

# *The* NUCLEUS

---

OF THE NORTHEASTERN SECTION OF THE AMERICAN CHEMICAL SOCIETY

---

Jointly with the Analytical Group

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JAMES J. LINGANE

Harvard University

"96,493 Coulombs"

November 13, 1958

Thursday, 8:00 p.m.

## PLACES OF MEETINGS

Dinner, 6:30 p.m.

The Campus Room, M.I.T. Graduate House

Address in Huntington Hall (Room 10-250)

The Massachusetts Institute of Technology

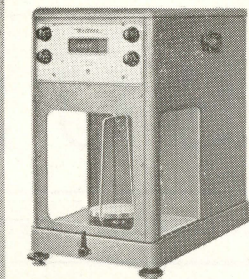
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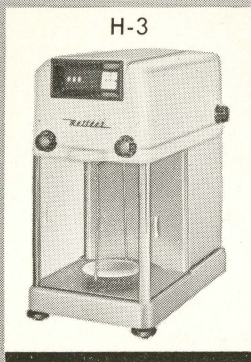
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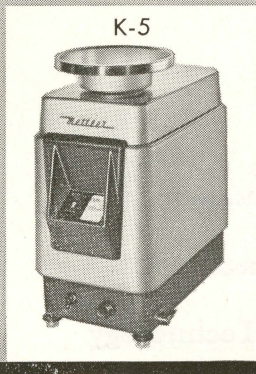
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THURSDAY, NOVEMBER 13

The Massachusetts Institute of Technology, Room 10-250  
Entrance, 77 Massachusetts Avenue or the Dorrance Biology Laboratories

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No Afternoon Meeting in November, 1958

- 5:30 p.m. Preprandial Hour (reservations necessary) Campus Room, followed by  
6:30 p.m. Dinner (reservations necessary) in the Campus Room of the M.I.T.  
Graduate House, entrance from the street, 308 Memorial Drive.

Price \$2.75 per person (tax incl.)

Should you desire a place reserved, mail the enclosed post card, at once,  
or, after 2:30 p.m. Thursday, call UNiversity 4-6900, Ext. 2961.

EVENING MEETING

In Huntington Hall, 10-250, M.I.T.  
Howard H. Reynolds, presiding

- 8:00 p.m. James J. Lingane, Harvard  
"96,493 Coulombs"  
9:15 p.m. Social Hour in the Moore Room

***Signing and mailing the dinner card or telephoning for reservations must be regarded as an obligation.***

All interested are invited.

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After five-thirty o'clock, the Reception Hall of the Campus Room, 308 Memorial Drive, west side of the Graduate House, will be available for members of the Section planning to attend the dinner.

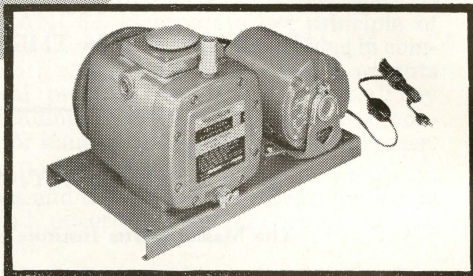
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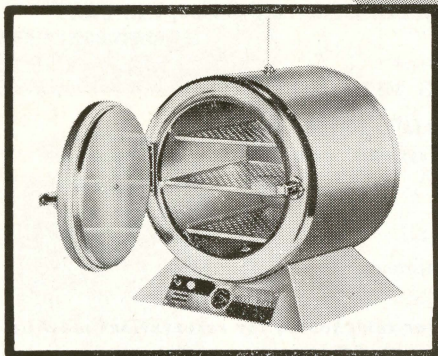


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# *The* NUCLEUS

Published monthly from October to June by the Northeastern Section of the American Chemical Society, Inc.

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Board of Publications—ROBERT D. EDDY, MARCO H. SCHEER, JOHN L. OHLSON

Printed by Boston Linotype Print, Inc., 270 Congress St., Boston (Hancock 6-4703)

THE NUCLEUS is distributed to the members of the Northeastern Section of the American Chemical Society, to the secretaries of the Local Sections, and to editors of all local publications.

Forms close for advertising on the 15th of the month and for text on the 12th of the month preceding issue.

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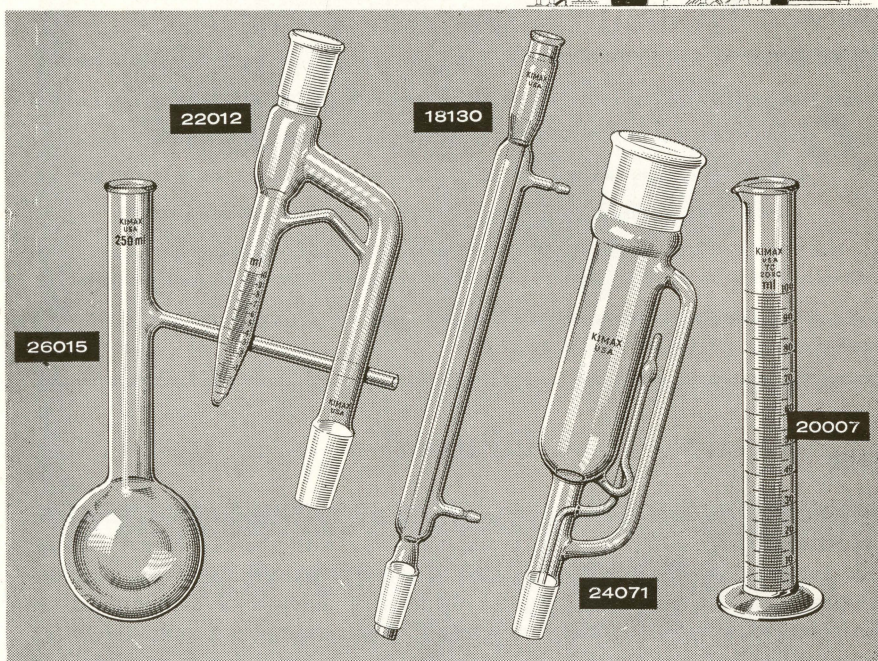
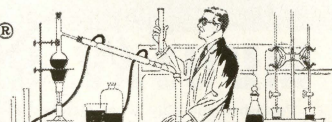
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## Editorial

