

no changes in the viscera, and isinglass does not interfere with the normal regeneration of the blood plasma. H. E. Pugsley and R. F. Farquharson (*Canad. Med. Assoc. J.*, 49, 262; 1943) gave the isinglass solution 58 times to 51 human patients to test it for pyrogenic and other toxic effects. A slight rise of temperature occurred on eight occasions, but no other unfavourable signs were noted in the other cases. When the isinglass was given to patients suffering from acute hæmorrhage, extensive burns, compound fractures and severe circulatory failure, the results were all good, and there were no toxic effects. The amount given varied from 200 c.c. to an infant to 8,800 c.c., given over a period of three days, to an adult.

### Oil from the Sunflower Plants

There are probably few countries of the temperate regions which have a superabundance of fats and oils. War-time conditions, moreover, always accentuate any deficiency, and turn attention upon the possibilities of home production. A recent paper by E. F. Hurt (*J. Roy. Hort. Soc.*, 68, Part II; Nov. 1943) gives the results of experience with the sunflower crop. Oil from the seeds of this crop is useful for edible and culinary purposes, for making margarine, as food for cattle and poultry, for canning fish and making fine soap. Its gastronomic value is equal to the finest olive oil. The crop is widely tolerant of soil types, but removes large quantities of soil nutrients, most of which are retained in the stalk, and can be returned to the ground after harvest. Sowing the seed at an even depth of  $1\frac{1}{2}$ –2 in. appears to be important, and  $7\frac{1}{2}$  lb. of seed is needed to sow an acre by drill. Sunflower is a good cleaning crop, and appears to be but little affected by disease, though it is susceptible to wireworm attack and the depredations of birds at harvest time. Three semi-dwarf varieties—'Mars', 'Pole Star' and 'Southern Cross'—are suggested for Great Britain, and as the supply of fats and oils may be one of the most acute of post-war agricultural problems, the crop appears worthy of more extended trial.

### Thermoplastic Electric Cables

A PAPER on thermoplastic cables, read by Dr. H. Barron, J. N. Dean and T. R. Scott on February 10 before the Institution of Electrical Engineers, reviews the circumstances which have led to a considerable increase in the use of thermoplastic cables within the last few months. It is pointed out that the relative importance of such cables cannot yet be evaluated on a peace-time basis, for the economic level cannot be established and also synthetic rubber is now making its appearance. In order to establish a basis for evaluation, it is desirable to have a thorough understanding of the general characteristics of thermoplastic cables; this is attempted in the paper with particular reference to polyvinyl chloride cables. Indications are given of the polymer situation, the definition of a thermoplastic material and the resulting implications. The building-up and testing of polyvinyl compounds is discussed, and the manufacture, characteristics and uses of cables derived therefrom are considered in detail. A brief survey of other thermoplastics is followed by a comparison of polyvinyl chloride with rubber.

It is concluded that suitably selected thermoplastic compounds can produce satisfactory wires and cables the characteristics of which are such that the corresponding rubber cables can be replaced by these

thermoplastic cables. Oxidation need no longer be considered as the predominant factor in determining life; there are still restricting factors which prevent thermoplastic cables from being worked at temperatures appreciably in excess of those suitable for rubber cables; but these factors are of a different nature and may be countered by development and design along lines which would be impracticable for rubber. The cable engineer has acquired a range of alternate materials which, while they present problems of their own, promise interesting solutions for some existing problems. A period of rapid development of wires and cables of compound characteristics must inevitably ensue so soon as free choice, on an economic basis, of such materials is practicable.

### Industrial Fire Risks

IN A paper read in London on December 9 before the Institution of Electrical Engineers, Messrs. W. Fordham Cooper and F. H. Mann describe first the classification of buildings and structural materials in relation to fire resistance, and then deal with the hazard from various industrial materials and processes and the special precautions which should be adopted in providing and operating electrical installations in view of these risks. Flame-proof and intrinsically safe constructions are briefly described. The second part of the paper illustrates the application of the matter discussed in the first part; but, as it is impossible to deal with every risk, attention has been particularly paid to the heavy chemical (gas, coke and by-product) and textile industries by way of examples, although some other matters, notably switch and transformer oil-fire risks, are also mentioned.

### Tuberculosis in Paraguay

IN A recent article (*Bol. Of. San. Panamer.*, 22, 318; 1943), Drs. A. R. Ginés, A. Alvarez and M. Mercado state that in June 1941 the control of tuberculosis in Asunción was started under the direction of Dr. Angel R. Ginés, and 40,000 persons were examined in the course of a year. In November 1941, the Ministry of Health amended a decree of 1938 making compulsory the X-ray examination of all public officers, public and private employees, teachers, students, labourers, etc. The examination consisted of a tuberculin test, pulmonary röntgenograms or sometimes merely fluoroscopy and a rapid examination of the skin and mucous membranes. The Tuberculosis Dispensary at Asunción, which was founded in 1922, during the first ten years of its existence could treat only general advanced tuberculosis owing to the lack of modern means of diagnosis; but in 1932 a chair of tuberculosis was created and the campaign against tuberculosis now includes a röntgenological and tuberculin survey and a morbidity and mortality survey in the urban areas of the Republic, diagnosis of the disease by modern methods, effective isolation or quarantine of contagious cases, creation of schools for the tuberculous or pre-tuberculous, vaccination of the newborn with B.C.G., economic and social improvements, creation of an Institute of Social Security, intensive educational propaganda, and eradication of tuberculous animals. The tuberculosis death-rate is calculated to be 199.9 per 100,000, and its relation to general mortality is 15.50 per cent. Tuberculosis with other diseases of the lungs caused a third of the deaths in 1941. Relation to the standard of living is supported by the following death-rates: