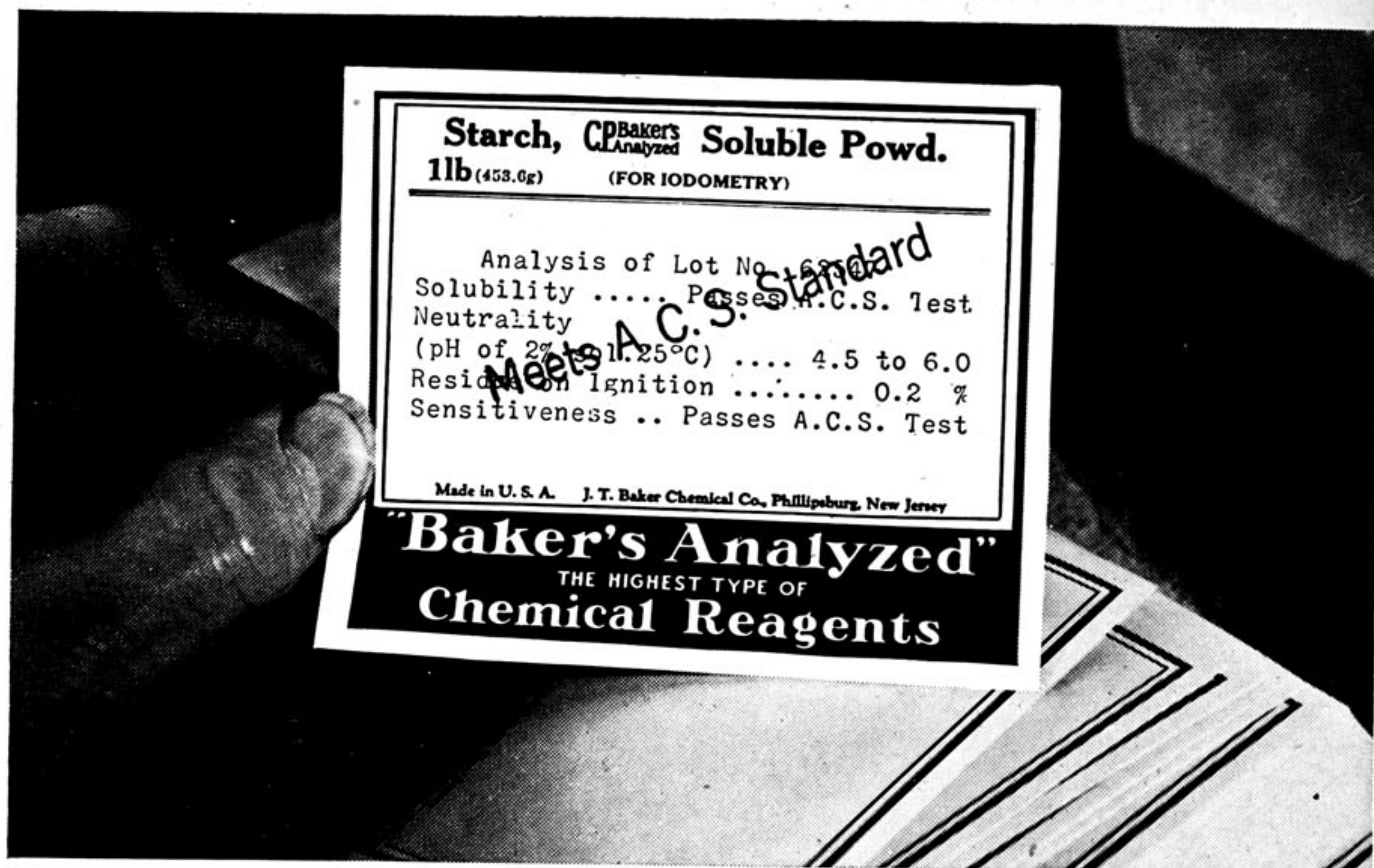




The
PUGET SOUND CHEMIST

Bulletin of the Puget Sound Section of the American Chemical Society



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Chairman's Message . . .

The coming of the fall season with its resumption of activities is welcomed by all of us. These words appear in the initial fall issue of our Puget Sound Chemist which formally announces the first of our interesting meetings scheduled for the section.

It seems a fitting time for me to call the attention of the members to certain phases of our activities which should be coming up for consideration in the near future. I sincerely hope that all members will take time to at least scan the following remarks in order that they may be in a position to offer some intelligent and constructive advice on these points:

PROGRAMS

The local section programs have definitely been of a worthwhile caliber. Our program chairman has done an aggressive job of securing the speakers for us and we can count on the maintenance of that high level. However, the question of holding certain of our meetings in other cities of our section continues to come to our attention. We are definitely committed to the principle that some of our meetings should be held outside of Seattle. However, the difficulties arise in the actual carrying out of this laudable idea. Can you offer us concrete help and suggestions in the arranging of outstanding meetings in other places?

CONTINUITY

As you know, at the beginning of each year in January our complete set of officers and committee chairmen may be changed. This has usually caused a considerable dislocation of the programs and activities under way, just at the time that the section activities should be functioning at its smoothest and best.

The very heart of our section activities revolves around our monthly meetings, which are, of course, arranged by our program committee. Yet, under our present system, this important committee has no official status beyond appointment by

the section chairman and automatically dies at the end of each year in spite of the continuous nature of the demands upon this committee by the section. Fortunately for our section our past program chairmen have generally stuck to their posts and made provisions for the first few programs for the succeeding year even though they have been technically relieved of these duties at the end of the year.

However, it seems to me that this sort of arrangement is open to much improvement. I would favor a device which would automatically preserve the continuity of our program making from year to year. In some sections this is handled by having an office of chairmen-elect who assumes the responsibilities of providing the programs. Since he knows ahead of time that he is to assume the chairmanship of the section the following year he is free to project his program schedule ahead into the next year. In addition to providing the coming chairman with a solid background of the section's activities it enables a reasonable continuity to be maintained in other such functions as the social program and the monthly publication. This system has worked very successfully in other sections and I advocate it as a progressive step for the Puget Sound Section.

ELECTION OF OFFICERS

Somewhat in line with the above remarks comes the question of the election of officers for the coming year. It is trite to say that this act should be participated in by the maximum number of our membership. In spite of our efforts to give this act advance publicity there is always a too large number of members who somehow feel that they did not have an opportunity to participate in this important feature. It is vitally important that the candidates for the various offices be carefully considered. It is not enough that a man be popular or well-

(Continued on page 17)

September Meeting

**PUGET SOUND SECTION OF THE
AMERICAN CHEMICAL SOCIETY**

Tues., Sept. 23, 1947

7:30 P.M.

Address • Bagley Hall • Room 140



SPEAKER

DR. E. C. LINGAFELTER

SUBJECT

***“Colloidal Electrolytes, their Properties
and Structures”***



**REFRESHMENTS AND SOCIAL HOUR IMMEDIATELY FOLLOWING
THE MAIN ADDRESS**

September Speaker . . .



DR. E. C. LINGAFELTER

Dr. Lingafelter, who will address the regular monthly meeting of the Puget Sound Section on the subject of "Colloidal Electrolytes, their Properties and Structure," has spent several years as an original investigator in the field of surface-active agents, and as a result he is author of several publications on the subject.

He obtained his Bachelor of Science at the University of California, Berkeley, in 1935, and was awarded the degree of Doctor of Philosophy at the same university in 1939. Shortly thereafter he came to the University of Washington where he is now Associate Professor of Chemistry.

COLLOIDAL ELECTROLYTES, THEIR PROPERTIES AND STRUCTURE

Many of the substances with surface-active properties with which we are com-

monly familiar have formulae which indicate that they are simple salts. Upon more detailed examination this salt-like character is found to be exhibited only in very dilute solutions, and at higher concentrations these substances behave in ways commonly associated with colloidal particles.

The substances such as ordinary soap and the anion-active and cation-active surface-active agents of commerce exhibit these characteristics, and have therefore been called "colloidal electrolytes."

Several properties of the solutions as surface tension, viscosity, electrical conductance, and ion activity show the effects of this colloid formation. On the basis of this behavior several theories of the structure of the colloidal particles have been proposed. A comparison between some of the recent experimental studies will be made and the several theories of structure will be evaluated with respect to their capabilities of explaining the experimental results.

OCTOBER MEETING



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C. C. HERITAGE [right], Technical Director of the Weyerhaeuser Timber Company, discusses the uses of Silvacon products with **R. D. PAULEY**, Sales Manager. Pauley is also manager of the Longview, Wash., Development Department, where Silvacon processing was perfected. Before them are products in which Silvacon is being used.

BARK PRODUCTS...A MAJOR ADVANCE IN FOREST PRODUCTS DEVELOPMENT

The commercial production of a series of materials derived from Douglas Fir bark, designated as Silvacon Products was recently announced by Weyerhaeuser Timber Company, Longview, Washington. The significance of this development, which permits the economic and practical utilization of 12% of the Douglas Fir log formerly regarded as almost useless waste, can scarcely be exaggerated. While the method involved is one of physical processing, the development may be regarded as the first step in the solution of a long-range problem facing the forest products industry. The future will certainly see continued progress toward the completest possible physical and chemical utilization of forest products, and each new development will mark an increase in the industrial potential of the Northwest.

Complete details of the production methods involved have not been dis-

closed, but it can be stated that the Silvacon Products are obtained by a selective grinding and screening process applied to Douglas Fir bark from the peeler of the Weyerhaeuser plywood mill, while the barks of all Pacific Coast conifers may be processed by similar methods, only Douglas Fir is treated at the present time. Production is continuous, and the capacity of the existing plant at Longview is about 75,000 pounds per day.

Five bark products are currently obtained from the process. All are predominantly brown in color, odorless and tasteless.

Cork (Silvacon 383), consists mainly of flake-like particles up to $\frac{1}{4}$ inch in diameter. It is physically similar to commercial cork in most respects, and contains many reactive components. This product is valuable as a reactive ingredient in phenolic resins, and in the heat

curing of ham and bacon. In general, it should be useful as a cork substitute, as a filler or as a carrier in many applications. This material is also marketed under the trade name "Topper" as a soil conditioner and mulch.

Powder (Silvacon 490) is very finely powdered amorphous particles (90% 325 mesh or smaller) obtained primarily from the highly friable parenchymous tissue of bark. It is chemically reactive, high in alkali solubles, and physically it is free flowing and non bridging. Primary interest in this material is as a carrier for insecticide dusts and as a pigment or filler in coating materials.

Fiber (Silvacon 508) consists of stiff fibers from the hard tissue of tree bark, commonly called bast fibers. This product is of great interest as a reinforcing filler in impact grade thermosetting molding compounds, as a flooring ingredient and as an absorbent filler in explosives. Its fibrous nature makes it of potential value wherever a reinforcing filler may be required to impart high impact strength.

Cork-fiber combination (Silvacon 412) is a physical combination of small irregular cork flakes and liquified fiber needles. This material is suggested for use as a reactive filler in thermosetting molding compounds, as a flooring ingredient and in all general applications where a reinforcing filler is indicated.

Cork-fiber-powder (Silvacon 472) combines small irregular cork flakes, lignified fiber needles and powdered amorphous particles. It is chiefly of interest as an active ingredient of phenolic resin and protein plywood glues, and also is suggested for many applications requiring an adaptable filler ingredient such as in binders, coating materials, molding compounds, agricultural dusts, etc.

The interest with which these products are being received by many diversified industrial users indicates a bright future for new forest products developed by technical skill and exhaustive research. All progressive technical people will certainly applaud this evidence of progress toward truly complete forest products utilization.

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UNIVERSITY EXPANSION PROGRAM

With the allocation on August 27 of \$5,000,000 for the completion of the Medical and Dental School the total amount appropriated for the recent expansion program of the University of Washington reached \$18,580,000. \$9,000,000 has been awarded for current construction while the remainder will be spent under contracts to be let within the next twelve months.

The first contracts for plant expansion were let in July, 1945, when the kiln building, a small addition to the School of Mines, and the Civil Engineering building were started. They will be completed sometime in the Fall, 1947, at a cost of \$28,953 and \$775,417, respectively. The latter will house, in addition to the Department of Civil Engineering offices and classrooms, one of the best equipped bituminous laboratories in the United States, and a sanitation laboratory. The civil engineering testing laboratory included four testing machines ranging in size from 60,000 to 2,400,000 pounds capacity. The largest of these, which cost around \$150,000 installed, is capable of handling a sample ten feet wide and twenty feet high and is able to make bending tests on beams up to eighty-five feet in length. An electron microscope will be delivered sometime in September and will be installed in a suite of rooms which will include a humidity and dust controlled sample preparation room.

Scheduled for completion this winter, David Thomson Hall will provide offices and instruction rooms for the liberal arts department. The completed costs for this structure, which was begun in December, 1946, will be \$827,970.

Begun in March of this year the four-story extensions to Johnson and Physics Halls will be completed in the Spring, at the cost of \$1,324,767 and will add approximately 40,000 square feet of floor space to each structure. Massive concrete pilings which extend thirty feet below the floor level will allow the construction of a complete, modern seismo-

graph station in the sub-basement of Johnson Hall. In addition to this, the wing will house offices, three refrigerator rooms, and an acoustical laboratory. The Physics Hall addition will include a large lecture hall, seating 150 persons, smaller instruction rooms, offices, and a testing laboratory which will occupy the entire basement.

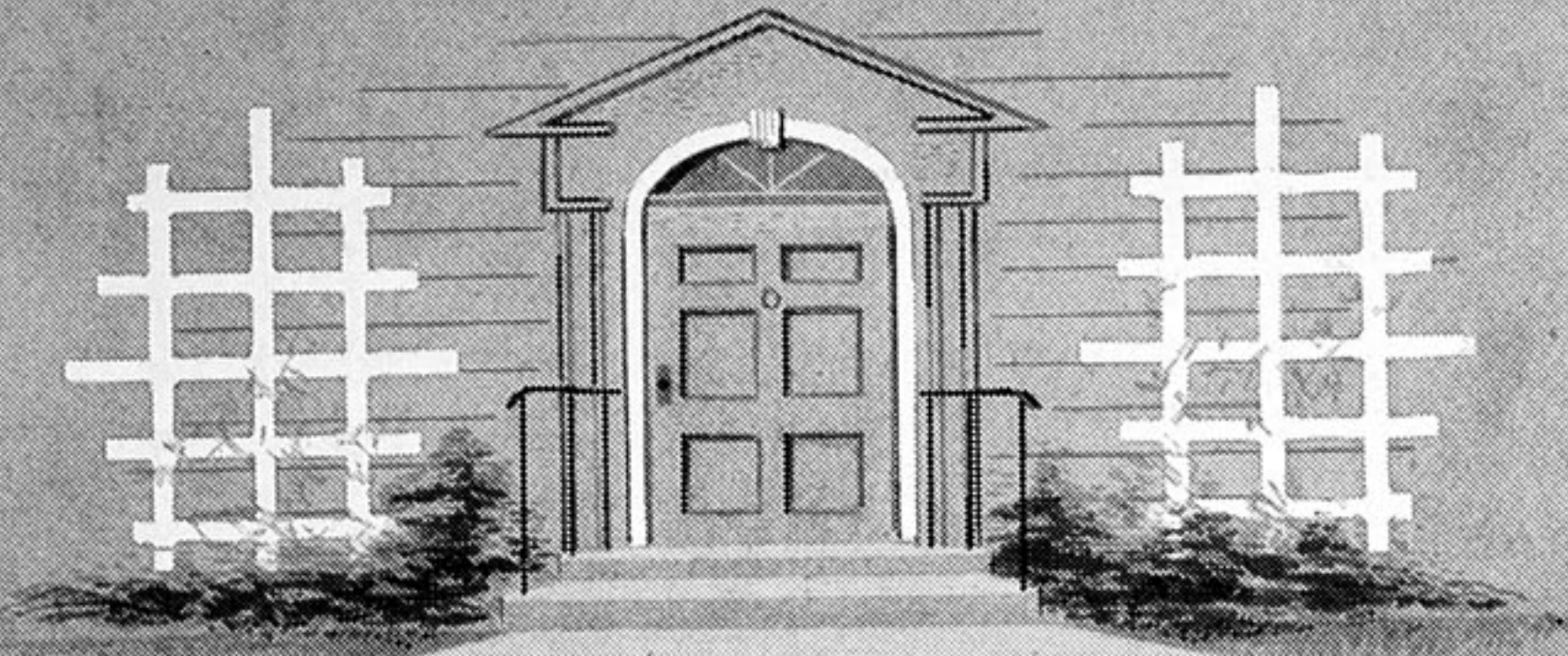
The Electrical Engineering building, which was begun in April, 1947, carries an estimated completion date of September, 1948, and will cost \$875,000.

The library addition will provide six tiers of stack space. However, Mr. Bauer, Associate Librarian, states that this additional space will only relieve the present shortage since there are enough books in storage at this time to occupy the new stacks. This structure was begun in July, 1947, and will be completed in the Fall, 1948, at the approximate cost of \$625,000.

The new Administration Building was the most recent project to get underway. This modern Gothic-designed structure will house most of the administrative offices of the University and will include a campanile to house the University's historic Chimes. The \$1,562,000 building was started in August, 1947, and will be completed in about one year.