Once a year the members of the Northeastern Section of the American Chemical Society draw up chairs and sit down with the Analytical Group. This gathering pays tribute to the great and small names associated with development of the techniques and the theories of analysis of compounds. It also points the ways along which progress keeps on the upward path. How far chemical analysis has come in a little more than a century can be visualized by a single backward glance to the laboratory of Justus Liebig at Giessen, in Germany, in the 1840's. So great were the improvements in the combustion of organic compounds for ultimate analysis that, with his contagious enthusiasm, Liebig was said to have remarked that the method had been so simplified that any intelligent monkey could carry it out successfully. But as we look back into his laboratory and see the charcoal fired furnaces, the three hour or more time for a combustion, the relatively huge samples required and the type of balances then available, we are more than grateful for the chemists who developed our micro methods. We are thankful for the work of Fritz Pregl and his supporters in this field. At the same time we must stop to consider how much more sensitive are ultra violet and infrared techniques, just to mention two of the newer and most powerful tools for analysis available to chemists of today.

The contributions of the November speaker before the Northeastern Section, James J. Lingane, and of many others to instrumental analysis has opened up still newer vistas in analytical chemistry. While we honor both Kolthoff and Lingane for their development of the Dropping Mercury Electrode of Heyrovsky, for greater insight into "Polarographic Theory, Instrumentation and Methodology" and for many other developments we await a new story under the title "96,493 Coulombs." At this time, before the lecture, it appears that Faraday's law of electrochemistry, formulated in 1833, now has acquired new significance in analytical chemistry.

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## NOVEMBER SPEAKER



**JAMES JOSEPH LINGANE**

James Joseph Lingane, the November speaker before the joint meeting of the Northeastern Section with the Analytical Group was born in St. Paul, Minnesota, September 13, 1909. All of his higher education was obtained in the University of Minnesota where he was awarded the Ch.B. degree in 1935 and the Ph.D. in chemistry in 1938. Harvard bestowed on him the honorary A.M. degree in 1946.

Dr. Lingane's teaching and research

activities have been centered in three universities—Minnesota from 1931 through 1939, the University of California at Berkeley from 1939 through 1941 and at Harvard where he has been located from 1941 to the present time. At Minnesota he held successively the positions of research assistant in analytical chemistry, teaching assistant in analytical and physical chemistry and J. T. Baker Fellow in Analytical Chemistry. In California he served as an instructor in chemistry. He began at Harvard as an instructor and has followed through the various grades to that of a professor in 1952. Since 1956, Dr. Lingane has held the position of Chairman of the Department of Chemistry.

The professional activities of Dr. Lingane include membership in the American Chemical Society, the American Academy of Arts and Sciences, Phi Lambda Upsilon and the Society of the Sigma Xi. He is a member of the Editorial Board of the Journal of the American Chemical Society and was a member of the Advisory Board of Analytical Chemistry, 1953 to 1956. In 1952 he was chairman of the Gordon Research Conference of the A.A.A.S. on Current Trends in Analytical Chemistry. He was the Priestley Lecturer at the Pennsylvania State University in 1953. He received the Fisher Award in Analytical Chem-

*(Please turn to next page)*

## JAMES J. LINGANE

(Continued from previous page)

istry of the American Chemical Society in 1958. In 1947, the poll taken by the Chicago Section of the A.C.S. listed him among the "ten ablest" American analytical chemists.

The scientific papers of Professor Lingane number 110. The fields of research reported in these papers may be classified as analytical chemistry; electrochemistry; electro-analysis; instrumental methods of analysis; polarographic analysis with the dropping-mercury electrode; and physico-chemical methods of chemical analysis.

Professor Lingane is the author of three books; "Polarography" (with I. M. Kolthoff) first edition, 1941, second edition 1953; "Innovations in Electroanalytical Chemistry" (twenty-seventh Annual Priestley Lectures) at the Pennsylvania State University, 1953 and "Electroanalytical Chemistry," 1953, second edition, 1958.

Professor Lingane was married in 1938. The Linganes with their four children make their home in Lexington, Massachusetts.

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### ANALYTICAL GROUP

DAVID N. HUME, Chairman, M.I.T. UNiversity 4-6900, Ext. 507.

GEORGE R. SOMMER, Secretary-Treasurer, Howe and French. HANcock 6-5910.

The second meeting of the Analytical Group will be held at 8:00 p.m. on Thursday, November 13, 1958, in Room 10-250, M.I.T.

James J. Lingane of Harvard will speak on

"96,493 Coulombs"

Prior to the meeting there will be a preprandial hour in the Campus Room of the Graduate House at 5:30 p.m. (cost \$1.00) followed by a dinner in the same room at 6:30 p.m. (cost \$2.75). The entrance to the Campus Room is at 308 Memorial Drive, Cambridge.

