The PUGET SOUND CHEMIST

BULLETIN OF THE PUGET SOUND SECTION OF THE AMERICAN CHEMICAL SOCIETY

FEBRUARY, 1950

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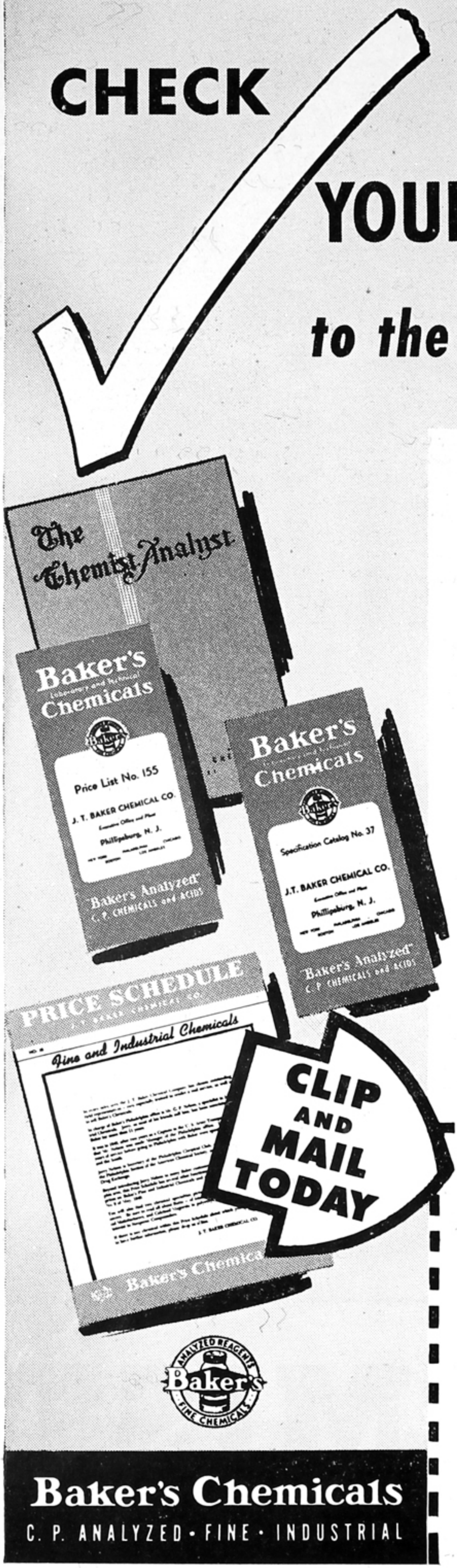

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Febuary Meeting

Puget Sound Section

AMERICAN CHEMICAL SOCIETY

Time

Tuesday, February 21, 1950, 8:00 p.m.

Place

Seattle, 131 Bagley Hall, University of Washington

Speaker

DR. P. Van RYSSELBERGHE, University of Oregon

Subject

Electrochemistry of Corrosion and Application of the Polarographic Method to Corrosion Research

MARCH MEETING

MONDAY, 13th

8:00 P. M., U. of W.

DR. A. E. FINHOLT

St. Olaf College

Complex Hydrides

Regional Meeting A.C.S.

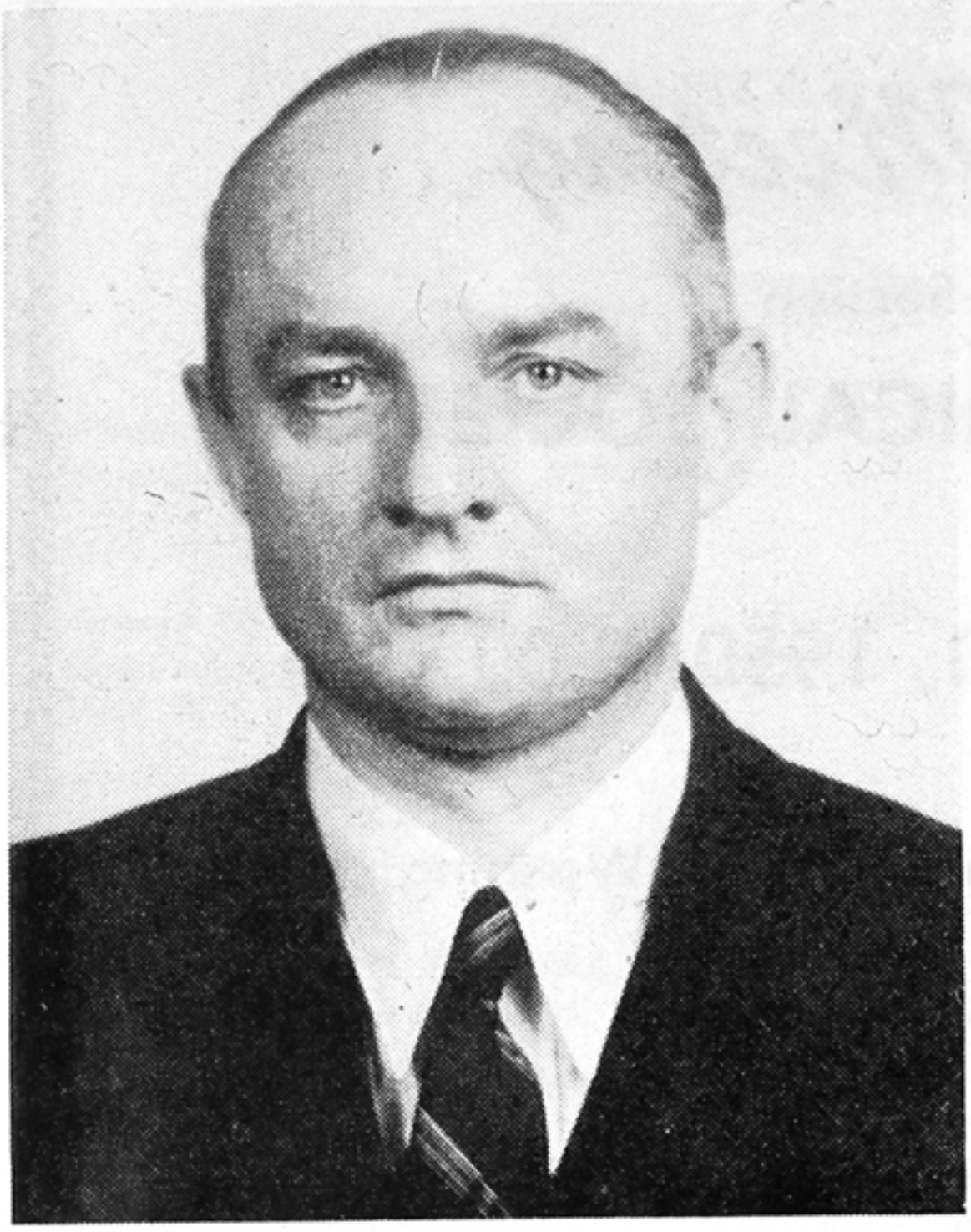
at

RICHLAND

June 8 - 9

1950

FEBRUARY SPEAKER



Pierre Van Rysselberghe

BIOGRAPHICAL

Born in Brussels, Belgium, May 18, 1905.

Attended University of Brussels, 1922-27. First engineering degree (equivalent to B.A.) in 1924. Engineer (electrical, mechanical, chemical), 1927.

Fellow of the Belgian American Educational Foundation (Commission for Relief in Belgium) at Stanford, 1927-29. M.A. and Ph.D. in physical chemistry, Stanford, 1928 and 1929.

On staff, Stanford, 1929-41.

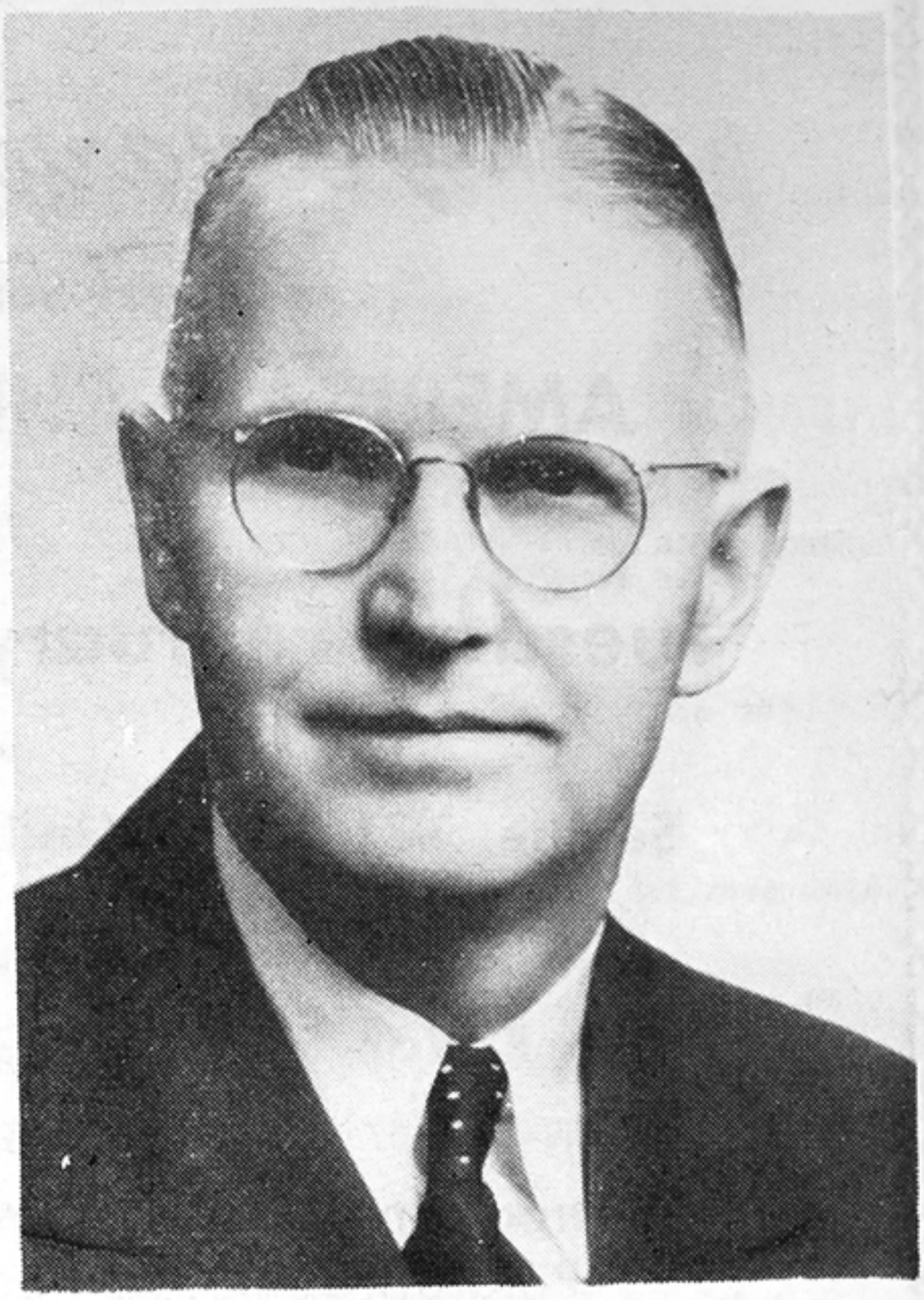
Visiting Lecturer to Belgian Universities (under Belgian American Educational Foundation), 1935-36.

On staff, University of Oregon, 1941 to present.

Supervisor of Office of Naval Research project on "Polarographic Studies of Corrosion Phenomena," 1946. Naval Technician, European Laboratories, 1948. President of Committee of Electro-chemical Thermodynamics and Kinetics created in March, 1949.

Fields of research: electrochemistry, thermodynamics, polarography, corrosion, Teaching: physical chemistry, thermodynamics, electrochemistry.

MEET THE OFFICERS



Chairman COLLIS C. BRYAN. Born in Houston, Texas, Collis Bryan moved to Washington when six years old, receiving the B.S. degree in 1927, Life Teaching Diploma in 1932, and M.S. degree in 1935, all from the University of Washington. His first positions were as a teacher of chemistry, physics and mathematics at Anacortes, Bothell, Bellingham, and Seattle. In a contest sponsored by the Puget Sound Section, teams of his students on two occasions won first place out of a field of 72 other schools. From 1941 to 1945 he was employed by I. F. Laucks on chemical research. Since 1945 he has been associated with the Monsanto Chemical Company.

His wife is active in Laurelhurst community affairs. They have two children, a boy 14 and a girl 8 years old. When he ca nfind time, Collis enjoys golfing and fishing.

Chairman-elect Edward C. Longafelter. Receiving the Ph.D. degree from the

University of California in 1939, Ed Lingafelter is now Associate Professor of Physical Chemistry at the University of Washington. Not only is he known as a successful and inspiring teacher, but he has published a number of research papers in the fields of X-ray diffraction and colloid chemistry.

The Lingafelters have three boys. When he can find time, he enjoys vacationing on the Stillaquamish River.

Secretary JIM C. DRURY. Graduating from the University of Washington in 1940 (B.S. in Chemical Engineering), Jim Drury was first employed as Asst. Chief Chemist with the Coos Bay Pulp Co. and was soon promoted to Chief Chemist. From 1942 to date he has been associated with the Lyle Branchflower Co., from 1942 to 1945 as Chief Chemist and since that time as Vitamin Plant Superintendent. He is a member of the A. I. Ch. E. and A. C. S.

He has two children, a boy 8 years and a girl 11 years old. At their summer home near Maxwelton Beach, the Drury family find considerable enjoyment in salmon fishing.

Treasurer DR. AARON E. MARKHAM, born in Phoenix, Arizona, on March 29, 1910. He attended the University of Washington, receiving his B.S. degree in Chemical Engineering in 1933, his M.S. in 1934. Leaving the University, he worked in the Port Angeles research laboratory of Rayonier, Inc., for 1 ½ years, and then became associated with J. H. Matson and F. C. Rogers in a testing laboratory in Seattle. He returned to the University and was awarded the Ph.D. degree in 1940, remaining as a research associate until 1942. He then went to the research laboratory of York Ice Machine Corp., until 1944, when he came to the Pulp Mills Research Project at the University, where he is now working. Dr. Markham is married and has two young daughters. He is a member of A.C.S., A.I.Ch.E., Sigma Xi.Phi Lambda Upsilon and Tau Beta Pi. His hobbies are mountaineering and house construction.

Councilor HERBERT R. ERICKSON. Herbert R. Erickson was born and raised in Denver, Colorado, where he attended the University of Denver. Here he received his B.S. in Chemical Engineering in 1933 and an M.S. in Chemistry in 1937. From 1937-40 he worked as a research chemist for the Cities Service Oil Company at Okmulgee, Oklahoma.