The most advertised and most spectacular of the buildings rising on the University campus is the very modern Medical and Dental Building. With the recent allocation by Governor Mon C. Wallgren the total cost of the structure will be above \$8,000,000. The wing presently under construction houses the Dental School and a small portion of the Medical School with the balance of the medical space to be contracted for soon. On completion of the first wing in the Fall, 1948, the Dental School will have the first plant in the United States which was initially designed for both undergraduate and graduate work in dentistry.

—FRED C. STULTS



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SEPTEMBER, 1947

THE EDITOR'S RETORT

There is no balm for the budding Editor's soul like the letter from a member of his reading public. Criticism, bitter though it may be, and praise, no matter how faint, are clasped to his heart with a cry of joy. Conversation over the cider and doughnuts has lead us to believe that various persistent characters have, on occasion, plunged deeper into the *Chemist* than the announcement of the next meeting. Someone in this hardy group will some day be stirred to put a suggestion or comment on paper, be it to our dismay or pleasure, and thus will invest three cents in a brighter future for our publication. We guarantee to dust out the mailbox every morning.

Facing this page appears the financial statement of the *Puget Sound Chemist*. It is not calculated to bring the light of pleasure to the eyes of Messrs. Bradstreet and Dun. Mundane though these matters be, we solicit the consideration of our supporters. The solvent for our solvency is Advertising—with a big A. More sponsors for these pages will help us build a bigger magazine with more departments, more articles and more work for the editor. Every member of the section is a potential salesman. Get in touch with our Advertising Manager for rates and deadlines to help the *Chemist* grow. See how thin you can make your Ed. get.

The article on Bark Products calls to mind the recently published comment summing up the wastefulness of the

lumber industry. The substance was that, as compared with the meat packing industry which reputedly utilizes everything but the squeal, the lumber people have always used the squeal and thrown everything else away. And along this line, it seems at least possible we may soon have breakfast food from waste wood products. This should compare favorably with some of the articles now on our grocer's shelf. Dog food is another potentiality. Fir Bark "Barkies." What a singing commercial *that* could generate.

The nation-wide Methanol shortage is too familiar to bear mention. One of our less reputable acquaintances has reported, however, that there is a booming black-market business in this lowly solvent for use as fuel in midget racing cars. Indeed, the hot rodders are paying as high as \$1.50 per gallon for the magic fluid with which to soup up their jet propelled roller skates. We envision a lowly character in a light truck easing up to us and leering "Wanna buy some hot alky?"

D. E. Eichelberger, vice-president of American-Marietta Company of Chicago, has become the new resident manager of the firm's Northwest operations. He succeeds E. Emerson Brott, who died in mid-July after a brief illness.