Reservations may be made by telephoning Mr. Russell T. Werby of the Werby Laboratories, LI 2-0739, by signing and mailing one of the Northeastern Section blue reservation cards or after 2:30 p.m. Thursday, November 13, 1958 by calling UNiversity 4-6900, Ext. 2961.

*All interested persons are invited.*

### ELASTOMER & PLASTICS GROUP

J. HORACE FAULL, JR., Chairman, Consultant, Kirkland 7-8334.

JAMES H. FITZGERALD, Chairman-elect, Harwick Standard Chemical Co., Copley 7-1860.

The second meeting of the group will be a plant trip on Tuesday, November 18, 1958. We shall visit the Owens-Corning Fiberglas plant in Ashton, Rhode Island, starting at 5:00 p.m. From 5:00 to 5:30 p.m. there will be a tour of the glass marble plant, followed by a preprandial hour. Dinner will be served in the plant cafeteria from 6:15 to 7:15 p.m., cost \$1.50.

Between 7:30 and 8:30 p.m. a tour will be conducted through the fiberglas spinning plant. At 8:45 p.m. a question and answer period will be held in the plant cafeteria. It will be led by the Owens-Corning technical staff.

Reservations are necessary and must be limited to 100 persons. After 100 have accepted, others can be accommodated only in the event of cancellations. To reserve a place, please contact Mr. Henry S. Anthony, Tyre Rubber Co., 10 Railroad Street, Andover, Mass., either by writing or by telephoning (GREENleaf 5-5300) not later than 4:00 p.m., Friday, November 14, 1958.

The Owens-Corning plant is located at the junction of State Routes 116 and 122 in Ashton, Rhode Island. From Boston follow U. S. route 1, south, right on state route 140 in Foxboro, left on state route 11 in Wrentham, across the Rhode Island line to left on state route 114, to right on state route 116, to junction with state route 122 in Ashton.

*All interested persons are invited.*

The officers of the Elastomer and Plastics Group for 1958-1959 are as follows:

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(Please turn to Page 38)

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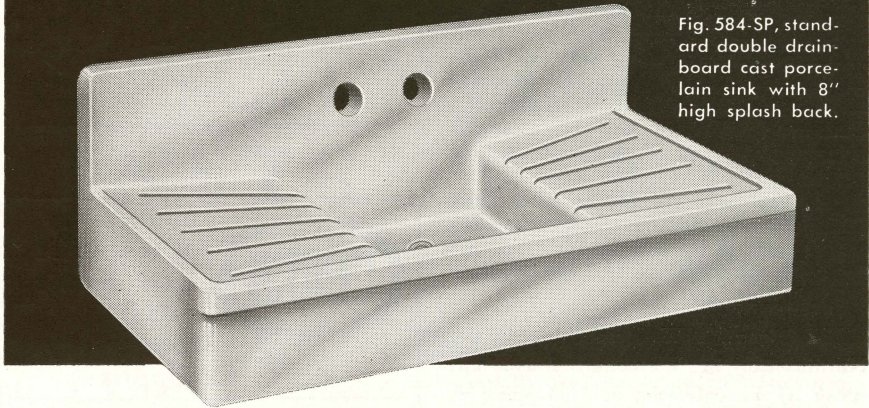


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**RICHARD PEAK**, Secretary-Treasurer, Raytheon  
Mfg. Co., Bigelow 4-7500, Ext. 407.

The second fall meeting of the Boston Section of the Electrochemical Society will be held at 7:45 p.m., Wednesday, November 19, 1958 in the Arthur D. Little, Inc. Laboratories at Acorn Park, Concord Turnpike, Cambridge. There will be a social hour at 5:30 p.m., followed by a dinner at 6:30 p.m. The cost of the dinner will be \$2.75 for members and \$3.25 for non-members. Reservations may be made by calling Mr. Richard Peak, Secretary-Treasurer, at Bigelow 4-7500, Ext. 407.

Mr. Osgood J. Whittemore, Jr. of the Norton Co. in Worcester, Mass. will speak in the cafeteria, at 7:45 p.m., on

"Recent Developments in High  
Temperature Refractory Coatings"

*All interested persons are invited.*

### OSGOOD J. WHITTEMORE, JR.

#### SPEAKER

Mr. Osgood James Whittemore, Jr. was born in Clear Lake, Iowa, January 24, 1919. His college education was acquired in the Iowa State College, B.S., 1940, and, as a U. S. Bureau of Mines Fellow, in Seattle, Washington where he received the M.S. degree in 1941. He became an assistant in the Melon Institute in 1941. From 1944 to 1946 he served as a group leader with the Manhattan project, then housed in the Massachusetts Institute of Technology. Since 1946 he has served as a ceramic engineer with the Norton Company.

Mr. Whittemore's research topics include pure oxide refractories such as magnesia, beryllia, zirconia and alumina and special refractories derived from aluminum, zirconium, magnesium, beryllium, calcium and silicon carbide.

Mr. Whittemore is a member of the Ceramic Society and the Institute of Ceramic Engineers.