In 1940 he left Oklahoma with his wife and family and drove to Seattle. Here he went to work as chief chemist with the Northwest Testing Laboratories under the late Jim Priestley. This position offered an excellent opportunity for becoming rapidly acquainted with many of the local industries. In 1941 he was lured away from this laboratory to the Tower Co., Inc., where he is now Vice President and General Manager.

Herb has carried out a full and active part in the growth and development of the Puget Sound Section. In 1945 he was program chairman, in 1946 the vice-chairman, in 1947 the chairman, and from 1948 on has been councilor to the section. Inaddition, he has served the society on a national basis in that since 1948 he has been on the national Professional Relations and Status Committee.

His publications have appeared in medical journals. He has an active rating in the American Institute of Chemical Engineers.

His extensive trips throughout the country do not leave him as much time as he might wish to spend with his wife and three children. He has a daughter of 13 and boys aged 10 and 5 respectively. Besides his family he has numerous other interests. He plays the piano and is interested in music of all kinds. He is active in the affairs of the Congregational Church and other religious groups and is often called up for city-

wide and state-wide responsibilities in this field. Another field to which he has given much time is various youth activities such as Scouting and counselling.

Councilor ARTHUR J. NORTON.

Arthur J. Norton graduated from Harvard in 1920, having specialized in organic chemistry.

He worked as Chemist with the Harvard Medical School, and later with Powers-Weightman-Rosengarten Company (now Merck & Co.), where he was Assistant Chemical Director.

He was Chemical Director of Durez Plastics & Chemical Co. until 1935, when he became Technical Director of the Detroit Paper Products Company, which operated a laminating and molding division.

Since 1938, he has operated his own consulting laboratory, doing research and advisory work for the plastics and chemical field.

While with Durez, he helped pioneer the use of synthetic resins in plywood bonding, and directed the development of many of the other specialty uses for plastic products, as well as the work in molding compounds.

Among the fields to which his laboratory has contributed have been the low temperature curing resorcin resins and the foamed-in-place expanded plastics.

Norton is a member of the American Chemical Society, Alpha Chi Sigma, Forest Products Research Society, and while living in the east, was an active member of the American Institute of Chemists.

In addition to research and development in the resin field, his laboratory does considerable work in the chemical field, particularly in product engineering and market research.

★ ★

SEATTLE NEWS

An eight-pound baby girl was born to Mr. and Mrs. Ben Baldwin on January 21.

★ ★

The Pacific Fisheries Technologists will hold their annual meeting at the Seattle Technological Laboratory of the Fish and Wildlife Service, 2725 Montlake Boulevard, on Friday afternoon and evening, February 24. It is planned that the group will have dinner together (dutch treat). The meeting will be continued on Saturday morning and afternoon, February 25. All who are interested in fishery technology are urged to attend.

★ ★

ST. MARTIN'S COLLEGE

The wife and two small children of Dr. Frank Horan, recently added to the staff at St. Martin's, took leave of a Kansas blizzard in time to arrive in Olympia to be greeted by more snow and freezing weather. They were assured it is "unusual."

★ ★

With a Frederick Cottrell grant by the Research Corporation, the Department added a late-model Baush & Lomb Abbe Refractometer and a Parr low-pressure hydrogenation apparatus to its equipment for advanced work in organic and physical chemistry.

—Bede Ernsdorff.

★ ★

OREGON NEWS

Dr. John M. McGee, former contributing editor for Eugene, has resigned to be able to devote his full attention to a new venture south of Grants Pass. Dr. McGee does not care to give publicity to his new undertaking, but we understand that he will employ substantial quantities of modern herbicides and insecticides (as well as conventional arboricides and piscicides) in a pioneering effort to civilize some 200 acres of one of the more remote regions of the Pacific Northwest.

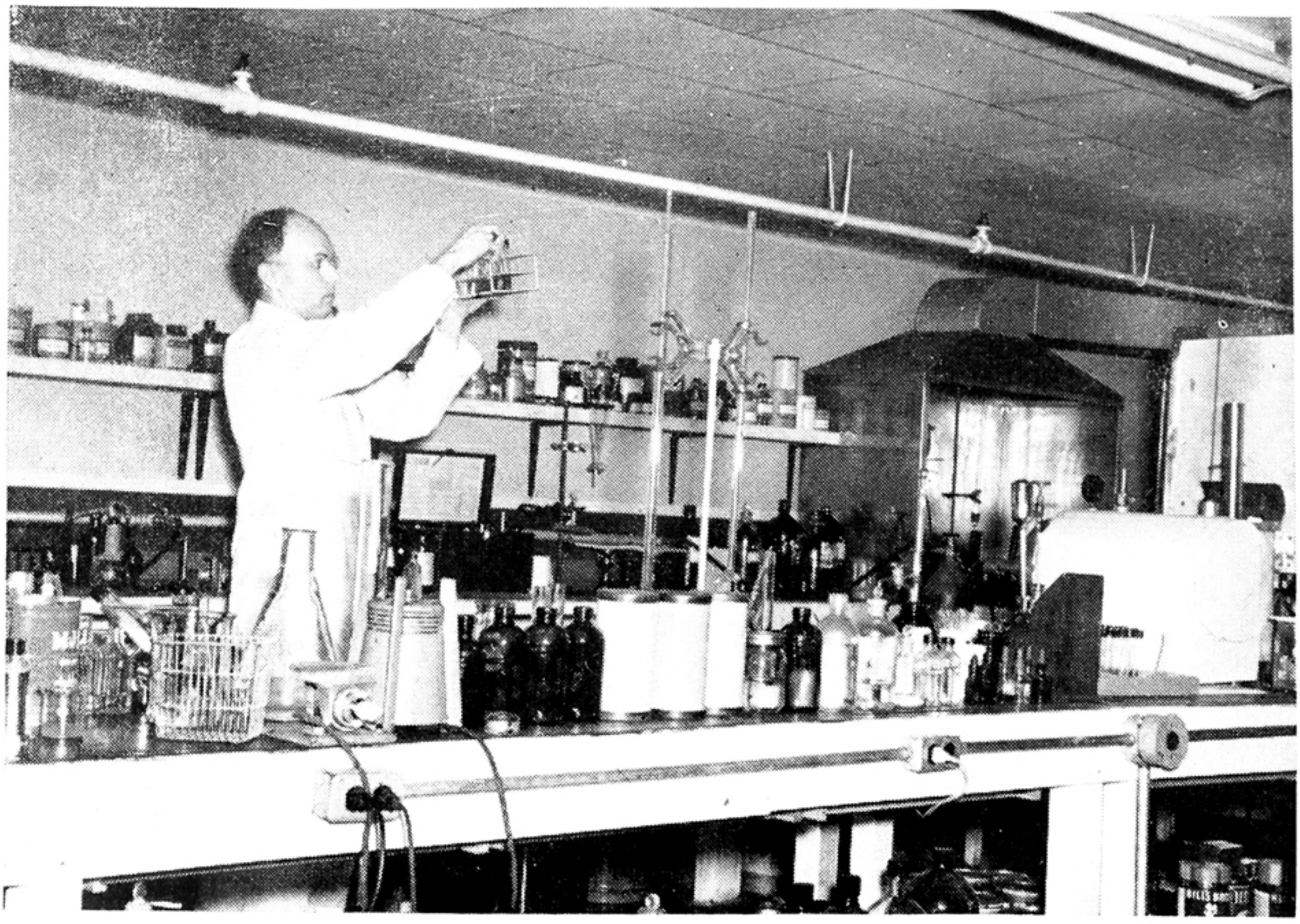
Dr. McGee will be succeeded as contributing editor by Dr. Robert B. Dean of the University of Oregon.

