Drucker, Arthur Eilbert

#### **AFRICA**

GRAHAMSTOWN, CAPE COLONY Duerden, James Edwin<sup>†</sup> WELLINGTON, CAPE COLONY Stoneman, Bertha

KINSHASA, CONGO BELGE Shaler, Millard King ASSUIT, EGYPT

ASSUIT, EGYPT
Hickman, William Weldon
DURBAN, NATAL
Evans, Alfred Winter

BLOOMFONTEINE, ORANGE FREE STATE

Robertson, Colin Charles BULAWAYO, RHODESIA Craig, John Walker SALISBURY, RHODESIA Brown, William Harvey CAPE TOWN, SOUTH AFRICA Dick, M. Everett Overbeck, John Bagot

JOHANNESBURG, SOUTH AFRICA Hoffman, Karl Frederick Mein, William Wallace

KIMBERLEY, SOUTH AFRICA Williams, Alpheus Fuller

PRETORIA, SOUTH AFRICA McDonald, William

BENONI, TRANSVAAL Nichols, John Carroll

## AUSTRALIA

ADELAIDE, SOUTH AUSTRALIA Smith, Harold Whitmore Tassie, Robert Wilson MELBOURNE, AUSTRALIA Mead. Elwood SYDNEY, N. S. W. Barraclough, Samuel Henry Halloran, Harry Richmond

# PRESENT ADDRESS UNKNOWN

Catherinet, Jules Dickenson, Ernest Hesthcote Ferguson, William Hastings Foote, Paul Darwin Frudden, Conrad Edwin Hsin Yao-Chang H. Kiski, Teruo

Newmayer, Harry Phelan, Robert Early Sims, Alfred Varley Stoppel, Ernest Wisdom, George Paul

#### DECEASED

Adams, Ernest Kempton
Adler, Alex
Angle, Claribel
Anthony, William Arnold
Austen, Peter Townsend
Bailey, Frank Kelton
Banister, Joseph Ray
Barker, George Frederick
Barnes, Charles Reid
Beecher, Charles Reid
Beecher, Charles Emerson
Bell, Charles Bell
Berger, John Jacob
Bergstrom, John Andrew
Bessey, Edward Athearn
Beyer, Adam Carl
Bowser, Edward A.
Brandon, Samuel Craighead
Braum, Walter Charles Emil
Brown, Christopher Newton
Bucknell, Elmer James
Buel, George D.
Burcham, John Samuel
Burr, Rollin Hillary
Burrage, Herbert Farwell
Busekum, Richard Van
Caldwell, George Chapman
Calvin, Samuel
Carnell, Frederic James
Carr, Leonard Jarvis
Casseday, George Albertus
Challen, Thurston Walker
Chamberlin, Robert Morse
Chandler, Perley Bickfad
Chapin, George Robert
Churchill, William Wilberforce
Clark, Gaylord Parsons
Clark, Thomas Alfred
Clarke, Benjamin Franklin
Coit, Augustus
Copley, Everett

Curfman, Samuel Brice
Dahl, Hans F. M.
Dean, Willard Parker
Decker, John Wright
Dercum, Max
Dougherty, Joseph
Eberhardt, Elmer Gould
Eckler, Charles David
Evans, Myron Edward
Firth, Frederick William
Folk, Frederick Jackson
Foss, August
Freeman, Ernest Gray
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Freeman, John M.
French, Orrin Fred
Fuertes, Estevan antonio
Furber, Robert Samuel
Gause, Harry Courtland
Geer, Jennie Wither
Gelston, Louis Merwyn
Gibbs, Harley Stuart
Giblin, Arthur Leon
Gillam, Stephen Kirk
Gowell, Ralph Curtis
Green, Samuel Bowdlear
Gridley, Vernon Hill
Griffiths, Emmogene (Lilley)
Guernsey, Loren C.
Gundelfinger, Walter David
Gunner, Daniel Webster
Hahn, Walter Louis
Hancock, Edward Lee
Harlingen, Edward M. Van
Hellprin, Angelo
Heller, Albert Henry
Hendrickson, William Faithful
Hesse, Frederick Godfray
Hewitt, Charles Nathaniel
Hileman, Albert

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Hoover, John Smith
Hough, George Washington
Hutchinson, Henry Sheafe
Ingbert, Charles Emerson
Kellerman, William Ashbrook
Kelly, Trumbull
Kendall, Cyrus Hamilton
Kinnicutt, Leonard Parker
Knight, Wilbur Clinton
Koch, Waldemar
Koelker, W. F.
Krauss, William Christopher
Krautter, Louis, Jr.
Krenz, Walter Carl
Landers, Herbert Henry
Lanphear, Burton Smith
Little, Livingston J.
Loderman, Ernest Gustavus
Loomis, Clarence Edward
Lowe, Abbot Lawson
Lucker, Herbert
McCallum, John Bruce
McClatchie, Alfred James
McDermott, Henry Edwin
Magowan, Charles Scott
Malcolm, Joseph James
Martin, Jesse Albert
Matthews, Charles Philo
Maxwell, Fred Baldwin
Meyer, Arnold William
Miller, Edmund Howd
Millis, Frank Edward
Montony, Liberty Gilbert
Moore, Clarence Stanton Millis, Frank Edward
Montony, Liberty Gilbert
Moore, Clarence Stanton
Morse, Eleanor
Noe, Frederick
Oliver, James Edward
Olsson-Seffer, Pehr Hjalmar
Orton, Edward
Packard, Alpheus Spring
Palecek, James Frank
Palmer, Arthur William
Parmeter, George Cox Palmer, Arthur William Farmeter, George Cox Pearson, Leonard Pegram, John Combe, Jr. Perkins, Maurice Peters, William Richmond Phillips, Frank Jay Pollock, George Edward Pomeroy, Halsey Beecher Pond, Raymond Haines Porter, Roland E. Prescott, Albert Benjamin

Quick, Robert Winchell
Rees, John Krom
Richardson, George Mann
Ricketts, Howard Taylor
Riffie, Albert Stanley
Rising, Willard Bradley
Roberts, Edward Ellis Pierpont
Ronnebaum, John Henry
Rowe, Richard Burton
Russell, Israel Cook
Savidis, Charalambos George
Schaeffer, Charles Ashmead
Schaefer, Edward Franklin
Schweitzer, Paul
Shaler, Ira Alexander
Shaw, David Joseph
Sherman, Frederick Ellas
Short, Frank James
Simpson, Charles Baird
Silngerland, Mark Vernon
Smith, Harry Atwater
Snow, Francis Huntington
Snow, William Appelton
Stark, Herbert Spencer
Starkweather, George Pratt
Stewart, Alton LeRoy
Stringham, Irving
Tarr, Ralph Stockman
Taylor, Thomas Maynard
Thomas, Edwin Leroy
Thomas, Edwin Leroy
Thompson, Millett Taylor
Thurston, Robert Henry
Tobey, William Boardman
Tompkins, William Bishop
Tufts, Frank Leo
Tunderwood, Lucien Marcus
Veazey, John Arthur
Walker, William
Webster, Harrison E.
Welber, Francis Augustus
Wells, William
Wheeler, Wiffred Forest
White, John Alan
Whitman, Charles Otts
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