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*(Continued from Page 36)*

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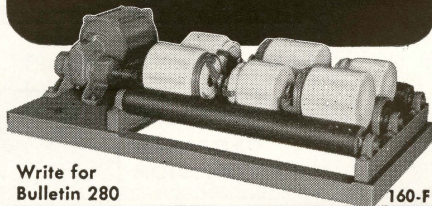
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<b>Nov. 11, 1958</b>	—	<b>11 A.M. to 9 P.M.</b>
<b>Nov. 12, 1958</b>	—	<b>11 A.M. to 7 P.M.</b>

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## CHEMISTS IN PEACE ENGINEERING

By CHARLES D. CORYELL

*Summary of an Address before the Northeastern Section*

*October 9, 1958*

Chemistry stands at the crossroads of science, with strong connections with physics and geology, and overlap with biology and medicine. Its activities support much of engineering, and it is a bulwark of our spectacular modern industrial society. Chemists therefore have an obligation to society to help guide it by participation in activities of social and political import, using their skills, judgment, and techniques, and by cooperation with non-scientists in developing new social techniques to save our civilization from destruction by the military tools science and technology have created.

Chemists have already contributed greatly to international activities that can serve to lower war tensions. Science serves as an international language, and scientists of different countries can always find a basis for fruitful contact. Chemical technology is indispensable to raising the standards of living, and can do far more to alleviate the stark poverty of the populous backward regions of the world. President Eisenhower's bold program of peaceful applications of atomic energy offers channels for chemists to contribute. Chemists contribute greatly to the building of strong defenses for free society.

The biggest problem facing our world today is the ominous threat of total destruction in nuclear war. All efforts to achieve national security will be worthless if scientists and statesmen cannot find a way to introduce and maintain arms control on a world scale, with adequate technical inspection, and thereby lay the basis for world order through world law.

I call Peace Engineering a new group of technical activities which are directed towards lowering war tensions and increasing world connections for peace. Scientists in Boston have started activities of this type, in the Federation of American Scientists, in the Committee for a Sane Nuclear Policy, in the United World Federalists, and in many other groups. There was held at Kitzbühel and Vienna from Sept. 13-22, 1958, a meeting of about 80 scientists, from all over the world, to consider bases for the contributions of scientists to peace in the atomic age. Among the papers presented were three from the Committee on Technical Aspects of Arms Limitations of the American Academy of Arts and Sciences in Boston.

The Geneva Conference of Experts (July 1 - Aug. 20, 1958) showed that technical inspection of the cessation of atomic bomb tests is possible, and political negotiations are scheduled to start Nov. 1. Many of us feel that great advantages will accrue to our country, if sound technical inspection is achieved on world scale under U.N. auspices. Our government has called for international control of missiles, and there are other areas of arms control which are subject, on careful study, to international control. These developments merit the support of chemists, and their realization will require widespread participation by chemists and chemical engineers.

In the present time of frantic arms race, with the presence of vast stockpiles of weapons of mass destruction, and rapid development of delivery systems, our civilization—even our species—faces the threat of utter destruction. I hope that chemists everywhere will seize the challenge of our times, to find ways to turn our scientific culture to the service of Peace Engineering.



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## PATENTS — AT THE CROSS ROADS

By ROBERT H. RINES

*Summary of an Address before the Northeastern Section  
October 9, 1958*

"The only patent that is valid is one which this Court has not been able to get its hands on." A criticism by a disgruntled or unsuccessful patent litigant or his counsel? No. A frank appraisal by the late Supreme Court Justice Jackson<sup>1</sup> of what he termed a "strong passion in this Court for striking them (patents) down."

The lower courts throughout the land have no course but to follow the dictates of this "passion" of their superior tribunal. As recently frankly stated by one of the most able Federal judges, Learned Hand, in his testimony before the Sub-committee on Patents, Trademarks and Copyrights of the Senate Committee on the Judiciary,<sup>2</sup> the lower courts, in striking down patents, "were doing what we thought our orders were".

The "orders" have been predicated upon a philosophy in the Supreme Court that the function of judges is not that of a lawyer alone — but that of "statesmen". In exercising such statesmanship, the judge "comes to formulate *his own views*" so that "precedent in Constitutional law is a *personal matter* for each judge who comes along". (emphasis added)<sup>3</sup>.

Thus, despite legal precedents, despite the established law of the land and interpretations of the Constitution, each judge re-interprets and even overturns the law because of his "personal" preference or views. The danger of such action is evident in the fact that the one essential feature that has heretofore distinguished this nation from totalitarian states has been that we were a nation of laws, and not of men.

So, despite the Constitutional provision for promoting "the progress of science and useful arts"<sup>4</sup> "by securing for limited times to . . . inventors the exclusive right to their . . . discoveries", (the only property right, indeed, created by the Constitution), and despite the statutes enacted in pursuance thereof by Congress, representing the people, the patent system has been reduced to a mockery by what Justice Jackson termed the "strong passion in this Court" to vitiate the patent system so that "the only patent that is valid is one which this Court has not been able to get its hands on."

What can the scientific and engineering community — the individual chemists, physicists and applied engineers and their business backers or corporate employers — who stand to lose the most by the destruction of the patent system, do about this state of affairs? What can they do to prevent pirates appropriating the fruits of their creative efforts with court-sanctioned immunity?

Some proposals by technical and scientific people and lawyers are presently being advanced toward the goal of rendering the patent examining procedure more thorough and all-inclusive so that the judge may be less readily disposed to overrule the Patent Office opinion as to the merits of an invention. In the words of Dr. Vannevar Bush,<sup>5</sup> "Steps need to be taken to support the Patent Office adequately and to insure that the patents which it issues are in fact valid."

In the case of chemical patent applications, for example, computer techniques are being applied to insure more rapid and thorough searching of the prior art by the patent examiners. A system of public opposition proceedings has been proposed to the Senate to permit the public, before the grant of a patent, to invite the attention of the Patent Office to reasons why the patent should

(Please turn to Page 44)

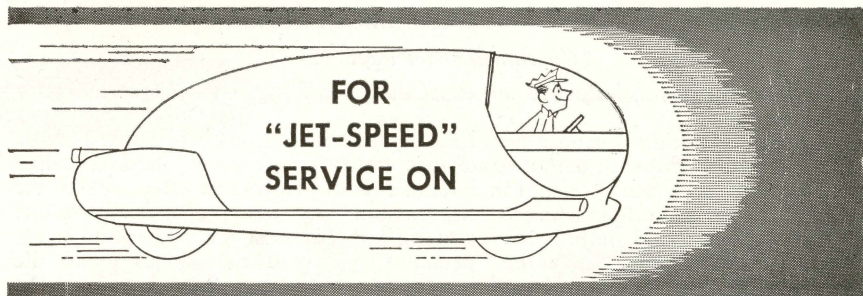
1. *Jungersen v. Ostby & Barton Co.* 335 U.S. 560,572 (1949).

2. Hearings, October 10, 11, 12, 1955, "American Patent System", p. 120.

3. Justice Douglas in "We The Judges", Doubleday & Company, Inc., 1956, p. 255, 431.

4. Article I, Section 8 of the Constitution.

5. Study No. 1, 1956, Subcommittee on Patents, Trademarks and Copyrights of the Senate Committee on The Judiciary, p. 18.



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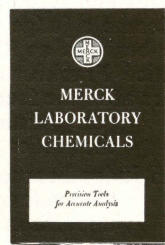
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## PATENTS — AT THE CROSS ROADS

(Continued from Page 42)

not be granted; thus to influence the court that a thorough analysis of the prior art has been made.

While it is not our purpose here to analyze these various proposals, a single comment would probably demonstrate that we do not feel that these so-called improvements will accomplish the intended end. How can they, when the judges are really acting upon the "strong passion" described by Justice Jackson? To what avail would improved searching, oppositions, or any other such remedial proposals be, where the "personal" views of the judges as to the undesirability of a patent system are to be the controlling element—where the judges will pick upon the writings of Cellini in the 15th Century allegedly to anticipate an invention that none of the scientific and engineering people of five centuries, or anyone else, except those judges, did or could possibly find disclosed in these writings of antiquity?<sup>1</sup>

The time has come to call a spade a spade. Either we are to have a patent system or we are not. If we are to have such a system, then we must work within the practical framework of our society to insure the life of such a system, its growth, development and adaptation to modern, changing times. It is not enough to attempt merely to put the patent system back to the standards of about three decades ago, as it was hoped would be the result of the Patent Act of 1952. There appears to be a decided limitation to solving the problem through legislation alone, since, in the last analysis, it is and should be the *opinion* of the judge as to whether the advance could have been made by the fictional ordinary worker skilled in the art, that determines the ultimate matter of validity. A judge with the kind of "passion", before discussed, however, can have only one opinion.

But what if we were to appoint to the general Federal judiciary, in the lower courts and in the Supreme Court, one or more judges of substantial scientific background and understanding of the processes of invention — and vested with a "passion" to *support* Article I, Section 8 of the Constitution wherever possible — just as some judges have a "passion" in connection with giving all possible sway to the Fifth Amendment of the Constitution? The *support* of the Constitution, indeed, is one of the oaths that a judge assumes. Such judges could catch up to date the criteria of invention and, through appropriate fact finding, tempered by a passionate belief in Article I, Section 8 of the Constitution, so long as it remains a part of the Constitution, make it difficult for superior tribunals to run rampant in overturning patents without appearing too obviously hostile. Such judges would attempt the proselytizing of other judges and doubtless meet with success, since the judiciary apparently would welcome a judge who understands the technology, the inventor, invention and the business applications and working of the same. Witness Supreme Court Justice Frankfurter's cry against stripping Marconi of the title of inventor<sup>6</sup>, years after the fact:

"the training of Anglo-American judges ill fits them to discharge the duties cast upon them by patent legislation."

And Judge Learned Hand's much earlier complaint<sup>7</sup>

"How long we shall continue to blunder along without aid of unpartisan and authoritative scientific assistance in the administration of justice, no one knows. . . ."

Justice Frankfurter appears to suggest the remedy before—proposed of appointments to the general Federal bench of lawyers who have also been steeped in the sciences and in understanding of inventive processes:

"The scientific attainments of a Lord Moulton are perhaps unique in the annals of the English-speaking judiciary."

(Please turn to Page 46)

6. Marconi Wireless Co. v. U.S., 320, U.S. 1, 60, 61.

7. Parke-Davis & Co. v. Mulford Co., 189 F. 95, 115.

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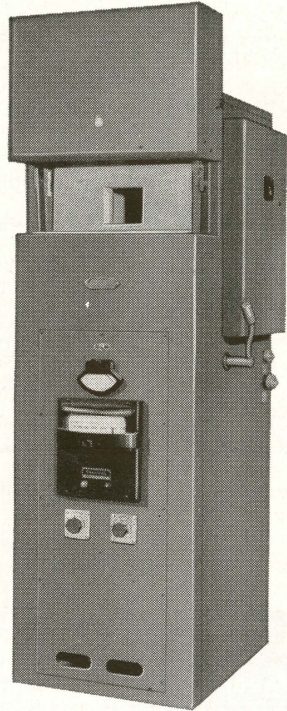
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## PATENTS — AT THE CROSS ROADS

(Continued from Page 44)

Scientists and engineers, individually, through their universities, institutions, and their societies can, if they will, bring to bear, in this era of increasing respect for their perspicacity and importance, pressure upon the executive and legislative branches of the government for the appointment of such men to the bench.