—R. B. Dean.

★ ★

All of the animals except man know that the principal business of life is to enjoy it.

WASHINGTON LABORATORIES, INC.



J. A. BROWN
Research Department
Washington Laboratories, Inc.

Washington Laboratories, Inc., was organized in September of 1940 by George W. Burchard, Jr. and Townsend Moore for the express purpose of extracting and refining Vitamin "A" containing fish liver oils and other biological products from fish.

From a small plant on the Bell Street Terminal in Seattle and a small capitalization the company has grown to be the largest producer of Vitamin "A" in the world.

Last year their total dollar volume exceeded five million dollars, a very large portion of which went directly to United State fishermen mostly in the Northwest.

When World War II began Vitamin "A" was listed as a critical item and the industry was pressed by the government to produce as much as possible. Washington Laboratories, Inc., did their part by installing a branch plant in Vancouver, B. C., which worked through the war years for the Canadian Government and the British Ministry of Foods. They also surveyed the fisheries of South America and discovered a source of raw material off Mardel Plata, Argentina, where a plant was set up and production began late in 1942. This plant sent all of its finished Vitamin oil to the United States.

In 1945 this plant was sold to Mr. Townsend Moore who left the Seattle partnership to operate in the Argentine which he continued to do until his untimely passing in early 1948.

The war necessarily made research into new products impossible due to lack of non-production personnel and laboratory equipment. However, after the war was over quite a few projects were started with the hope that some

commercially feasible production could be started on raw materials now going to waste from the fish industry.

It is a very curious fact but, with all the effort put into the fish industry for the production of fish for food purposes, there has been very little work done toward the separation and recovery of the many biological products such as various vitamins, hormones, enzymes and amino acids that are now either thrown away or wasted.

Several projects were started, both in their own laboratories, and in outside laboratories. Due to lack of much in the literature regarding work done by others in this field, much of the work had to be done from scratch and naturally many avenues of approach ended in failure.

A few have lead to interesting results and will soon be in commercial production in a new large scale pilot plant that the Company has set up about a mile from the main plant in Seattle. More about these projects will be reported as soon as production is under way. One can be mentioned here.

This new product, which has been in the experimental and development stage for the last 7 years, is not exactly a biological product but it stemmed from the original planning.

It is a chemical food preservative that has been very thoroughly tested and to date has given wonderful results as a bacteriostatic and fungicidal agent. Toxicity tests have proven it to be non-toxic and it is very economical to use. Patents have been applied for to prepare it for world wide use and it will fill a very great need.

George W. Burchard, Jr., president and general manager of Washington Laboratories, Inc., is a staunch believer in research and has great hopes for the future of the fish by-products industry. He has made very ambitious plans for Washington Laboratories, Inc., to share in the discoveries of the future along with the fishing industry generally as they will all benefit.

BOOK REVIEW

Laboratory Fractional Distillation

Thomas P. Carney-McMillan 1949

For the first time laboratory workers and those interested in applied fractional separation of liquids have a comprehensive treatise on the subject.

Beginning with basic theories of Raults law it carries through mathematical derivations and finally basic design principles. In addition all the practical techniques and use of accessory equipment are covered. Comparison of column design are complete enough to guide one in making a choice for specific applications. Included also are the relatively new micro and molecular practices and theories.

The book is well illustrated and the bibliography is extensive. The manuscript was read and approved by non less than Rossini, Homer Hall and Othmer. With such scrutiny the book cannot be far off base.

—C. V. Smith.

★ ★

ANYONE CAN EARN A DEGREE; ONLY A FEW ACHIEVE SUCCESS

Volumes have been written on how to achieve successful employee-employer relationships. From my experience, the following fundamentals are of vital importance to graduate and (veteran) chemical engineers and chemists:

The graduate, upon entering industry, should be humble and considerate of his new associates. This often is not the case. Our educational facilities, industry, and the individual all three—share the blame. An entire article could be written regarding the responsibilities of each, and the means of alleviating this condition.

In doing *his* part, the individual should study his associates. Frequently he fails to analyze the "old timers" and determine why they have been successful in their respective fields. Often their success has been accomplished without benefit of formal education. This gives the diploma-bearer no license to "look down his nose."

Anyone with sufficient time and money can earn a degree. Few can achieve success.

Seek employment in a field which you like. If you are not happy in your work it will be reflected in your everyday contact with your associates. Teamwork will be lacking.

Like people. If you don't, your output may eventually be limited to your own two hands.

Work hard when you work; play hard when you play. Don't mix the two. Ambition still is recognized in American industry, despite various ideas to the contrary advanced in the last two decades throughout the world.

The new engineer is informed of many company rules and policies. Usually it is difficult for him to recognize their relative importance. Rules and regulations dealing with safety, housekeeping and the labor union (if one is involved) must be followed carefully. Generally the most minor infraction or misinterpretation by a new college man can be counted on to "make headlines."

The new engineer should take steps to continue his education after entering the industrial world. This can be accomplished in many ways, depending on community facilities. A program that will broaden his *general* education should be followed, and if his ambitions are in production and supervisory fields, this training should be intensified.

★ ★

SOUTHWEST AWARD

Frederick E. Frey, assistant director of research of the Phillips Petroleum Company, Bartlesville, Oklahoma, who helped develop a new and cheaper process for making high test aviation gasoline in World War II, has been chosen to receive the 1949 Southwest Regional Award of the American Chemical Society. The award, given annually for outstanding achievement by a Southwestern chemist or chemical engineer, goes to Dr. Frey for major contributions in the field of petroleum chemistry during the past quarter century.

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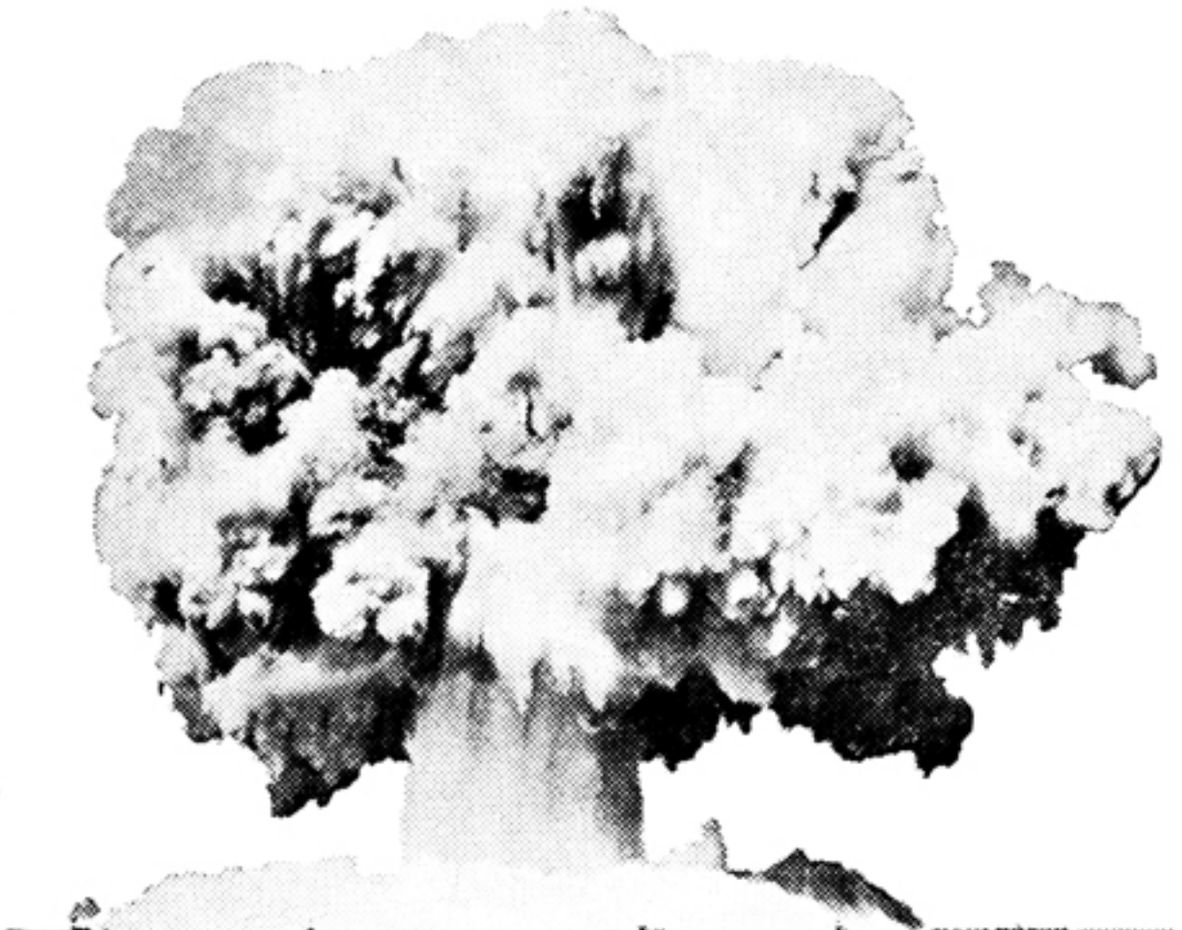

