



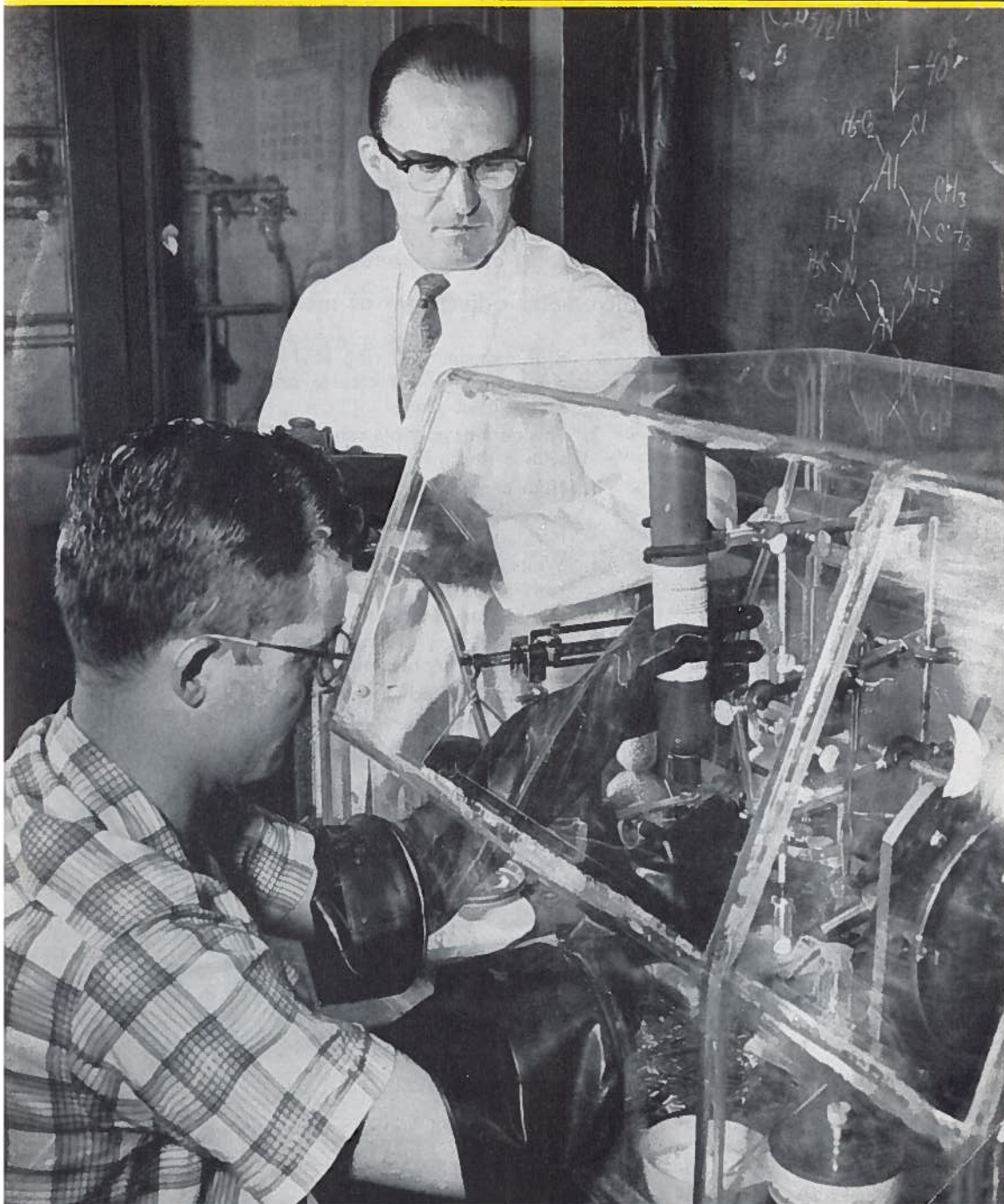
THE CHESAPEAKE CHEMIST

MARYLAND SECTION
AMERICAN CHEMICAL SOCIETY

VOL. XIX

FEBRUARY, 1963

NUMBER 2





THE CHESAPEAKE CHEMIST

VOL. XIX

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NUMBER 2

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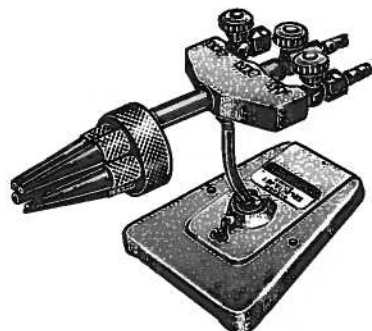
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THE COVER

Synthesis of nitrogen-phosphorus
compounds in a controlled at-
mosphere.

The Chesapeake Chemist is published monthly September through May by the Maryland Section of the American Chemical Society. Address editorial comments to M. P. Miller or N. M. Zaczek, Dept. of Chemistry, Loyola College, Baltimore 10, Maryland. Address advertising inquiries and plates to C. C. Legal, W. R. Grace & Co., Washington Research Center, Clarksville, Maryland.

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FEBRUARY MEETING

DATE & TIME:

WEDNESDAY, FEBRUARY 13,
1963, AT 8:30 P.M.

PLACE:

Holiday Inn, West, Baltimore National Pike and Rolling Road. This is on U. S. Highway 40, just west of Rolling Road. About ¼ mile west of Exit 15 on the Beltway.

Ample parking available. Meeting and dinner under same roof.

SPEAKER:

DR. HARRY H. SISLER

SUBJECT:

Monophosphoro-Analogues of Hydrazine and Hydrazine Derivatives, A New Synthesis of Phosphonitrilic Compounds.

DINNER:

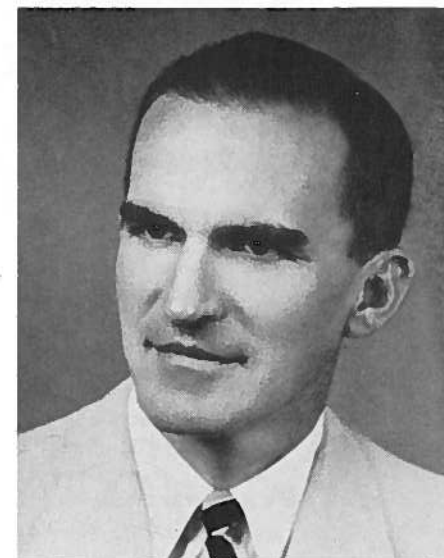
Drinks and dinner at 6:30 p.m. at Holiday Inn. Roast Beef dinner, complete—including tax and tips—\$3.50. Drinks extra. *Please call Sam Goldheim at RI 7-4928, not later than Monday, February 11, so that we can have tables arranged for prompt service.*

SOCIAL HOUR:

There will be a social hour after the meeting.

The chloramination reaction as it is applied to nitrogen bases in the convenient synthesis of hydrazine, and of substituted hydrazines and hydrazinium salts is well known. The chloramination of phosphines, arsines, and stibines has led to the formation of analogous derivatives of the as yet unreported compounds PH_2NH_2 , AsH_2NH_2 , and SbH_2NH_2 . The derivatives of PH_2NH_2 have proved to be particularly interesting and have themselves been further chloraminated to yield derivatives of the types $[\text{R}_2\text{P}(\text{NH}_2)=\text{N}-\text{P}(\text{NH}_2)\text{R}_2]\text{Cl}$, $[\text{R}_2\text{P}(\text{NH}_2)_2]\text{Cl}$, and in some instances

(Continued on page 18)



DR. HARRY H. SISLER

Harry H. Sisler was born in the hill country of southern Ohio in 1917. He entered the Ohio State University in 1933 and graduated with a major in chemistry and mathematics in 1936. He received the B. Sc. degree with distinction. He began graduate work in organic chemistry at the University of Illinois in 1936, receiving the M. Sc. degree in 1937, and the Ph. D. degree in 1939.

In 1939, Dr. Sisler began teaching in the Department of Physical Science of the Chicago City Colleges. In 1941, he became instructor in chemistry at the University of Kansas, where he rose to the rank of Associate Professor by 1945. He moved to the Department of Chemistry of the Ohio State University in 1946 where in 1955 he became Professor of Inorganic Chemistry. In 1956, he accepted appointment as Head of the Department of Chemistry of the University of Florida. During the fall semester of 1962-63, he served as Sloan Visiting Professor of Chemistry at Harvard University.

During his professional career Dr. Sisler has published more than 100 papers.

(Continued on page 18)

WANTED - DONATIONS OF BACK ISSUES OF SCIENTIFIC JOURNALS

The Centre for Quantum Chemistry of the Sorbonne University, Paris, France (where I spent the past 7 months as a visiting staff member) has a serious problem. The Centre has just moved from the area of the Sorbonne and the Sorbonne Libraries on the Left Bank to a larger laboratory on the Right Bank at the extreme other end of the city of Paris. The Centre is now faced with having to re-establish for itself a complete library at its new location. The Centre is in need of donations of back issues of scientific journals for this library. The interests of the Centre are wide and cover chemistry, physics, biochemistry, theoretical biology and cancer problems. Among the journals which would be most welcome are:

Journal of the American Chemical Society
Journal of Physical Chemistry
Journal of Organic Chemistry
Chemical Reviews
Journal of Chemical Physics
Physical Review
Reviews of Modern Physics
Journal of the Chemical Society (London)
Quarterly Reviews
Proceedings of the Physical Society (London)
Journal of Theoretical Biology
ETC. ETC. ETC. ETC. ETC. ETC.
(and of course) Chemical Abstracts

If you have any journals (even just a few issues) which you no longer need and which you would like to contribute to the Centre, please contact me

Dr. Joyce J. Kaufman
Research Institute for Advanced Study
7212 Bellona Avenue
Baltimore 12, Maryland
Telephone: 435-1100 Day
532-0267 Evenings

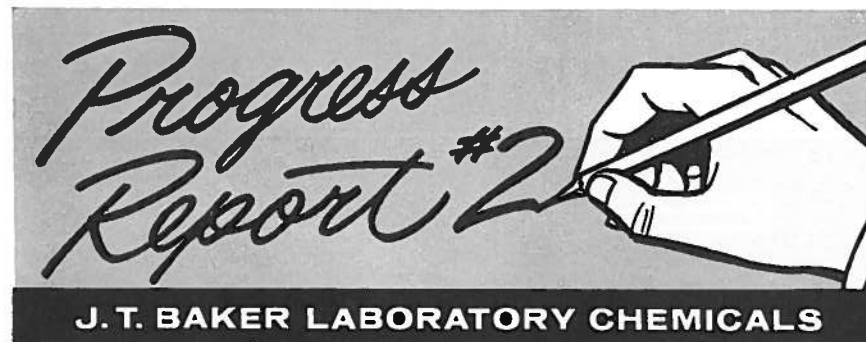
and I shall take care of all the arrangements for sending the journals to the Centre.

Thank you,
(Dr.) Joyce J. Kaufman

MARCH MEETING

The March meeting of the Section will be jointly sponsored by Hood College and Fort Detrick in Frederick on Wednesday, March 13, 1963. Dinner at the College will be followed by a lecture by Dr. Robert C. Elderfeld, Professor of Chemistry at the University of Michigan at Ann Arbor. Dr. Elderfeld's subject will include new work now in progress in the field of chemotherapeutics for cancer.

Details of the time and place will be announced in the March issue of the Chesapeake Chemist.



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1, 2, 3, 4-Tetrahydronaphthalene, Purified
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This important reagent is used for the detection and colorimetric determination of various metals including cadmium, chromium, magnesium, mercury and molybdenum, and as an indicator in certain titrimetric processes.

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Extractions with 2, 4-pentanedione, with such added diluents as carbon tetrachloride, chloroform and benzene, are recommended for aluminum, beryllium, chromium(III), cobalt(III), gallium, indium, iron(III), molybdenum(VI), plutonium(IV), uranium(VI), vanadium(III), and zirconium. The use of masking agents, such as ethylenedinitriol-tetraacetate, affords greater selectivity in certain extractions.



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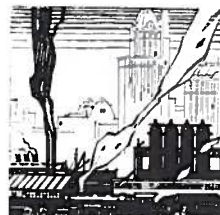
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MARYLAND SECTION NEWS



INDUSTRIAL

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Francis J. Sergeys, executive head of central research laboratories, was appointed executive vice-president of the research division. Named to the posts of vice-president were Dr. Donald L. Fuller, director of research at the Washington Research Center, and Robert H. Lafferty, chief engineer for the division.

Mr. Sergeys joined the Grace organization in New York in 1957 as vice-president in charge of engineering for the research division.

Dr. Fuller has directed the central research effort since joining the company in 1955, being responsible for the research carried out by the eight departments of the Washington Research Center.

Mr. Lafferty is in charge of the process and project engineering departments located at Grace headquarters in New York and Baltimore. He joined the company in 1955.

Dr. C. Vance McDaniel will work in the area of synthetic zeolite structures and their applications for the New Product Development Department. Dr. McDaniel received his bachelor's degree in chemistry at the University of Pittsburgh and earned his doctorate at Massachusetts Institute of Technology. He was formerly employed by Texas Instruments, Inc., and U. S. Steel.

Mr. Edward T. Woodruff has been appointed to the Process Development Department in the Hilltop Laboratories located at Curtis Bay. Mr. Woodruff

received his master's degree in chemical engineering this year from The Ohio State University, and his previous industrial experience was with Basic Refractories, Inc., in Bettsville, Ohio.

DU PONT COMPANY

The Baltimore Pigment plant of the E. I. du Pont de Nemours & Co., Inc. recently completed ten years without a lost-time accident. This represented 8,632,000 exposure hours.

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ACADEMIC

ESSEX COMMUNITY COLLEGE

Dr. Giles B. Cooke, member of the faculty of Essex Community College, has been appointed to the Committee on Chemical Education of the ACS. His term will run for two years.

Dr. Cooke is a retired industrial chemist, an expert on the chemistry of cork and a former teacher at the University of Maryland and Goucher College. He is also a past Chairman of the Maryland Section and is presently one of the Councilors of the Section.

(Continued on page 13)

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Hopkins 7-3300

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The volume of chemical literature doubles every eight years. This is reflected in the increase in size of *Chemical Abstracts*. In order to keep up with this growth, *CA* needs more abstractors to speed the flow of information from journals to the working chemist.

CA needs chemists who can prepare abstracts in good idiomatic English from chemical papers published in one of the following languages: Polish, German, French, Bulgarian, Belorussian, Romanian, Azerbaijani, Czech, Portuguese, Spanish, Italian, Flemish, Russian, and English.

Those chemists with training or experience in spectroscopy, NMR, ESR, and PMR are especially needed. Polymers, steroids, and dyes are the organic areas with the most critical needs.

There is a need for patent abstractors with experience or training in the graphic arts. *CA* is also looking for patent abstractors who can handle French and Flemish in all applied fields.

Abstracting can be rewarding work. Abstractors say that they enjoy the challenge of extracting all essential information from papers or patents for inclusion in the permanent, indexed record. This work also gives them an opportunity to keep up with new developments in their fields.

There is no formal training program for abstractors; they learn by preparing actual copy for *CA*. Assignments are always flexible enough to fit the interests and the time of abstractors, who may request changes in numbers and kinds of papers at any time. Papers and patent specifications for abstracting are supplied by *CA*.