The fire of a "passion" to *sustain* patents wherever feasible in pursuance of the property right guaranteed under Article I, Section 8 of the Constitution, could spread throughout the land, giving renewed faith and incentive to our inventors upon whose shoulders rests our national security; and renewed hope and challenge to our entrepreneurs whose new business ventures, based upon invention and the limited-period protection of the patent system against piracy, nourish an economy that certainly can stand prompt nourishment.

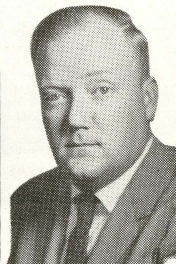
Such men could restore faith once more in our historic tradition of a country conducive to the encouragement of the creative spirit under a mantle of confidence in the unprejudiced protection of the laws.

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### MEETING OF THE DIRECTORS

The regular meeting of the Board of Directors was held in the Moore Room, M.I.T. on Tuesday, September 30, 1958. The meeting was called to order at 4:40 P.M. with Chairman, Howard H. Reynolds presiding. The following were present: Edward R. Atkinson, Avery A. Ashdown, John T. Blake, Carl Garland, Thomas R. P.

(Please turn to Page 51)



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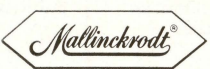
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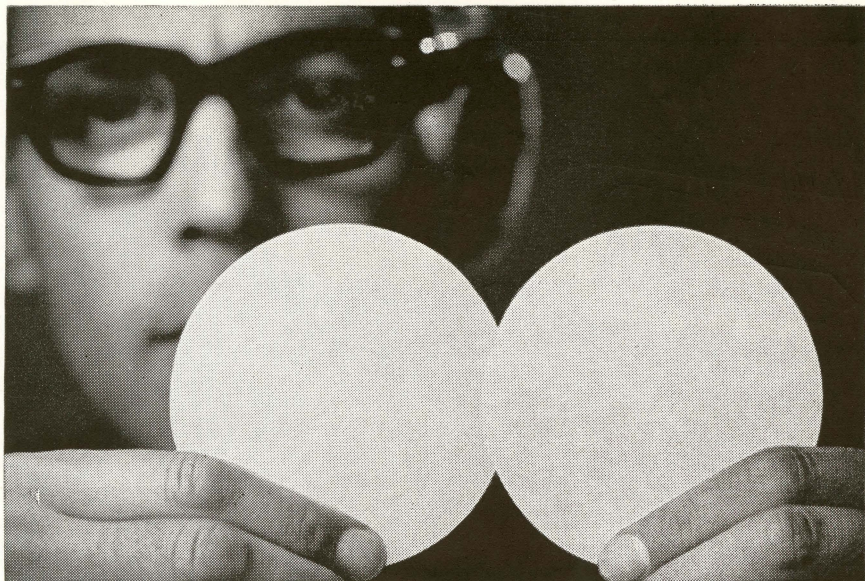
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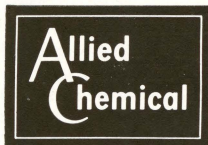
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## PROFESSIONAL OBLIGATIONS OF CHEMISTS

By EMIL OTT

*Abstract of an Address before the Northeastern Section  
October 9, 1958*

Chemists are seriously interested in "Professional Status" and in the responsibilities and obligations to it. In the dictionary definition of "profession", those professions in the fields of medicine, law, and theology are singled out as the "three learned professions". These deal with the recognized basic needs of the individual in regard to body and soul, health and happiness, and with his interrelationships with other men. The practitioners in these fields have vested authority as well as duty to serve their fellow men with dedication. Service and maintenance of a given system and standards are essential.

The activities of chemists and engineers, which have the basic ingredients of training, service and dedication to the welfare of the individual, are also defined as professions. Many chemists and engineers are concerned with this specific concept and give emphasis to training, licensing, and the maintenance of codes of ethics. This approach does not satisfy all. Scientists are not interested primarily in mere tradition and maintenance of a given system. They are interested in progress, the production of new scientific knowledge and understanding — in creative effort. This creative production has made our civilization what it is, with obvious benefit to society.

This, indeed, is a service to mankind, but it is quite different from that of the "three learned professions", which maintain a system based on the fruits of research, whereas scientists are primarily engaged in the advancement of our physical world. In satisfying this basic human need, the freeing of mankind from physical shackles, scientists are performing a service of the highest order.

*(Please turn to Page 51)*



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## PROFESSIONAL OBLIGATIONS OF CHEMISTS

*(Continued from Page 49)*

This very service which we, as scientists, give impells us to do certain things. We have received privileges in that we have been permitted to study at universities: to learn, under the guidance of masters, some of the secrets of nature: to learn of research, and to fall in love with the challenge of the unknown. Society has financially supported our training. It is our obligation to give back to society whatever we can.

We must maintain our education at high levels, so that our effectiveness does not decrease. We know the value of chemistry to mankind, but we must make sure that mankind understands the meaning of our contributions. This is "professional recognition". We must work for it, not so much for self-glorification, but because it is in understanding and acceptance that we can be meaningful to society. We must assist education. Ours is a dual problem, the dedication to a cause and inspiration to create. We as chemists are at the vital spot in our civilization's structure, and this position places certain obligations upon us.

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### MEETING OF THE DIRECTORS

*(Continued from Page 46)*

Gibb, Jr., Arno H. A. Heyn, Henry A. Hill, Paul C. Maybury, Anne J. Neilson, John L. Oncley, Arnet L. Powell, Marco H. Scheer, Ridgley G. Shepherd, George A. Thomas, and John A. Timm.