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Aluminum oxide and silicon carbide abrasives are used. The individual particles vary from screen size 600 to ¼". The bonding agents may be rubber, shellac, phenolic resins, or specially refined clay. The phenol-formaldehyde bonding is done in electrically controlled ovens. Clay bonding is done in oil-fired ovens with pyrometric cones 9, 10, 11, 12 as "stool pigeons." As cone number 12 melts (1335 C, 2435 F), the fusion is completed and the heat is turned off. At this brilliant white heat, the bond is essentially glass, and 24 to 36 hours cooling is required. Wheels 6" or more in diameter are hand balanced. Many of these wheels are used in western industries, especially lumber, plywood, pulp and paper, etc. They are shipped to all the western and southern states, and as far east as Kentucky and Illinois.

(Adapted from a paper "Local Industries" by Jack Papritz of Everett Junior College and presented to the chemistry club, Alchemists Anonymous.)

—C. E. Higer.

★ ★

SEATTLE INDUSTRY

A local enterprise founded on the applications of chemistry is the Food, Chemical, and Research Laboratories, Inc., located in the University District of Seattle. This corporation offers analytical, consulting, and research services to the food, feed, beverage, and pharmaceutical industries of the Pacific Northwest; and a special service is the certification of food products that have passed strict food-quality control standards. The laboratories are well-equipped and are located in a modern, one-story building.

These laboratories were started in 1947 by Dr. T. L. Swenson, who began his chemical career in the nineteen twenties as a graduate from Washington State College with the degrees B.S. and Ph.C. In 1934, he received the Ph.D. in biochemistry from American University in Washington, D. C. Dr. Swenson has had a varied professional experience ranging from dairy chemist and clinical technician to Director of Research of the large Western Regional Laboratories of the U. S. Department of Agriculture.

Associated with Dr. Swenson are chemists Dr. Q. P. Peniston, Dr. D. L. Morris, Mr. John Spinelli, and Dr. W. H. Hastings.

★ ★

ACS NEWS

Dr. W. Albert Noyes, Jr., chairman of the department of chemistry in the University of Rochester, will become editor of the "Journal of the American Chemical Society," the world's foremost journal of pure chemistry, on January 1. He succeeds Dr. Arthur B. Lamb of Harvard University, who is retiring from the editorial post after 31 years' service.

Dr. Noyes is the son of the editor whom Dr. Lamb succeeded in 1918. Both Dr. Lamb and Dr. Noyes are former presidents of the Society, Dr. Lamb having held that office in 1933 and Dr. Noyes in 1947. Dr. Lamb will continue to serve the "Journal," a monthly publication, as consulting editor. The editorial headquarters will be moved from Harvard to the University of Rochester.

★ ★

There was a young chemist from Kent
Whose life was not wisely spent.
He researched on beer
Hunted for dear
Now the sign on his lab says "For Rent."

★ ★

The way to fight a woman is with your hat — grab it and run.

Weyerhaeuser Timber Company's Inte-Grated Manufacturing Center Begins Operation

A complete plant to utilize "Everything in a tree but the sigh of the breeze in the leaves" is the object of the new Weyerhaeuser Manufacturing Center at Springfield, Oregon. The Kraft pulp-mill and power plant are integrated with the saw-mill so that the by-products of one plant become the raw materials for another. Their policy of diversification gives improved wood utilization and the integration of the plants gives efficient and economical operation, wherein conveyor-linked processing plants are synchronized to be interdependent for the supply of raw materials. In this way usable left-overs from one milling process are diverted economically as raw material for the other plants grouped together on one site.

The Kraft pulping process was designed by Otto C. Schoenwerk of Chicago. The pulp mill's water treatment plant can clarify and chlorinate 8 million gallons of raw water per day, which is enough to supply a city of 30,000 people. The incoming raw water is used to condense steam from the turbines and black liquor evaporators and thus utilize this waste heat in warming the water being treated.

Kraft pulp mills, unlike the old sulphite mills, operate a basic process for evaporating and burning all left-over cooking liquors and hence there is no problem of the disposal of pulping effluent. The concentrated liquor is sprayed into a furnace to recover chemicals: the reducing atmosphere of the furnace reduces sodium organic compounds to sodium carbonate and sodium sulphate to sodium sulfide, which are dissolved in water to form the "green liquor." This is pumped to a liquor making system to convert sodium carbonate to caustic soda. Lime mud from the clarification process is thickened and burned in a rotating kiln to reform lime, which then can be re-used.

In the Weyerhaeuser plants magnesium oxide is used as a cooking base instead of the conventional calcium base; this innovation permits the recovery of the chemicals and cuts out stream-polution.

Special equipment developed in Sweden has been installed in the Springfield plants to give a contamination-free effluent for discharge into the river. Thee Bergstrom tower used under license, is the first such tower to be installed in the West. Condensates collected in the process, which could have odorous gases dissolved in them, are sprayed into the tower counter-current to the furnace stack gases. The dissolved gases in the condensates are stripped out and carried up the stack, leaving behind relatively pure water.

Another innovation is the Sveen Pederson Saveall. All water used to transport pulp stock to the paper machine and then drained away when the paper is formed, carries in it considerable

fiber. As much of this water as is possible is reused without clarification, but the remainder must be made stock-free before it can be discharged to the river or reused in other processes. The Save-all operates on the principle that pulp fibers will float in a solution which has glue and alum in it if sufficient air clings to the fibers. Fibers floated to the surface of the water are skimmed off and reclaimed. The underflow or clarified water has less than 0.2 pounds of fiber per 1000 gallons of water and may be discharged into the river without harm to fish.

—John M. McGee.

★ ★

LESSONS FOR THE WEST

At the risk of appearing ungrateful for the friendly and generous hospitality of our California hosts, we wonder if they are really well advised in holding the Pacific Chemical expositions and industrial conferences in San Francisco at two-year intervals.