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FINANCIAL STATEMENT — THE PUGET SOUND CHEMIST

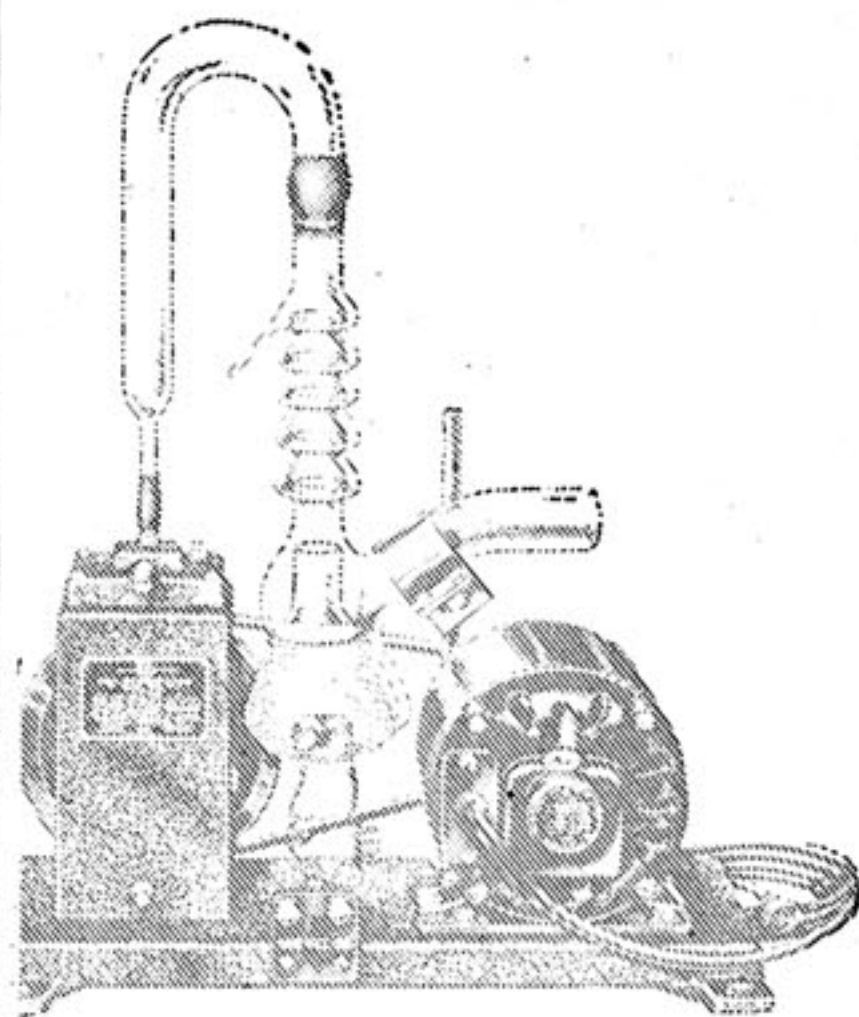
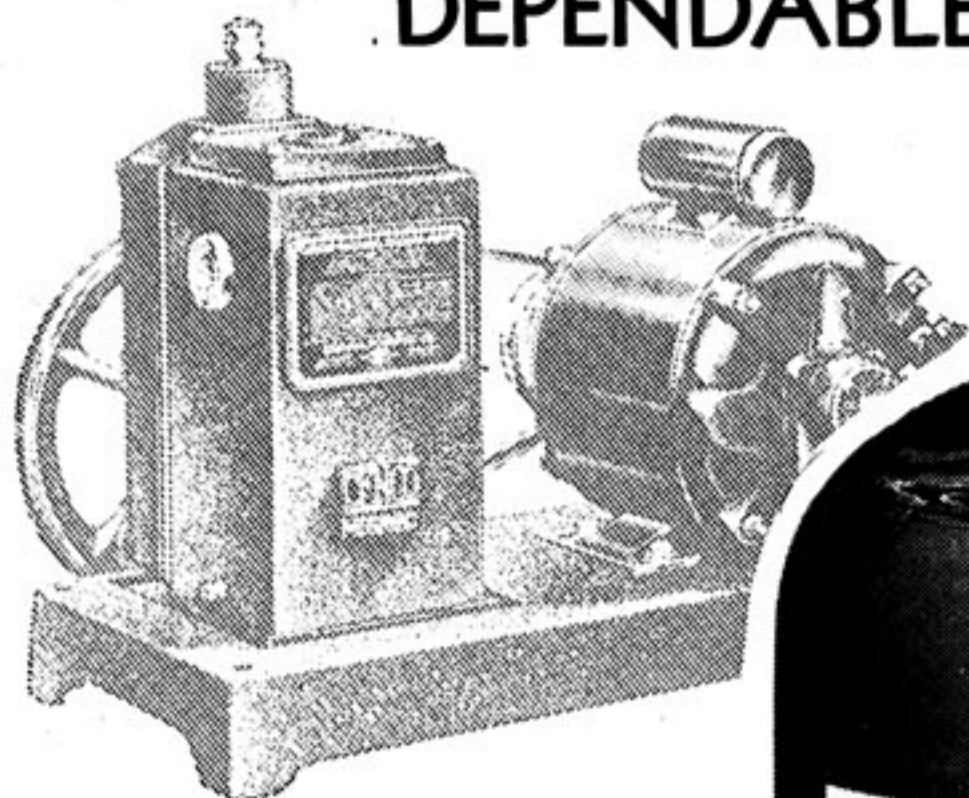
	<u>Expenses</u>	<u>Income</u>	<u>Surplus Balance</u>
SURPLUS 5/1/47			\$ 72.09
Expenses:			
Printing	\$329.55		
Miscellaneous64		
Sub Total	\$330.19		
Income (Advertising)		\$301.66	
Net Loss	\$ 28.53		
SURPLUS 6/1/47			\$ 43.56
Expenses:			
Printing	\$307.04		
Loss on Dow Account	17.00		
Miscellaneous71		
Sub Total	\$324.75		
Income (Advertising)		\$326.94	
Net Gain		2.19	
SURPLUS 7/1/47			\$ 45.75



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Dr. H. V. Tartar to Head U. of W. Chemistry Department

It was 29 years ago that Herman Vance Tartar came to the University of Washington as assistant professor of chemistry. He has faithfully served the department and the University continuously since 1918, and this service has culminated in his appointment as Executive Officer of the Department of Chemistry to succeed Professor H. K. Benson who retired this Summer.

Herman Vance Tartar was born in Airlie, Oregon, on January 4, 1882, the oldest of a family of four. His grandparents on both sides were pioneer settlers in the Willamette Valley, having settled there prior to 1852. Although he cannot claim the advantage of having been born in a log cabin, both of his parents were.

His undergraduate work was at Oregon State College, where he studied chemistry with Professor John Fulton. While

a student at Oregon State, he came to know Stella Parsons, a fellow student who later became his wife. After graduating with a B.S. in 1902 he was a chemist with the Oregon State Food Commission, Clark-Woodward Drug Co., and the Oregon Experiment Station.

Dr. Tartar obtained his Ph.D. at Chicago in 1920 with a major in organic chemistry under Professor Julius Stieglitz and a minor in biochemistry with Professor A. P. Mathews. His thesis was a study of the constitution and colors of derivatives of uric acid. While at Chicago he studied with such outstanding teachers as Professors Schlesinger, W. D. Harkins, R. A. Millikan, A. A. Michelson, Alexander Smith and H. M. McCoy. It was while studying with W. D. Harkins that his interest in colloids was aroused. He also studied with Moses Gomberg at Michigan.

Since coming to the University of Washington in 1918, as assistant professor of chemistry, Dr. Tartar became

(Continued on page 16)



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Northwest Visitors

Douglas MacMahon, in charge of sales development for Mathieson Alkali Works, visited the Northwest in August. Mr. MacMahon is in charge of sales and development of such products as polydichlorostyrene.

Charles S. Hasford, Jr., who recently sold Pennsylvania Coal Products to Koppers, and who is now acting as Vice-President of Koppers, visited Seattle in August on vacation. This was Mr. Hasford's first visit to the Northwest and he expressed surprise at the general activity of the area. Pennsylvania Coal Products are major producers of resorcin, catechol and derivatives as well as resins and adhesives.

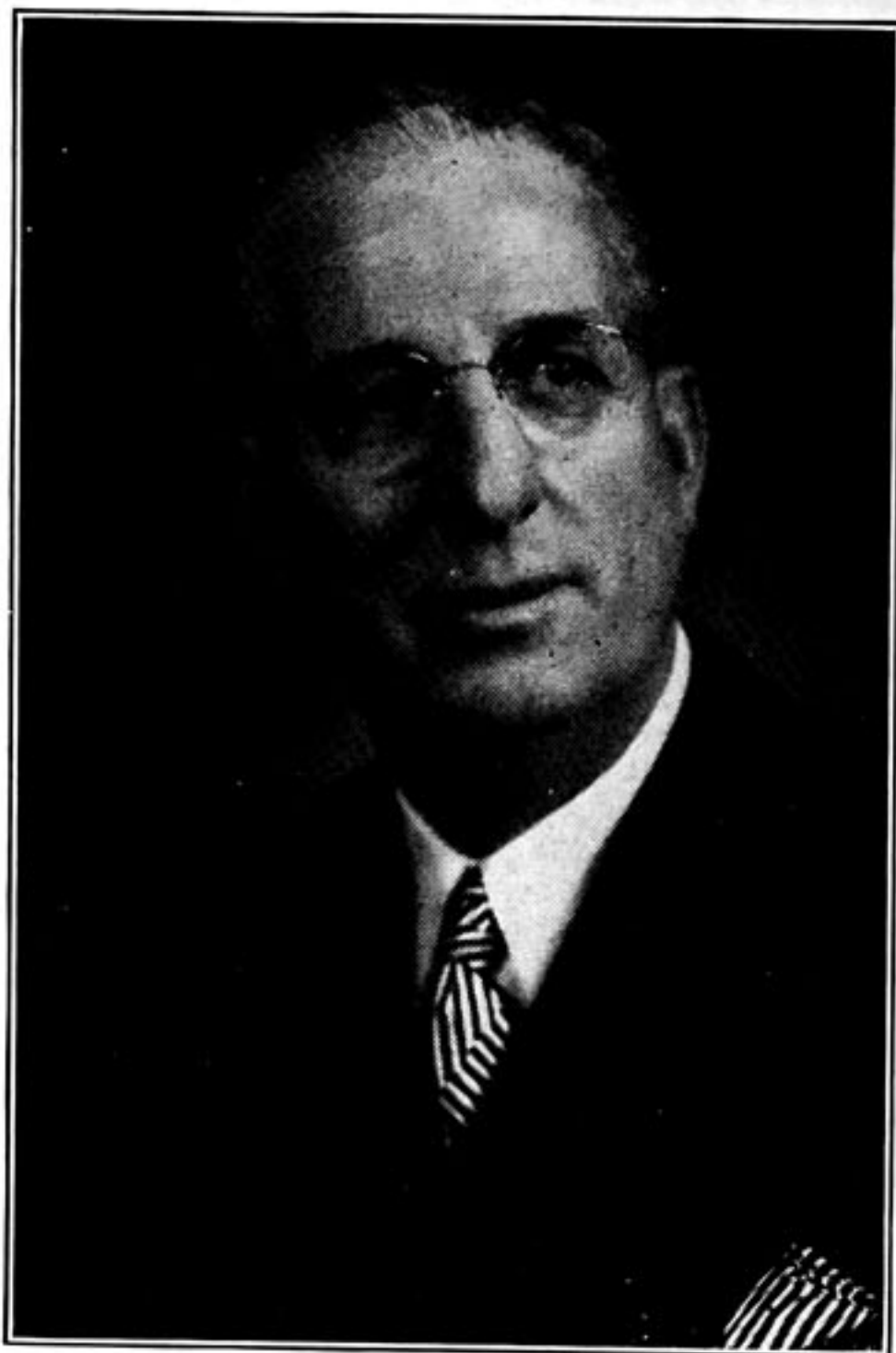
A. J. Norton departed for the East on his usual extended trip on August 31. He will attend the ACS meeting in New York and will present a paper on furfural.