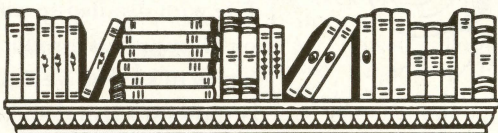
The minutes of the July 30, 1958 Annual Meeting were not formally approved.

In the Treasurer's absence, his report was turned over to the Secretary

to be entered in the minutes. During the period July 1 through September 30, 1958, income was \$35.52. Expenditures were \$25. The September 30 balance was \$1,767.90.

The Chairman reported his discussion with Mr. Winstead on the coming National Meeting in Boston. Again, the subject of the four Committees to be provided by the Northeastern Section was covered; Ladies Entertainment, Plant Tours, Personnel, Equip-

*(Please turn to Page 53)*



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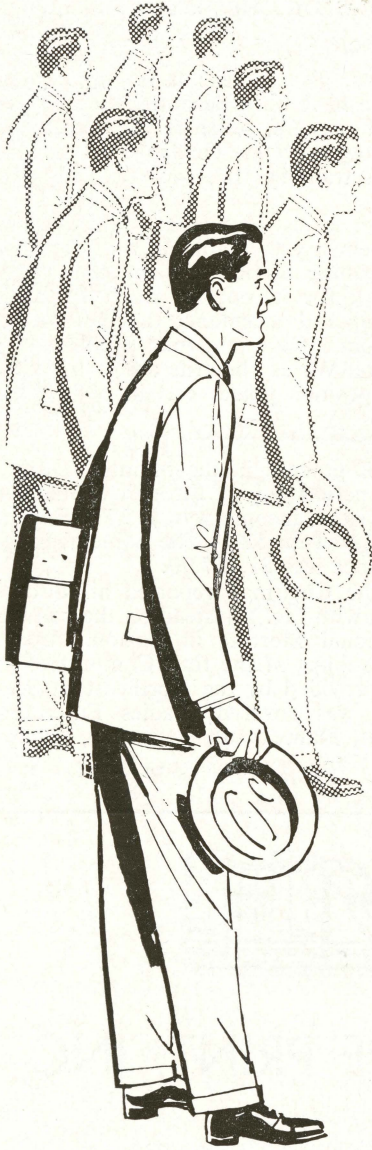
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## MEETING OF THE DIRECTORS

(Continued from Page 51)

ment and Operations. Of these, the Ladies Entertainment and Plant Tours should receive immediate attention. Mr. Reynolds already has assigned Committeemen to handle Plant Tours. Reports of Committees were confined mainly to plans and proposals for the coming year.

John L. Oncley, Program Committee Chairman outlined the 1958-1959 program.

October — The Symposium will be held jointly with the American Institute of Chemists. The subjects are:

**Chemistry and the National Interest Patents—at the Cross Roads**

There will be an after-talk by Austin W. Fisher, Jr., "Industry Aid to the Education Program of the New England Council". In the evening Emil Ott will speak on the "Professional Obligations of Chemists".

November — This meeting will be held jointly with the Analytical Group. The evening speaker will be Dr. James J. Lingane. There will be no afternoon symposium.

December — Dr. Herman Mark of Brooklyn Polytechnical Institute will speak on new polymers and new concepts in polymer chemistry. This will be student night.

January — The meeting is to be devoted to some aspect of biochemistry. As yet, a speaker has not been selected.

February — The subject for this meeting is Semiconductors. It has been proposed that the meeting might be held jointly with the Chemical Engineers. A speaker has not been selected.

March — Charles C. Price will give a talk on polymerization. The meeting will be held jointly with the Elastomer & Plastic Group. The symposium speakers have not been selected.

April — There will be no April meeting since it conflicts with the ACS National Meeting in Boston.

May — The Norris award will be presented.

George Thomas, Chairman of the Special Committee on Civil Defense reported on his efforts to clarify with Mr. Michaels and Mr. Donnelly the scope or desired functions of his Com-

mittee. Due to the lack of response on the part of these gentlemen, Mr. Thomas was unable to provide any real reason for the existence of the Civil Defense Committee.

On a motion duly made and seconded, it was

VOTED: that the report be accepted as presented by Mr. Thomas and that the Committee be discharged with thanks.

In the light of this discussion of Committees, The Chairman raised the question as to the need for a Local Groups Committee. Since this is not a standing committee, there was little discussion; and tenure of the Committee was left to the discretion of the Chairman.

The Public Relations Chairman, Arnet L. Powell, discussed plans for the coming year in their work with the press, TV, and radio. The Committee plans to utilize to a greater extent the service of their press consultant, Mr. George Spears. They expect that this increased activity on his part will require additional funds.

The TV Sub-committee is continuing its work on the "Dateline Boston" program. They have had a favorable reaction from the station. The Committee has considered the need for special programs prior to and during the week of the National ACS Meeting in Boston.

Mr. Powell enlarged upon Sub-committee Chairman, Fred McLafferty's work in radio. It is hoped that the radio Sub-committee will be able to develop a quiz program for high school students which will operate in a format similar to a spelling bee. This could be carried out on the "Objectives" program held weekly on Thursdays at 10:00 P.M.

Miss Anne J. Neilson reported on the proposed organization on the Hospitality Committee. The Dinner, Pre-prandial and Coffee Sub-committee members will be announced later.

Marco H. Scheer advised the Directors that there was nothing further to report for the Publication Committee over that reported in July.

Arno H. A. Heyn, Co-chairman of the Membership Committee presented the following statistics: membership,

(Please turn to Page 54)

## MEETING OF THE DIRECTORS

(Continued from Page 53)

May, 1958, 2,509; new members, 18; members entering the Section, 57; members leaving the Section, 62; deceased 1; current total, 2,521.

Mr. Heyn feels that direct contact with the students in the coming year is warranted. It is hoped that this may be more rewarding in acquiring new student members. It was proposed that there should be some booklet or form letter which might describe the activities of the Section and the services that it may render to the student members.

Mr. Reynolds suggested joint Committee effort in planning this printed material. He asked that Chairmen Maybury, Heyn, and Powell discuss this matter and inform him of their proposal.

The Chairman of the Committee on Amendments to the Constitution and Bylaws, Thomas R. P. Gibb, Jr. reported. This Committee has withheld its proposal concerning changes in council representation because it is believed that the ACS is considering changing the provisions for the election or representation of councilors. Further discussion was confined to the review of the problem as stated in the minutes.

Paul C. Maybury, Chemistry Education Committee Chairman, reported on two of his Committee's projects. The high school contact and speaker program, and the projected radio quiz show.

Forty more volunteers will be needed to cover the high schools in the vicinity of Boston. The purpose of this program is to provide a contact with the science teachers of all high schools.

The quiz program is the same one discussed by Mr. Powell.

Edward R. Atkinson introduced an item of new business. During the past fiscal year, the Directors neglected to transfer funds from the Income Account to the General Operating Fund. To correct this, a transfer of \$700.00 is required.

On a motion duly made and seconded, it was

VOTED: that \$700.00 be transferred from the Income Account of the Publication Trust Fund and

Permanent Trusts to the General Operating fund.

To implement this transfer

On a motion duly made and seconded, it was

VOTED: that the Trustees be empowered to make this transfer.

Carl Garland reported on the Budget. During the 1957-58 season, the Northeastern Section operated with a deficit of \$1,685.00. Mr. Garland reports that we no longer have enough money in the Treasury to operate a deficit budget for another year. With this in mind, the Budget Committee feels an obligation to present a balanced budget. The total money requested for 1958-59 amounted to \$6,260.00 which would mean a deficit for the year of \$1,760.00. In order to bring the budget into balance, they have recommended reductions in some of the larger requested allotments.

The sense of the following discussion was that curtailed spending as proposed would make it almost impossible for continued expansion of services as proposed by Committees on Chemistry Education and Public Relations. This was also true in the case of the Board of Publications. For this reason, it was recommended that strong consideration be given to additional sources of income.

Mr. Reynolds suggested that joint Committee meetings be held between Budget and Publications and Budget and Public Relations. Later when these Committees have resolved their thinking to some extent, they are to meet with the Chairman, Mr. Reynolds, to plan action.

Since there was no further business, the meeting was adjourned at 6:30 P.M.

Respectfully submitted,

FRANCIS J. RODERICK  
Secretary, Northeastern Section  
American Chemical Society

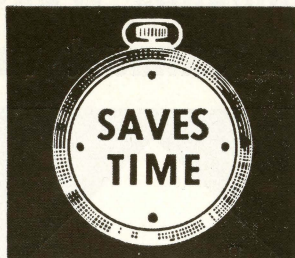
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### NOVEMBER TV PROGRAM

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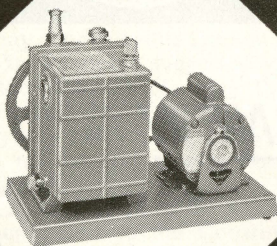
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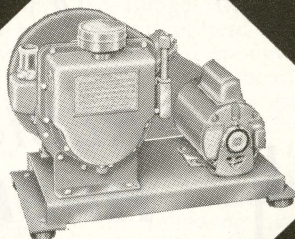
99 BROAD STREET, BOSTON 10, MASS.

Est. 1834

# For specialized vacuum pumping applications MACALASTER BICKNELL CO. recommends WELCH DUO-SEAL<sup>®</sup> vented-exhaust vacuum pumps



No. 1402B is a two-stage pump for use with moderately large vacuum systems. Its guaranteed vacuum is 0.1 micron (vent closed) and free air capacity is 140 liters per minute. \$310.00



No. 1397B, a two-stage pump designed for large vacuum systems, provides a guaranteed vacuum of 0.1 micron (vent closed), has a free air capacity of 375 liters per minute. \$645.00

***Vented exhaust removes condensed vapors, reduces pump-down time, cuts oil changes, eliminates oil filters and separators.***

Condensable vapors such as water vapor and solvent gases are frequently encountered in pumping down. Since mechanical pumps remove gases by compressing them into smaller volumes, condensation of vapors back to liquid results when they are compressed. If condensation occurs in a vacuum pump, this liquid can be emulsified in the sealing oil, raising its vapor pressure, limiting the vacuum obtainable.

***all models available from***

The oil deteriorates and has to be changed frequently in order to maintain efficient pumping. Where vapor is present in moderate volume, Duo-Seal Vented-Exhaust Vacuum Pumps eliminate it from the exhaust cycle before it condenses. The principle is simple — the vent opens into the pumping chamber in the exhaust cycle to the atmosphere an instant before vapor compresses to liquid. It escapes harmlessly, cannot contaminate the oil. The result—Duo-Seal Vented-Exhaust Pumps can reach lower pressures in shorter periods of time, and good vacuum performance will be possible for longer periods without bothersome trapping and excessive oil changes.

*Request our pump catalog for complete specifications.*



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