

According to the third report there are now sixty-two institutions which satisfy the requirements of the foundation, and are recognised as accepted institutions. To their professors the benefits of the foundation are extended through the institutions themselves. That is, if the professor has reached the age agreed upon, or has been in the teaching profession for a certain period of years, he will receive his retiring allowance as soon as his institution applies for it. The trustees have given special consideration to the professors whose active salary is low. They have adopted a scale under which such a teacher is granted a much higher percentage of his salary than is granted to one receiving a high salary. Any person sixty-five years of age, who has been a professor for at least fifteen years, shall receive a retiring allowance on the following scales:—

A. *Salary not more than 1200 dollars.*—An allowance of 1000 dollars, or not more than 90 per cent. of his salary.

B. *Salary above 1200 dollars.*—An allowance of 1000 dollars, increased by 50 dollars for each 100 dollars of salary above 1200 dollars.

No retiring allowance shall exceed 4000 dollars. This is 1000 dollars more than the limit originally fixed.

In these sixty-two accepted institutions there are already in force 116 retiring allowances, the average amount of which is 1600 dollars per annum.

The trustees have also from the beginning granted retiring allowances to certain professors not on the "accepted list." These grants have in all cases been made on the ground of distinguished and unusual service. When applications from individual professors are received each case is minutely considered by the trustees and judged upon its own merits. At present sixty-six such retiring allowances are in force, the average amount of which is fully 1400 dollars.

The foundation has also incorporated in its rules a recommendation of the executive committee that a pension be granted to the widow of a professor in an accepted institution who has been for ten years married to the professor. This widow's pension is to be one-half of what the husband would have been entitled to receive.

According to the report, pensions are at present granted to nine widows of professors in accepted institutions, and to six widows of professors not in accepted institutions. The average allowance in the former case is 963 dollars, in the latter case 680 dollars.

The trustees are to be congratulated on the wisdom and firmness of their administration of the foundation, and on the influence which they have already exercised upon the progress of higher education. The full effect of that influence is just beginning to be foreshadowed.

JOHN EDGAR.

GERMANY AND THE PATENTS AND DESIGNS ACT, 1907.

WE have received a report to the Secretary of the Department of Agriculture and Technical Instruction for Ireland on a visit to Germany made by a deputation in connection with the operations of the Patents and Designs Act, 1907. Section 27 of the Act provides that any person may apply to the Comptroller for the revocation of a patent on the ground that the patented article or process is manufactured or carried on exclusively or mainly outside the United Kingdom, and also provides that unless the patentee proves that the patented article or process is manufactured or carried on to an adequate extent within the United Kingdom, or gives satisfactory reasons why this is not the case, the

Comptroller may revoke the patent either forthwith or after a reasonable interval.

The wording of this section clearly suggests that a patentee who manufactures an article or carries on a process exclusively or mainly abroad runs a grave risk of having his patent revoked under the sanctioned procedure, and considerable alarm has been manifested by foreign patentees in consequence. They have hoped against hope that the section does not mean what it says, or at least that it will be interpreted to mean something quite different, and now that it is being borne in upon them that the section will be construed to mean exactly what it says, they are making very sincere attempts, in some cases, to comply with the plain requirements of the section.

One way of complying with the requirements and of thus avoiding the risk of revocation is obviously to work the patent in the United Kingdom, and there have been many inquiries from foreign patentees as to the feasibility of taking this course. There have been, on the other hand, numerous attempts to bring to the notice of such foreign patentees the advantages of particular places in the United Kingdom for the establishment of industries, and the chief object of this visit to Germany was to interest foreign manufacturers who might be affected by the Act in the opportunities for industrial enterprise now being offered in Ireland. When it is remembered that in the year 1906 more than 6000 patents were granted to foreigners, it is clear that the object of the visit might easily have been defeated by attempting too much, and, in order that this might not occur, the members of the deputation wisely decided to devote their energies particularly to industries specially suitable for introduction into Ireland. In seeking for such industries, they were of opinion that it was undesirable to concern themselves with industries already established in Ireland and capable of further development from within, and they were finally led to limit the object of the visit to an attempt to convince the directors of certain chemical industries, such as those concerned with the manufacture of anilin dyes, and certain electrical industries, that the conditions which exist in Ireland are specially suited to the requirements of these industries.

Most of the important centres of these industries in Germany were visited, and the report contains an account of the wonderful development which Germany has made in these industries during the last quarter of a century. Of their visit to Berlin they state that

We seized the opportunity of visiting the largest of the electrical firms—the Allgemeine Electricitäts Gesellschaft (known familiarly and shortly as the A.E.G.), which last year celebrated the twenty-fifth anniversary of its inauguration. The development of this company has been phenomenal. Founded in 1883, with a capital of 250,000l., it has to-day a capital of 5,000,000l.—including debentures and reserves, 9,200,000l. From the manufacture of dynamos, motors, and lamps it developed and erected in 1885 an Electric Power Station in Berlin, which developed into the Berlin Electrical Works, where they manufacture a great variety of electrical plant, and, keeping pace with every new discovery, are now manufacturing the metal-filament lamps which threaten to displace the carbon-filament lamps. Since 1885 it has erected power stations in nearly 700 German and foreign towns. It then took up electric traction, and has constructed a large number of electric railways. It has a vast number of agencies in Germany and other countries.

