with no winding on it, revolving freely in the field of a small model multiphase magnet. Loose powders of any of these materials rotated in such multiphase fields in a direction opposite to that in which solid masses of the same materials rotate, a reversal of direction due to a rolling action of the particles. No eddy currents are induced in any of the conducting materials when powdered. Dr. W. H. Eccles and Dr. Winifred Leyshon showed a neon tube and tuning fork combination for producing electrical oscillations of harmonic frequencies suitable for calibrating wavemeters. The neon tube is connected in parallel with a condenser and in series with a resistance and a battery; it then gives an intermittent luminous discharge and the current can be used to keep a steel tuning-fork in continuous vibration. The current in such a circuit has many high harmonics, and therefore induces an oscillatory current of any chosen harmonic frequency in a neighboring circuit tuned to that frequency.

Sir Robert Hadfield, Bart., exhibited a number of specimens of alloy steels for special purposes. These included a rotor in "ERA/ATV" steel used in the construction of exhaust gas turbines. These rotors are driven by the exhaust gases from internal combustion engines; they work continuously at a temperature of from about 800° to 950° C., and run up to the very high testing speed of 53,000 revolutions and working speeds of about 30,000 revolutions per minute. A tuning-fork of high nickel chromium alloy steel was shown which has constant frequency under varying temperature. For this purpose the metal must have a very low temperature coefficient of the modulus of elasticity.

THE RUSSIAN MINING CONGRESS

A REPORT of the proceedings of the first Federal Mining Technical Congress of the Soviet Union, held in Moscow, from April 13 to 27, and attended by 503 delegates, is made public by the Russian Information Bureau. The delegates included administrative and technical representatives of the various Soviet mining trusts, mineralogists and geologists of the Russian Academy of Sciences, officers of the labor organizations and representatives of the supreme economic council and other departments of the government.

All phases of the mining industry, including the oil industry, were discussed, including the latest technical methods and the training of engineers and technicians to direct the rapidly increasing output.

Representatives of the oil industry reported that the output would be increased from 8,500,000 metric tons during the present fiscal year, to 12,000,000 tons in 1929–30. Professor Taneyev pointed out that the Soviet Union contained 75 per cent. of the world's resources in peat, and the development of this fuel was of great importance to the electric generating plants and to the textile industry.

A report on recent explorations in the Urals cited important prospects for the mining of iron, copper, coal, gold, platinum, asbestos and other minerals in hitherto untouched territory. Professor P. P. Lazarev, chemist, and other members of the Academy of Sciences reported on extensive explorations and surveys undertaken by the academy to discover for exploitation new sources of mineral wealth. Plans were discussed for the production of arsenic, aluminum and the mining of graphite, tin and other metals not hitherto produced in the Soviet Union. Prospective plans for the development of the various branches of the mining industry were also fully discussed.

OPHTHALMOLOGICAL LABORATORY FOR HARVARD UNIVERSITY

A GIFT of $250,000 to Harvard University toward the foundation of an ophthalmological laboratory in memory of members of his family has been made by Dr. Lucien Howe, of Buffalo. Dr. Howe will become director of the laboratory when it is inaugurated next fall or winter.

The laboratory is expected to cost half a million dollars in all. Dr. Howe's donation will be supplemented by $175,000 from the General Education Board and $75,000 from Harvard University. The laboratory will serve for both research and teaching.

The institution will be officially called the Howe Laboratory of Ophthalmology, but Dr. Howe has explained that he would prefer to have it known as a memorial to his father, brother and father-in-law.

The father of Mrs. Howe commanded a division of the sixth corps in the Army of the Potomac in the Civil War, Dr. Howe's father commanded the 3d Cavalry, while his brother, a captain in the 4th Artillery, was killed in action early in life. These three men served in the regular army a total of over 70 years. It was therefore in accordance with the family plans to establish some memorial to that record which would seem lasting and also useful. The gift to Harvard University is the result.

The laboratory will be for some years to come in the present eye patient department of the Massachusetts Eye and Ear Infirmary, whose clinical opportunities are well known. A preliminary year will be given to forming a plan for its work, perhaps clearing up one corner of the field in physiological optics, or eye movements. It is hoped that the laboratory will in future become useful to research residents and to occasional workers at some special problem.

Dr. Howe was a student at Harvard in 1872 and 1873. He has been for nearly fifty years in charge of the Buffalo Eye, Ear and Throat Infirmary. For almost thirty years he has been professor of ophthalmology in the University of Buffalo.