This year's show, it seemed to us, lacked much of the vigor and enthusiasm that characterized its predecessor. Attendance at the conferences was discouragingly small despite attractive programs with timely subjects handled by speakers of national reputation.

In spite of San Francisco's strategic location, half way between the chemical industries of southern California and those of the Pacific Northwest, we found many in favor of alternate sites for future shows. Los Angeles is prepared to make a strong bid for the next one, perhaps three to five years hence. Seattle, Tacoma or Portland will be ready when their turns come. And all with whom we talked recognized the benefits that might accrue if these expositions were tied in with national meetings of sponsoring organizations such as the American Chemical Society or the American Institute of Chemical Engineers.

December 1949—

Chemical Engineering

★ ★

BACK TO THE LAND

Only now is the fertilizer industry emerging from its wartime turmoil to a point where it can review the changes of the past ten years. During that period tonnage output has risen 160 per cent, a remarkable feat for a basic industry. Imports of one fertilizer material from Europe, which were previously important, have disappeared, new regional markets have grown up, the farmer has become more receptive to the fertilizer salesman, and new forms of fertilizer and fertilizer application have become common. Farm prosperity is the immediate cause for the record 1949 production of 18 million tons, which will probably not be exceeded for several years, but the farmers' new recognition of the value of fertilizer will help to prevent repetition of the severe slumps which have plagued the industry in the past.

The principal plant foods incorporated in fertilizers are nitrogen, phospahte, and potash, but increasing recognition is being given to the secondary and trace elements, such as calcium, magnesium, boron, and manganese. Fertilizer manufacture is the leading outlet for chemicals, on a tonnage basis. Synthetic nitrogen and potash for fertilizer are produced by less than 20 manufacturers, usually located near the sources of raw materials, while there are 195 phosphate plants, and nearly 1000 plants manufacturing mixed fertilizers scattered throughout the country.

Synthetic ammonia provides 600,000 tons of nitrogen for commercially produced fertilizer, which consumes about two-thirds of the annual ammonia production. The remaining 400,000 tons of nitrogen used in fertilizer are provided by ammonium sulfate and ammonia liquor derived as a by-product of coal coking, by 200,000 tons of imports, and by natural materials such as sewage and cottonseed meal.

Much of the synthetic ammonia capacity now used for fertilizer manufacture was created to provide raw materials for explosives during the war. Ten

plants with a total capacity of 970,000 tons of ammonia were constructed for this purpose, and actual production in some of these units has exceeded design capacity by as much as a third. Six are now used commercially, but even these plants have not supplied enough ammonia, and since the war an additional 260,000 tons of capacity have been added.

Superphosphates, either ordinary or concentrated, provide virtually all the phosphate in fertilizers. Ordinary superphosphate is made by treating finely ground phosphate rock with sulfuric acid. Superphosphate is the chief market for sulfuric acid, taking over 3.2 mililon tons last year. This process converts the phosphate in the rock to a form more readily available to plants; the product contains 1 to 21 per cent plant food, which represents a lower percentage of phosphate than was in the original rock. Concentrated, or triple, superphosphate, is made by reacting the rock with phosphoric acid, to yield a plant food content of 45 to 48 per cent. The ordinary superphosphate is usually produced in relatively small plants near the point of use, although Baltimore is the largest producing center, taking advantage of low rates for water shipment. Farmer cooperatives have become increasingly important, although they still account for only four per cent of manufacturing capacity.

The concentrated product is more economical to ship, package, and handle, on the basis of plant food content. Most plants are located near the rock mines in Florida, Tennessee, and Idaho, or at ports where the rock is received at low cost. More use of concentrated superphosphate is expected, since it can deliver plant-food units to the farmer in many locations more cheaply than can locally produced ordinary superphosphate. Capacity has already increased from 500,000 tons n 1946 to over 750,000 tons now.

Over 80 per cent of the potash used comes from vast underground deposts near Carlsbad, New Mexico,

with most of the rest produced at Searles Lake, California. Imports from Europe, important until the war, are now insignificant, but some may come in soon to provide dollar credits.

—Arthur D. Little Industrial Bulletin.

★ ★

TEN GOOD WAYS TO KILL AN ORGANIZATION

By Joseph M. Wafer

1. Join and be proud you are a member, but never attend meetings.

2. If you go, always be late—the rest will wait for you.

3. The weather is a good excuse—too hot or too cold. You can arrange this to suit your own taste, but it is a good excuse.

4. Never accept an office — let George do the work. It is a lot easier to criticize what others are doing.

5. The cliques are running the show —so why should you bother about it. Always get sore when you are not on an important committee, or holding an office. Let them run it, you're not consulted!

6. Do not express your opinion on organization matters; someone else can handle that. But always have a lot to say after it is over. Get on the outside and express your opinions — this will help.

7. Be a member and get all the benefits but always be delinquent with your dues. The secretary does not have

anything to do except send out statements. You can throw them in the wastepaper basket.

8. Never serve on a committee. You do not have time, and besides, some one else will get it done, but always criticize their efforts. You would have done it another way, which would have been better.

9. Never praise your organization. Be a wise guy, a critic. People will listen to your complaints and probably agree with you.

10. Who is this guy to tell me what to do or offer suggestions; I make twice as much as he does and I am a lot smarter — convince yourself of that fact. It will help to destroy a lot of things that are good.

—Chemists' Club News.

★ ★

St. Helen's Lifting Face

St. Helens Pulp & Paper Co. is nearing the end of a $1 million face lifting operation at St. Helens, Oregon. Installation of equipment in the 20-year-old mill should be completed early next year.

★ ★

DU PONT FELLOWSHIPS

The award of 76 post-graduate and post-doctoral fellowships to 47 universities for the 1950-51 academic year was announced today by the Du Pont Company. An authorization of $224,000 was provided for the awards.

Each of the post-graduate fellowships provides $1,200 for a single person or $1,800 for a married person, together with an award of $1,000 to the university, for the next academic year. Each of the post-doctoral fellowships provides $3,000 for the recipient and a grant of $1,500 to the university.

Of the 70 post-graduate fellowships to be awarded, 45 are in chemistry, 15 in chemical engineering, 5 in mechanical engineering, 3 in physics, and 2 in metallurgy.

West Coast institutions receiving grants were: California Institute of Technology, Stanford University, University of Cal. (at Berkeley and Los Angeles) and the University of Washington.

ANALYTICAL GRADE AMBERLITES NOW READY FOR RESEARCHERS

To meet the exacting requirements of laboratory workers in research and analytical studies, the standard Amberlite-ion exchange resins are now being produced in a "C.P." form by the Resinous Products Division of Rohm & Haas Co. They are supplied exclusively, in quantities less than 25 pounds, through Eimer & Amend of New York and Fisher Scientific Co. of Pittsburgh and St. Louis.

Development of these grades now gives the laboratory worker a complete selection of exchangers for the removal of positively or negatively charged ions from clear solutions over the entire pH range. Resin grades available are: Amberlites IR-100 and IR-105, strongly acidic cation exchangers of the sulfonic acid type, effective in the pH range 4 to 8.5; the weakly acidic, carboxylic acid type cation exchanger, IRC-50, with a pH range of 6 to 14; the weakly basic anion exchanger, IR-4B, whose range extends from pH 1 to 7, and IRA-400, a strongly basic anion exchanger, operable over a pH range of 1 to 10. Amberlite XE-81, a purified mixture of a strongly basic anion exchange resin and a strongly acidic cation exchange resin, is operable over a pH range of 0 to 14 and permits the deionization of solutions by the "mixed bed" method.

★ ★

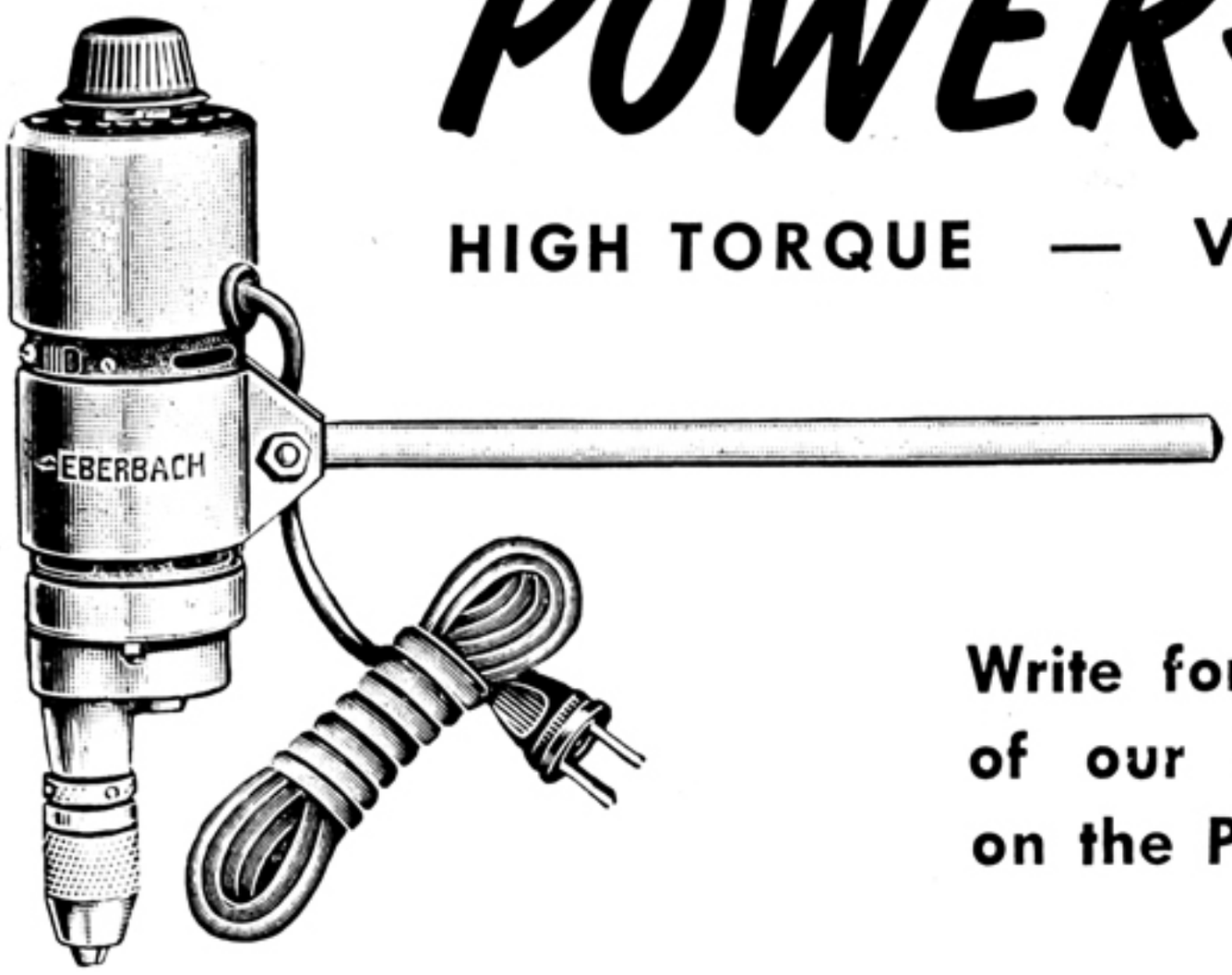
REGIONAL MEETING PAPERS

"It is desirable that we support the Richland meeting with as good an attendance as possible.

"It is even more essential that we support the meeting with program material. The group there who are hard at work on plans will necessarily have to depend on the other three sections for most of the program. They have set April 15th as the deadline for papers and abstracts; therefore, it is not too early to think about submitting a paper now. Titles and abstracts from this section may be sent to V. Sivertz, University of Washington, Seattle 5, Washington."

POWER-STIR

HIGH TORQUE — VARIABLE SPEED



Write for a Copy of our Literature on the Power Stir

58920 POWER-STIR, VARIABLE SPEED. Through 15 to 1 gear reduction this small stirrer develops unusually high torque. The universal, continuous duty motor is resistance controlled; without load speed range is 450 to 1200 r.p.m.

Handy mounting rod 9" by ½" facilities adjustment on any support to meet operators' individual needs. Stainless steel propeller stirring rods listed below are held by adjustable chuck. Plastic knob controls built-in rheostat. Built-in fan and duct system cool the unit.

An off-on switch is built into housing; overall height is 9½" without paddle; weight is 3½ pounds. Approx. 1/20 H.P. Operates on 115 volts 60 cycle AC or 115 volt DC. $24.50

58921 STIRRING RODS, Propeller Type, 18-8 Stanless Steel. Have ¼" shafts and 2½" diameter propellers.

Shaft length:	12"	18"	24"
Price, each:	2.25	2.50	2.75

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PENICILLIN AFFECTS MILK

Comparatively small amounts of penicillin used in treating cows for mastitis will delay or prevent natural "souring" of milk and thus interfere with the production of buttermilk, cottage cheese and cheese, it has been discovered by W. A. Krienke, associate dairy technologist at the Florida Experiment Station. The penicillin prevents the development of lactic acid bacteria necessary for the souring action.

★ ★

TEMPIL▫ CORPORATION of 132 West 22nd Street, New York 11, announces the development of additional high temperature ratings of TEMPIL▫ PELLETS to indicate 2100▫, 2200▫, 2300▫, 2400▫ and 2500▫F.

Beginning with 113▫F, TEMPIL▫ PELLETS are now available in 12½-degree steps to 400▫F, in 50-degree steps from 400▫ to 2000▫F, and in 100-degree steps from 2000▫ to 2500▫F.

TEMPILSTIKS▫, the crayon form of temperature indicator, are available in corresponding intervals from 113▫ to 2000▫F; while TEMPILAQ▫, the paint form of temperature indicator, is available in similar steps from 113▫F to 1600▫F only.

★ ★

TEMPIL▫ CORPORATION announces that a fourth printing of the TEMPIL▫ "Basic Guide to Ferrous Metallurgy" is now off the presses and again available.

This chart shows the working characteristics of steels in temperatures from minus 300▫F to 2900▫F. All the important temperature zones, includng Hot-Working, Annealing, Normalzing, Stress Relieving, Carburizing and Preheating for welding are clearly defined. Temperature ranges are shown in nineteen colors approximating the characteristic hot-body radiant hues. At the right of the chart twenty-three fundamental metallurgical terms are defined and explained. A diagram symbolizing the change in grain size with temperature is shown at the left.

This handsome, plastic-laminated wall chart measures 16¼ inches wide by 21 inches long. Available without charge to industrial executives who request it on company stationery, stating their position. Address TEMPIL▫ CORPORATION, 132 West 22nd Street, New York City 11.

★ ★

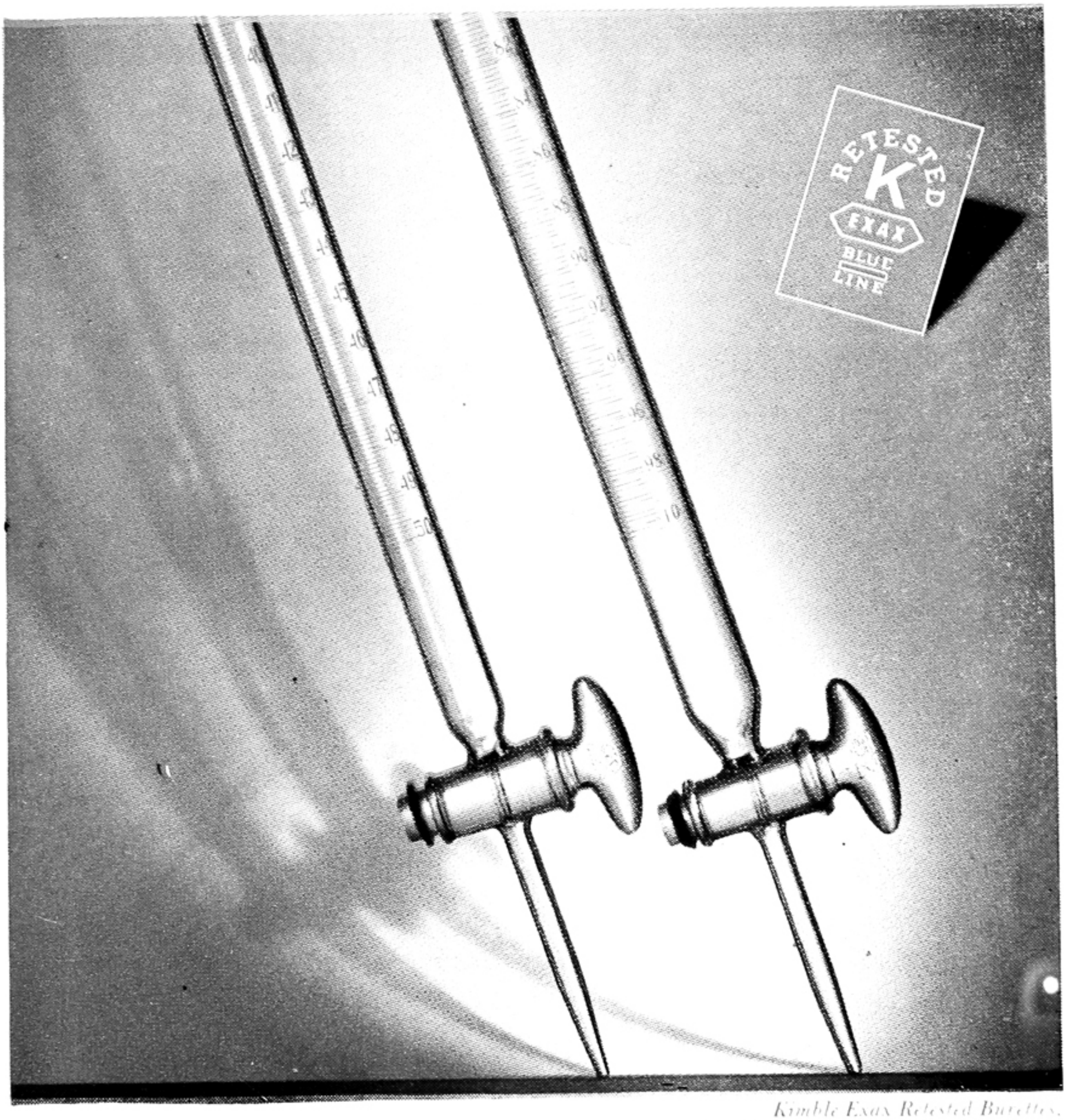
DEVICE IS FIRST TO APPLY SPECTACULAR MIXED-BED TECHNIQUE OF ION EXCHANGE

A low-cost answer to the almost universal industrial and commercial need for water of extremely high quality was introduced this week by an electronics instrument and industrial research firm in Hartford, Conn.

Its product, which it calls the Deeminizer, is said to deliver up to five gallons per hour of water of a chemical quality obtainable otherwise only through costly triple-distillation. Fed with ordinary tap water, it can deliver a product with an electrical resistance of 10 million ohms per centimeter. Expressed another way, that means that the water will contain only one part of ionic solids per 100 million parts of water.

The Deeminizer, manufactured by Crystal Research Laboratories, Inc., Hartford, Conn., is a miniature ion exchange tower and involves the first commercial application of an important discovery by researchers at the Resinous Products Division of Rohm & Haas Company, Philadelphia chemicals manufacturer. Their new technique of conditioning water by passing it through a mixed bed of Amberlite ion exchange resins, announced only a few weeks ago, has been applied in the new apparatus and is the key to the spectacular results obtained.

In soft-water cities like Hartford, the manufacturer estimates 1-million-ohm water may be produced for approximately five cents per gallon: in less fortunate areas like Chicago, for example, the estimated cost would be 25 cents.



Kimble Exax Retested Burettes. Sturdily constructed and fully annealed.

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For example, the burettes you see here are machine-made, with uniform bore and thick walls and carefully annealed. We mark them with utmost care, etch them deeply, and in the Exax line fill the calibrations with durable, fused-in contrasting filler. Then the markings are retested for accuracy.

With Kimble Glassware again readily available, you will want to specify Kimble whenever you order from your Laboratory Supply Dealer.

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"Majestic Mount Olympus"
Olympic National Park

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EDITOR'S RETORT

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ACS

APRIL MEETING

TACOMA

CONTAMINANTS

Vacationist: "Any big men born around here?"

Native: "Best we can do here is babies. Diff'rent in the city I reckon."

★ ★

"I hear you and the leading lady are on the outs."

Electrician: "Yeah, it was one of those quick change scenes with the stage all dark. She asked for tights and I thought she said lights."

★ ★

Mother (from upstairs): "Junior, are you spitting in the fish bowl?"

Junior: "No, Mom, but I'm coming close."

★ ★

Joe's wife caught up with her husband in a bar, sampled the highball he was drinking, and demanded, "How can you drink such horrible stuff?" "See!" said the husband, "And all the time you've thought I was out having fun!"

★ ★

An examining physician of a psychiatric hospital was testing the mental capacity of an incoming patient: "Now, my good man, what would happen if I cut off one of your ears?"

The patient replied sanely: "I couldn't hear so well."

Doctor: "And what if I cut off both your ears?"

Patient: "I couldn't see."

Doctor (indulgently): "And why, my good man, would you not be able to see?"

Patient: "Well, you see, Doc, if you cut off both my ears, my hat would fall down over my eyes."

★ ★

Then there was the man who went into a bar optimistically and came out mystic optically.

★ ★

In the waiting room of the Italio-Amer. Hospital several fathers-to-be sat nervously and expectant. A nurse appeared with a small bundle in each arm and asked, "Which Toni has the twins?"

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★

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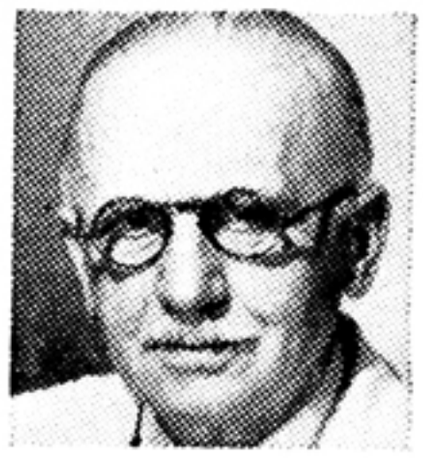

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