At Ludwigshafen,

We were fortunate in being able to see a portion, at least, of the well-known works of the Badische Anilin- und Soda-Fabrik at Ludwigshafen. By the kindness of the head of their Patents Department, Dr. Ehrhardt, and Dr. Lloyd, his assistant (both from Birmingham), we were

shown through part of the huge works, to see the whole of which several days would be required. These works were founded in 1865 for the manufacture of colouring matters and other derivatives extracted from coal tar. In that year there were only thirty workpeople. In 1870 there were 835; in 1885, 2377; in 1895, 4450. Now there are 8000. They employ, moreover, some 200 trained chemists, 100 engineers, and more than 700 mercantile clerks. The area of the site of the factory is about that of the City of London. On one side of it is the Rhine, so that there is easy transport for the coal (they use 1000 tons a day) to drive their 370 steam engines, and for the pyrites (of which they use 100,000 tons a year), and other raw materials required.

This is not the place for a full account of the progress of discovery in this branch of chemistry, but each discovery in turn has been utilised and turned into gold. Their staff of trained chemists are continually adding to their store of knowledge, and are provided with well-equipped laboratories. To the benches are distributed hot and cold water, compressed air, vacuum and electrical power. The commercial value of their discoveries is safeguarded by a patent department having some seventeen assistants. They hold more than 1200 patents, and take out on an average about two a week.

The Badische Anilin- und Soda-Fabrik has already decided on a site at Birkenhead, but as it is only one out of a dozen German chemical companies which have during the past five years paid dividends of from 10 per cent. to 35 per cent. per annum, there appears to be good reason for bringing to the notice of the directors of these companies places in the United Kingdom which are specially suited to these industries.

There can be no doubt that before the directors of successful foreign companies attempt to establish industries in the United Kingdom, they will make exhaustive investigations as to the general industrial conditions in this country and as to the special considerations relating to their particular industries. The deputation discusses at some length the industrial conditions in Germany, and, in order to compare the industrial conditions there and here, reference is made to the recently published Board of Trade report (Cd. 4032, 1908) on the condition of the working classes in Germany. This question is so directly before the public to-day that there is no necessity to discuss the matter here, but it is of interest to know that Dr. Walther Rathenau, one of the leading industrial authorities in Germany, in his "Reflexionem," remarks that, speaking of the chemical industry,

the reason the Germans have so far surpassed us is because English science is not strong enough to direct the numerous ramifications of the source of the "black art" into the technical stream, and because English industry has not the army of trained workers which is annually recruited from the German high schools. The same difficulties, he remarks, are encountered by the electrical industries in England.

The other conditions which are considered of importance in deciding the question of the establishment of a chemical industry are stated to be:—

- (1) The cost of motive power.
- (2) The price of coal, alkali, and acids.
- (3) The availability of salt or brine.
- (4) The price of land and the amount of taxes.
- (5) The supply of water and provision for discharge of effluent.

The deputation appears to have considered fairly fully the various conditions necessary to the successful establishment in Ireland of industries such as the electrical and chemical industries, and it is of opinion that there is no reason why such industries should not be profitably carried out there.

When the deputation made its report, the Com-

NO. 2066, VOL. 80]

troller's first decision under Section 27 (in the case of an application for the revocation of Hatschek's patents No. 6455 of 1900 and No. 22,139 of 1900) was under appeal, and it was doubtful what interpretation of the section would finally prevail. Since then, however, Mr. Justice Parker has delivered judgment in the appeal, and there can be no further doubt that a patentee who manufactures exclusively or mainly abroad runs a very grave risk of having his patent revoked. Patentees will therefore be more inclined than they have been to manufacture here, and in order to direct those who may benefit by this inclination, we give the general conclusions arrived at by the deputation, viz. :—

(1) The first is that, if reasonable facilities are offered, there is a strong probability that manufacturers in certain industries will find it to their interests to set up branches of their works within the United Kingdom.

(2) In the next place, in order to attract such manufacturers to any particular part of the United Kingdom, it will be necessary for those interested in the industrial development of any given city or locality to themselves make special and persistent attempts to bring before particular firms the facilities and advantages which the localities in question have to offer. In other words, it will not be enough to send circulars—even those translated into good German—to our Consular representatives abroad. We saw a large pile of these from various municipalities on the table of one of the large Consulates "in case of inquiry." There had been no inquiries. It needs to be recognised that the matter is one into which the keenest competition enters, and in regard to which only persistent efforts on the part of the competing localities themselves will produce results.

(3) There is a third general conclusion which we believe to be of considerable importance. It seems clear that the effects of the working of the Patents and Designs Act will not be immediate, but gradual and continuous. It is already evident that a number of foreign manufacturers will establish branches of their business in the United Kingdom, and will so maintain their patent rights. But many manufacturers will doubtless prefer to sacrifice their patents rather than take this course. The inventions contained in patents which will be revoked as a consequence become public property, and may be utilised by any enterprising person. Given the necessary enterprise, it will be possible to build up new industries, whilst existing industries may derive benefit from the freedom to utilise inventions in cases where the covering patents are not being worked to such an extent in the United Kingdom as to comply with the Act.

DR. VON NEUMAYER, *For.Mem.R.S.*

THE news of the death, on May 24, at Neustadt, in the Bavarian Palatinate, of Excellency Georg Balthasar von Neumayer was received with genuine regret by a world-wide circle of scientific men, to a very large number of whom he was personally known for his sterling qualities, the warmth of his friendship, his genial urbanity, and his kindly disposition, more especially towards young men entering upon a scientific career. To these he was the fatherly counsellor who gave them every encouragement to prosecute their studies in the broadest possible manner, for he had long ago realised that science had entered upon a new era of marvellous progress. The foreign visitor to German scientific gatherings has always been struck by the universal reverence for the name of Neumayer, for there have been very few of the savants of the fatherland during the past half-century who have not been influenced, more or less, by the great personality who is now no more.

Dr. von Neumayer was born at Kirchheimbolanden, in the Palatinate, on June 21, 1826, so that at the time of his death he was within a few weeks of completing his eighty-third year. From his early youth he