Dr. James B. Conant, President of Harvard University, visited Seattle on September 3 and was entertained by the Harvard Club of Seattle. A luncheon was given for Mrs. Conant by the wives of HCS members.

INDUSTRY-ARMY DAY AT FORT LEWIS

The Northwest Military Associations sponsored Industry-Army Day, held at Fort Lewis, Washington, on September 12. The program, attended by 500 leading Northwest industrialists, featured General Mark W. Clark as the dinner speaker. Afternoon speakers included Lt. General Hoyt S. Vandenberg, Deputy Commander, Army Air Forces, and Major General Henry S. Aurand, Director of Research and Development. Colonel Albert H. Hooker of Hooker Electrochemical Company acted as chairman of the committee.

Pittsburgh Testing Laboratories Opens New Seattle Branch



C. M. HOUCK

Mr. C. M. Houck is in Seattle in connection with the opening of their Seattle Branch at 2323 3rd Avenue.

Mr. Houck is very much enthused with the progress of the Northwest and his company, which is one of the oldest and largest of its kind in the world, is in a position and very anxious to serve industry in this area in the fields of testing, inspection and research. In their new laboratory here they have installed one of the most modern and up to date 300,000 pound capacity universal testing machine.

Mr. Mark R. Rosumny has been installed as their District Manager.

DR. H. V. TARTAR . . .

(Continued from page 15)

progressively associate professor in 1922, professor in 1927, director of the laboratories in 1943, and executive officer of the Department of Chemistry and Chemical Engineering in 1947.

Professor Tartar's scientific career has been productive; a total of about 80

research papers having been published by him and his associates since 1910, and over 30 Ph.D. students having worked under his direction. His numerous research interests include the lead arsenates, polysulfides, electrochemical studies on conductivity, EMF, thermodynamic and phase rule studies, emulsions, electrolytic zinc, and most recently the sulfonates as colloidal electrolytes. He is at present directing the work of several students on the sulfonates.

Stella Parsons, a classmate at Oregon State College, became Mrs. Tartar on June 26, 1907. Of their forty years of married life, Professor Tartar says that according to the calendar it is forty years ago, but it doesn't seem that long. The Tartars have two children, Virginia (Mrs. Holway) of Oysterville, Washington, and Dr. Vance Tartar of the State Oyster Laboratory, Gig Harbor, Washington.

All of his associates and friends wish Dr. Tartar well as he takes on new responsibilities in his chosen career.

Chairman's Message . . .

(Continued from page 5)

known in our field. He should only allow his name to be offered for consideration if he first makes a conscious recognition of the fact that he must somehow be able to spend some portion of his time in the performance of the duties implied in the office. If he cannot perform them directly then he should be able to delegate them to competent persons and see that they are done.

Thus arises the chief purpose of a nominating committee which is to screen various possibilities for the offices in light of the candidate's qualifications, capabilities and willingness to assume the responsibility for seeing the job through. The membership of the nominating committee will be announced shortly and we urge that a large number of our membership give this problem serious consideration in order that they may assist the nominating committee.

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