RESEARCH BY FOREIGN SCHOLARS AT YALE UNIVERSITY

SIX foreign scholars will take up residence at Yale University next year to conduct research under the direction of the faculty of the Yale Graduate School. These include five research fellows of the International Education Board, Dr. Pasquale Pasquini, of the University of Rome, Italy; Dr. Stanislaw Hiller, of Cracow, Poland; Dr. Ernest Wolf, of the University of Heidelberg, Germany; Dr. B. M. Bergerson, of the University of Oslo, Norway, and Dr. Fritz E. Lehmann, of the University of Freiburg, Germany, who have been appointed to carry on research under the direction of Dr. Ross G. Harrison, of the department of zoology, and Dr. D. L. Watson, of Edinburgh, Scotland, who will work in physics.

In addition to these five foreign research fellows, ten other fellows have been appointed by the National Research Council and the National Tuberculosis Association to study specific problems under the direction of the graduate faculty. Nine of these assignments are made by the National Research Council as follows: Franklin Hollander, Ph.D., Columbia University, 1923, of Brooklyn, N. Y.; Olive M. McCay, Ph.D., University of California, 1925, of Berkeley, Calif.; Leopold R. Cerecedo, Ph.D., University of Freiburg, 1921, of San Juan, Porto Rico, and Howard J. Shaughnessy, B.S., Massachusetts Agricultural College, 1922, of New Haven, Conn., have been granted fellowships by the medical board of the council to continue work with Professor Lafayette B. Mendel, of the department of physiological chemistry. Dr. A. J. Gee, of the University of Toronto, who is a National Research Council fellow, will take up his work under the direction of the department of bacteriology. On similar appointments Ernest O. Lawrence, Ph.D., Yale University, 1925, of Springfield, South Dakota, and Dr. J. W. Beams, of the University of Virginia, will conduct their research under the direction of the department of physics. In addition the child development committee of the National Research Council has appointed as fellows Miss Edith Fisher Symmes, chief psychologist of the Boston Psychopathic Hospital, and Miss Viola May Jones, assistant superintendent of the child-placing department of the State Charities Aid Association of New York City to work under the direction of Professor Arnold Gesell, of the Yale psycho-clinic.

As a fellow of the National Tuberculosis Association, Robert DeWolf Coghill, Ph.D., Yale University, 1924, will continue his research on the tubercle bacilli under the direction of Professor Treat B. Johnson, of the department of chemistry.

It is expected that the facilities of the university will be used by a number of visiting members of the faculties of other institutions. Professor C. C. Chen, of Shanghai College, will undertake special research in bacteriology, and Professor Arthur T. Jones, of Smith College, and Professor Mildred Allen, of Mount Holyoke College, in physics.

BIOLOGICAL ABSTRACTS

IN his review of the activities of the Rockefeller Foundation for the last year, President George E. Vincent says concerning biology:

One special form of aid to the progress of biology calls for separate notice. The enormous number of scientific papers and volumes published annually through the world in every field of research creates the need for some kind of systematic organization of this material in a readily accessible form. A great library undertakes at least a part of this task. Such an institution has been likened to a social memory or brain.

But each library after all is only a section of a national and of a world memory or brain. The books and periodicals on its shelves come from all lands where new truth is discovered and then described in print. Thus in the field of biology alone it is estimated that each year 40,000 articles of at least some value appear in 5,000 journals, transactions of scientific societies, proceedings of congresses and the like. To be sure, these papers vary enormously in their importance. Probably in a given year only a small percentage is highly significant in fundamental ways. The bulk of them perhaps deal with useful details. A good many are likely to be trivial if not negligible. Yet if a scientific worker is to avoid duplicating the research of others, if he is to compare his methods with theirs, if he is to have his mind steadily fertilized by relevant ideas and suggestions, if he is to increase the chance of getting a happy illuminating flash upon his problems, he must have constant access to the world memory.

To meet this need abstract journals which give the gist of articles and papers have appeared in different countries. Elaborate indexes make reference easy and accurate. Some of the journals have attained international standing. Biology as a whole, however, has lacked satisfactory service of a world-wide sort. Recently eighteen American biological societies joined in a plan to publish a journal of biological abstracts on an international basis. The cooperation of individuals and organizations in foreign countries is being sought and in most cases secured. The National Research Councils of Japan and of Australia have responded warmly. The Royal Society of London and the French Federation of Natural Science Societies have expressed an interest. Arrangements for exchange of material with abstract journals in Europe are being worked out.

The details of the new plan have been carefully studied.