An honorarium is given for this work. Starting in 1963, this will be \$14.40 per printed page of *CA* (8 cents a line).

Additional information about abstracting will be sent upon request. There is no obligation. Please write to Fred A. Tate, Acting Editor, Chemical Abstracts Service, 2041 North College Road, Columbus 10, Ohio.

MARYLAND SECTION NEWS

(Continued from page 9)



GOVERNMENT

FORT DETRICK

The General Services Administration recently announced that a contract has been negotiated for preliminary architectural and engineering designs for a two million dollar Bureau of Mines Research Laboratory to be located at Fort Detrick. This laboratory will primarily house facilities for the development of new analytical instruments using advanced concepts of mineral analysis.

John E. Thompson, Civilian Personnel Officer, has announced the establishment of a postdoctoral resident research program at Fort Detrick for 1963-1964. The program, sponsored by the National Academy of Science-National Research Council, will be supported by the U. S. Army Biological Laboratories, where the research associateships are tenable. The Biological Laboratories will provide the necessary supervision, facilities, and equipment for the program and will administer the associateships.

The purpose of the Research Associateships is to provide to young investigators of unusual ability and promise an opportunity for advanced training in basic research in the various branches of the biophysical and biological sciences.

William L. Jacobs has been appointed Assistant Scientific Director at the U. S. Army Biological Laboratories, Fort Detrick. As assistant to Dr. Riley D. Honsenright, Scientific Director, Jacobs will be primarily concerned with development.

Mr. Jacobs came to Fort Detrick in 1955 from three and one-half years experience as Division Chief, Directorate of Biological Operations, Pine Bluff Arsenal, Arkansas. During his first year with the Biological Laboratories here he

served as Biological Warfare Engineer. He was Assistant Chief, Program Coordination Office, for the past four years and was acting in that capacity at the time of his new assignment.

DR. HARRY H. SISLER

(Continued from page 5)

He has contributed to several volumes of *Inorganic Syntheses* and is co-author of eight reference or textbooks in the fields of general, analytical, and inorganic chemistry.

His principal researches have been in the fields of inorganic nitrogen compounds, oxides of nitrogen, chloramine and hydrazine, liquid ammonia chemistry, molecular addition compounds, boron hydrides and their derivatives, nitrogen-phosphorus compounds, as well as the study of reactions at high temperatures in metal carbide systems. He is a co-patenter of a new process for the synthesis of hydrazine and of a process for the synthesis of chloramine, and has a number of related patent applications.

Dr. Sisler has been active in the affairs of the Divisions of Chemical Education and of Physical and Inorganic Chemistry of the American Chemical Society, over a period of years. He was national chairman of the Division of Chemical Education in 1957-58 and was chairman of the Florida Section of the American Chemical Society in 1962. He is a member of Alpha Chi Sigma, Phi Lambda Upsilon, Sigma Xi, Phi Delta Kappa, Kappa Delta Pi, Phi Kappa Phi, and International Torch Club. He was a member of the Chemistry Advisory Panel of the National Science Foundation from 1959 through 1962.

In 1960 Dr. Sisler received the Outstanding Southeastern Chemist Award of the Florida Section of the American Chemical Society.

NOTE!!!

This month's meeting will be held at the Holiday Inn, West, not at Bennett Hall, as was announced earlier. See page 5 for the address of the Holiday Inn.

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Transferred in

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Fritz, Wayne E., 5813 Loch Raven Blvd., Baltimore 12, Md.
Furmanski, E. R., Hq. Co. USA Gar., Fort Detrick, Frederick, Md.
Ganis, Frank M., University of Maryland Med. Dept., School of Med., Baltimore 1, Md.

