

lubricant to be acceptable must be effective over the full range of speeds employed up to 120 miles per hour. Thirdly the product, because it is used in large volume, must be cheap. Work is proceeding.

A co-operative research with Noranda Mines Limited has had for its object the development of a method of roasting pyrite for the recovery of elemental sulphur. Indications are that this process can be carried to the commercial stage in the near future. A study is in progress on the direct reduction of iron sulphides of which large tonnages are being mined in Canada for both gold and base metal recovery.

RAIN REPELLANT FOR AIRCRAFT

The rain repellent for aircraft wind screens, which was developed in the Council's laboratories, is becoming widely used and its commercial production is expected to begin in the near future. Action of inhibitors in water and anti-freeze systems is being investigated. A new project on which work has already begun deals with the study of corrosion at high temperatures.

The textile research laboratory has now set up special facilities for providing members of the Canadian Institute of Launderers and Cleaners with a technical service mainly for control of the laundering and cleaning efficiencies of commercial plants.

The rubber laboratory has undertaken an investigation into the correlation of laboratory abrasion tests with actual road tire tests. Numerous tests have been made on some forty samples of rubber of different compositions over a wide range of temperatures to determine their frictional properties. The results should provide valuable information in regard to slipping or holding off tires on icy roads.

Work has continued on the chemistry of certain fatty acids present in drying oils with the object of increasing their usefulness in paints or of producing drying oils from more readily available materials. An investigation into the correlation of plasticizing actions and physical properties of various chemicals by the use of the Puddington surface pressure gauge is proceeding.

DETERMINATION OF CARBON MONOXIDE

A new and very rugged catalyst has been developed for use in the determination of carbon monoxide by direct oxidation. A continuous carbon monoxide recorder using this catalyst has been designed and initial tests have shown the instrument to be a definite improvement over those at present in use.

Toward the end of the year, representatives of the shipbuilding industry in Canada made an official visit to the laboratories to see for themselves how the Council's facilities for ship-channel studies could be employed for the betterment of the shipbuilding industry. The National Research Council has two model-testing basins, fully equipped for work on

seaplane floats, ship's hulls, etc. From towing tests, the power required to propel a full-scale hull at any given speed, or the speed obtainable from a given engine installation, can be accurately estimated.

A large portion of the work in the aeronautics section is devoted to the wind-tunnel testing of new aircraft designs for Canadian firms. At the Flight Research Station at Arncliffe, in co-operation with the Royal Canadian Air Force, more than 250 hours flying was undertaken on research projects during the year. In one investigation, a wake-rake was installed behind Frise ailerons of various contours on a Harvard aircraft and the boundary layer at the trailing edge over a range of aileron angles was measured using an automatic observer.

With a specially equipped experimental aircraft, the low temperature laboratory continued the flight investigation of aircraft icing, electro-thermal de-icing for wings and propellers and the study of meteorological conditions associated with ice.

SNOW-COVER SURVEY

In co-operation with the Meteorological Service of the Department of Transport, a snow-cover survey was initiated to obtain data on the type and condition of snow encountered in different parts of Canada for use in the development of snow-clearing equipment and the study of other subjects, such as aircraft skis, associated with winter transportation.

The tailless glider was modified to incorporate fighter-type cockpit canopies and further wind-tunnel tests were carried out. The flight tests at Edmonton were interrupted early in the season by an accident to the glider.

Work continued on the improvement of fuels and lubricants for low-temperature use and included the observation of the performance of fuels and lubricants under cold-weather conditions at Churchill and the study of low-temperature lubrication problems for the Armed Services.

In co-operation with the Department of National Defence, road tests were made to determine the limit of sulphur which can be tolerated in gasoline without harmful effects to motor vehicles. This has become a problem because of the higher sulphur content of presently available crude oils.

FUELS IN JET ENGINES

Research on fuels and combustion in jet engines was initiated. A comprehensive theoretical and experimental investigation of turbine icing was begun.

The provision of static equipment for the testing of full-scale aircraft components was begun during the year and is nearing completion.

Work continued on the study of wing flutter, stressed shells, stresses in ski undercarriages, and prostheses.

Tests on resistance and steering of ship models to determine the planing characteristics

of aircraft floats were made and tests on the Fraser River model were continued.

In the fire hazards laboratory approximately 140 domestic oil-burning appliances were examined and tested for the Canadian Standards Association.

The new Division of Building Research provides for the integration of work in this important field and serves as an advisory body to the Central Mortgage and Housing Corporation in all technical activities. Information on building techniques is being assembled as a matter of public service and research projects will be carried out across Canada whenever possible in conjunction with existing research agencies and universities.

GRANTS-IN-AID AWARDED

Over \$236,000 was awarded in the form of grants-in-aid by the Division of Medical Research and 33 medical research fellowship appointments were made. The entire programme of the Division is carried on in this way in Canadian medical schools and hospitals.

The National Research Council seeks at all times to make its work of practical value to Canadian industries and to this end welcomes inquiries for technical advice on procedures and processes.

Problems suggested to the Council that are deemed of national interest may be undertaken entirely at the Council's expense. In other cases, when a company has an interest in a project, arrangements can be made on a mutually satisfactory basis whereby the expense of the research is shared by the company and the Council. In exceptional cases, especially when facilities for a given investigation are not available elsewhere in Canada, the Council may undertake a specific piece of research for an industry on a fee basis in which case the results become the property of the company requesting the information. From this it will be seen that each problem presented to the Council is considered on its merits and dealt with in what seems to be the most efficient and practical way.

EX-ENEMY CLAIMS

PEACE TREATY PROVISIONS: Owing to the war, persons who were enemies may have been unable to bring actions, take measures with respect to the conserving of property or to prevent lapse of time from depriving them of certain rights. Canadian citizens or corporations who, by reason of the war, were deprived of taking legal action to preserve their rights to property in Italy, Roumania, Hungary or Finland are reminded by the Department of External Affairs of the provisions set out under Annex XVI "B" of the Italian Peace Treaty and Annex V "E" of each of the Peace Treaties with Roumania, Hungary and Finland. In this matter of "periods of prescription", the four Treaties are similar. The text of Annex XVI "B" of the Italian Treaty is:-

"1. All periods of prescription or limitation of right of action or of the right to take conservatory measures in respect of relations affecting persons or property, involving United Nations nationals and Italian nationals who, by reason of the state of war, were unable to take judicial action or to comply with the formalities necessary to safeguard their rights, irrespective of whether these periods commenced before or after the outbreak of war, shall be regarded as having been suspended, for the duration of the war, in Italian territory on the one hand, and on the other hand in the territory of those United Nations which grant to Italy, on a reciprocal basis, the benefit of the provisions of this paragraph. These periods shall begin to run again on the coming into force of the present Treaty. The provisions of this paragraph shall be applicable in regard to the periods fixed for the presentation of interest or dividend coupons or for the presentation for payment of securities drawn for repayment or repayable on any other ground.

2. Where, on account of failure to perform any act or to comply with any formality during the war, measures of execution have been taken in Italian territory to the prejudice of a national of one of the United Nations, the Italian Government shall restore the rights which have been detrimentally affected. If such restoration is impossible or would be inequitable, the Italian Government shall provide that the United Nations national shall be afforded such relief as may be just and equitable in the circumstances."

In press release No. 37, dated September 20, 1947, the Department of External Affairs announced that the Peace Treaty with Italy came into force on September 15, 1947, and the Treaties with Roumania, Hungary and Finland on September 19, 1947.

It is suggested that any persons or corporations desiring more complete information on the texts of these four Peace Treaties, should write to the King's Printer and Controller of Stationery, Ottawa, for copies of these Treaties. References are as follows: The Treaty of Peace with Italy, Canada Treaty Series 1947, No. 4. The Treaty of Peace with Roumania, Canada Treaty Series, 1947, No. 6. The Treaty of Peace with Hungary, Canada Treaty Series, 1947, No. 5. The Treaty of Peace with Finland, Canada Treaty Series, 1947, No. 7.

INSURANCE SUPT. RETIRES: Prime Minister Mackenzie King announces retirement of G.D. Finlayson as Superintendent of Insurance. Robert W. Warwick has been appointed to the vacancy.

Referring to Mr. Finlayson's long public service, the Prime Minister said: Mr. Finlayson