(Continued on page 16)

(Continued on page 17)

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(Continued from page 15)

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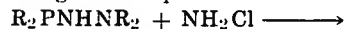
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FEBRUARY MEETING

(Continued from page 5)

phosphonitrilic compounds of the general formula $(R_2PN)_n$. It has further been shown that in some instances, at least, phosphines bearing a hydrazino-group can be chloraminated in accordance with the general equation



without the hydrazino group undergoing any oxidation.

Reactions of these types will be discussed and their possible application to important synthetic problems, particularly with reference to the synthesis of phosphorous-nitrogen polymers will be considered.

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In a Sunday School class discussion of temperance, one mother related that she learned how well she had taught her children the evils of liquor when her youngest, a TV cowboy fan, brought her a picture he had drawn of a cowboy in a saloon.

"But don't worry, Mother," he quickly assured her. "He isn't going to drink anything. He just went in there to shoot a man."

"How did you like Venice?"

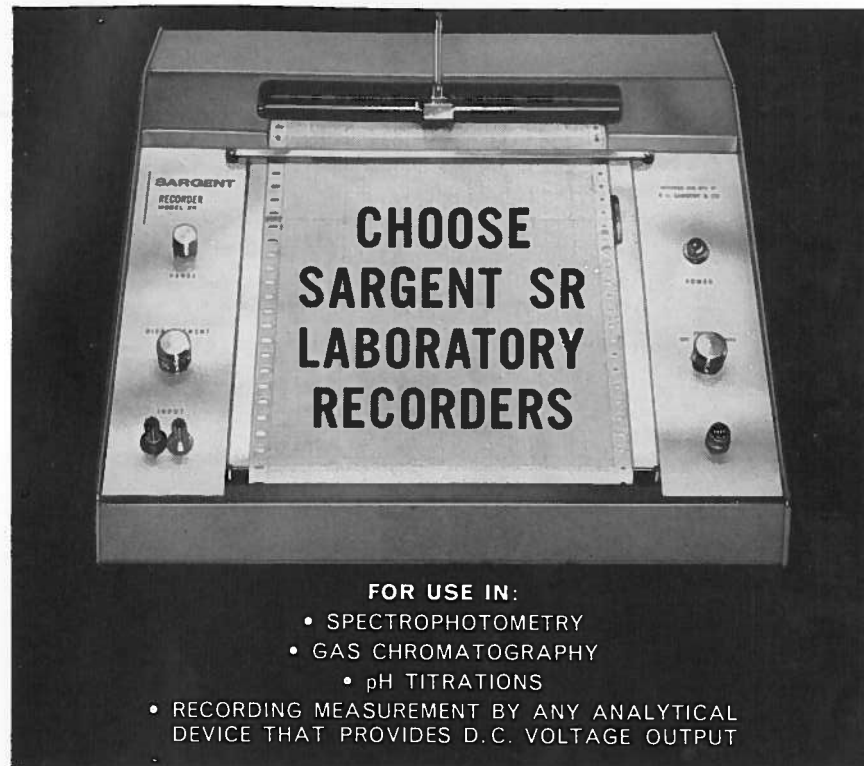
"Oh, we only stayed a few hours. The place was flooded."

"Who told you," shouted the angry boss "that just because I've kissed you a couple of times you can loaf around the office and neglect your work?"

"My lawyer," cooed the secretary.

"When I get well, doctor," the concerned woman telephoned her physician, "will I actually be able to play the piano?" "But, of course," he assured her. "How wonderful," she enthused. "I've never played it before!"

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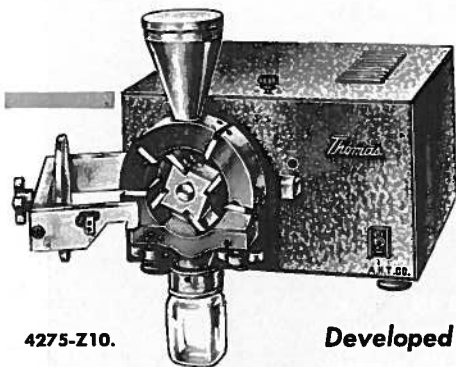
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