

CHAPTER XXVI.

MISCELLANEOUS.

§ 1. Patents, Trade Marks, and Designs.

1. **Patents.**—(i) *General.* The granting of patents is regulated by the Commonwealth Patents Act 1903–21, which, in regard to principle and practice, has the same general foundation as the Imperial Statutes, modified to suit Australian conditions. The Act is administered by a Commissioner of Patents. Comparatively small fees, totalling £8, are now sufficient to obtain for an inventor protection throughout Australia, Papua and the Territory of New Guinea, and the only renewal fee (£5) is payable before the expiration of the seventh year of the patent, or within such extended time, not exceeding one year, and upon payment of further fees, as may be allowed.

(ii) *Summary.* The number of separate inventions in respect of which applications were filed during the years 1919 to 1923 is given in the following table, which also shows the number of patents sealed in respect of applications made in each year.

PATENTS, AUSTRALIA.—SUMMARY, 1919 TO 1923.

Particulars.	1919.	1920.	1921.	1922.	1923.
No. of applications	4,166	5,481	5,072	5,431	5,306
No. of applications accompanied by provisional specifications	2,468	2,875	3,378	3,643	3,454
Letters patent sealed during each year	1,452	2,033	2,573	3,273	2,464

(iii) *Revenue.* The revenue of the Commonwealth Patents Office during the years 1919 to 1923 is shown hereunder :—

PATENTS, AUSTRALIA.—REVENUE, 1919 TO 1923.

Particulars.	1919.	1920.	1921.	1922.	1923.
	£	£	£	£	£
Fees collected under—					
States Patents Acts	4	31	5	4	3
Patents Acts 1903–16	19,764	27,100	28,516	30,912	27,995
Receipts from publications	414	417	385	561	599
Total	20,182	27,548	28,906	31,477	28,597

2. **Trade Marks and Designs.**—(i) *Trade Marks.* Under the Trade Marks Act 1905, the Commissioner of Patents is also Registrar of Trade Marks. This Act has been amended from time to time, the last amendment having been made in 1922. Special provisions for the registration of a “Commonwealth Trade Mark” are contained in the Act of 1905 and are applicable to all goods included in or specified by a resolution passed by both Houses of Parliament that the conditions as to remuneration of labour in connexion with the manufacture of such goods are fair and reasonable.

(ii) *Designs.* The Designs Act 1906 as amended by the Patents, Designs and Trade Marks Act 1910, and the Designs Act 1912, is now cited as the Designs Act 1906–12. Under this Act a Commonwealth Designs Office has been established, and the Commissioner of Patents appointed “Registrar of Designs.”

(iii) *Summary.* The following table gives particulars of applications for trade marks and designs received and registered under the Commonwealth Acts from 1919 to 1923 :—

TRADE MARKS AND DESIGNS, AUSTRALIA.—SUMMARY, 1919 TO 1923.

Applications.	1919.	1920.	1921.	1922.	1923.
RECEIVED.					
Trade Marks	2,634	3,045	2,410	2,763	2,773
Designs	256	278	357	427	488
REGISTERED.					
Trade Marks	1,229	1,651	2,542	1,991	2,038
Designs	203	226	300	380	377

(iv) *Revenue.* The following table shows the revenue of the Trade Marks and Designs Office during the years 1919 to 1923 :—

TRADE MARKS AND DESIGNS, AUSTRALIA.—REVENUE, 1919 TO 1923.

Particulars.	1919.			1920.			1921.			1922.			1923.		
	Trade Marks.	Designs.	Publications.	Trade Marks.	Designs.	Publications.	Trade Marks.	Designs.	Publications.	Trade Marks.	Designs.	Publications.	Trade Marks.	Designs.	Publications.
	£	£	£	£	£	£	£	£	£	£	£	£	£	£	£
Fees collected under State Acts	192	..	..	9	..	..	1	..	..	1	..	..	..	..	..
Fees collected under Commonwealth Acts	5,314	346	101	12,607	368	107	10,557	427	122	9,282	499	131	9,263	539	102
Total	5,506	346	101	12,616	368	107	10,558	427	122	9,283	499	131	9,263	539	102

§ 2. Copyright.

1. *Legislation.*—Copyright is regulated by the Commonwealth Copyright Act of 1912, details of which will be found in previous issues of the Official Year Book (see No. 8, p. 1066), while, subject to modifications relating to procedure and remedies, the British Copyright Act of 1911 has been adopted as law and declared to be in force within Australia.

Reciprocal protection was extended in 1918 to citizens of Australia and of the United States under which copyright may be preserved in the latter country by registration at the Library of Congress, Washington. The Commonwealth Government promulgated a further Order in Council which came into operation on the 1st February, 1923, and extended the provisions of the Copyright Act to the foreign countries of the Copyright Union, subject to the accomplishment of the conditions and facilities therein contained.

2. *Applications and Registrations.*—The following table gives particulars of applications for copyright received and registered, and the amount of revenue received for the years 1919 to 1923 :—

COPYRIGHT, AUSTRALIA.—SUMMARY, 1919 TO 1923.

Particulars.	1919.	1920.	1921.	1922.	1923.
Applications received—					
Literary No.	923	922	953	1,027	1,133
Artistic No.	216	203	146	185	186
International No.	1	..	5	14	3
Applications registered—					
Literary No.	850	879	809	942	1,105
Artistic No.	197	185	138	160	190
International No.	..	..	4	..	13
Revenue £	284	287	292	312	339

§ 3. Local Option, and Reduction of Licences.

1. **General.**—Local option concerning the sale of fermented and spirituous liquors is in force in all the States, the States being divided into areas generally conterminous with electoral districts, and a poll of the electors taken from time to time in each district regarding the continuance of the existing number of licensed premises, the reduction in number, or the closing of all such premises. Provision is made for giving effect to the results of the poll in each district in which the vote is in favour of a change.

2. **New South Wales.**—(i) *Local Option.* The Liquor Act of 1912 made provision for taking a vote of the electors on the parliamentary rolls on the question of continuance of existing licences, the reduction of the same, or that no licence be granted of public houses, wine-shops, and clubs. This vote was to take place simultaneously with that for a general election. Three such polls were taken, but in 1919, by an Amending Act, further taking of polls was suspended pending a referendum on the question of prohibition, to be taken within eighteen months after the passing of this Act. This referendum was not held, and a later amendment of the Act in 1923 fixed the first Saturday in September, 1928, as the day on which the vote is to be taken.

(ii) *Licences Reduction Board.* The Liquor (Amendment) Act of 1919 provided for the establishment of the Licences Reduction Board with power to reduce the number of publicans' licences and to determine the amount of compensation payable in respect of any licensed premises deprived of a licence. The funds for compensation are obtained by a levy at the rate of 3 per cent. on the value of all liquor purchased during the preceding year, of which the licensees pay one-third and the owners two-thirds. Since the beginning of 1923 the Board has also been empowered to reduce the number of Australian wine licences, the holders of which are liable to pay fees into the compensation fund at the rate of 1 per cent. of their purchases.

The Board commenced operations in 1920, and up to 31st December, 1923, had terminated 190 publicans' licences and 9 wine licences, and had accepted the surrender of 46 publicans' licences and 1 wine licence. The compensation awarded was £306,190 in respect of 201 publicans' licences and £180 for 5 wine licences, while the amount had not been determined in respect of 35 hotel and 5 wine licences. The reductions made by the Board in the Sydney electoral district were 68 hotel licences, and the compensation awarded amounted to £150,360, and in the Newcastle electoral district the reductions were 23 hotel licences and the compensation awarded £29,470. The other reductions were in country districts. The fees payable into the compensation fund amounted to £807,334. During the four years 1920 to 1923, 54 hotel licences were terminated by other than the Board's action, and during 1923, 5 wine licences were similarly terminated.

The Liquor (Amendment) Act of 1923 provides for the reconstitution, as from 1st July, 1924, of the Licences Reduction Board and of the Licensing Courts which control the issue of licences. Three Licensing Magistrates will constitute the Licensing Court in each licensing district, as well as the Licences Reduction Board, so that one tribunal will control all matters relating to the issue and withdrawal of licences.

(iii) *Compensation Assessment Board.* This Board was established by the 1919 Act to assess the cost to the State for compensation if prohibition be carried.

3. *Victoria.* (i) *Local Option.* Under the Licensing Act of 1922, the previous system of local option was abolished, and provision was made for a vote of the electors for the Legislative Assembly to be taken once in every eighth year, the first of such votes to be taken in the year 1930. The resolution to be then submitted is:—"That licences shall be abolished." If that resolution is carried, the following resolution shall be submitted to the electors at each subsequent vote, until carried:—"That licences shall be restored." This provision makes the vote State-wide instead of being restricted to the individual licensing districts.

The Act also prescribes that each licensing district shall consist of an electoral district, instead of the subdivisions which under the previous Acts formed licensing districts. The Licensing Court is also empowered to reduce the number of licences (i.e., victuallers' licences, grocers' licences, Australian wine licences, spirit merchants' licences, and registered clubs) which in its opinion is greater than the number necessary for the convenience of the public or the requirements of the locality; such reduction, however, is not to exceed one-fourth of the number of licences of each description which the Court was empowered to renew in the licensing district at the commencement of the Act, nor shall it exceed the extent to which there are moneys available for compensation in the Licensing Fund.

(ii) *Licences Reduction Board.* This Board was established in 1906 with power to reduce the number of licensed victuallers' premises in districts in which there were more than the statutory number of licences. It has also the duty of fixing and awarding compensation to the owners and licensees of closed hotels. The compensation fund is derived from vendors of liquor who must all pay in proportion to the benefit they derive from their licences. The amount charged to the wholesale trade is 4 per cent. of the cost of all liquors sold to non-licensed persons, no charge being made on sales to other licensed vendors. The retail trade is charged 6 per cent. on liquor purchases, except the holders of Australian wine licences, who are charged 4 per cent. The expenses of operating the Licensing Act are a charge on the Compensation Fund, and, in addition, £23,000 is paid annually to the Police Superannuation Fund, and £68,000 to the municipalities which formerly granted licences. The balance is available for compensation purposes.

The maximum compensation, so far as victuallers' licences are concerned, is now governed by the trading results for the ten years ending on the 31st December, 1916, and that payable to any of the holders of other licences is based on the loss accruing on a lease for a period not exceeding 3 years. In fixing the amount, allowance must be made for the percentage fees paid in respect of the licence for the 3 years following the passing of the Licensing Act 1916.

Under the 1922 Act, the Court held deprivation sittings in three licensing districts and ordered that 20 victuallers' licences should not be renewed at the end of the current year. When the Board came into existence in 1906, the number of licensed premises was 3,521, of which 73 were roadside victuallers', and up to the 30th June, 1924, the number closed was 1,533. The following table gives the total number of hotels deprived of licences, or which have had their licences surrendered, and the amount of compensation awarded in each case to the owner and licensee:—

LICENCES REDUCTION BOARD.—VICTORIA, 30th JUNE, 1924.

Hotels Delicensed.	Hotels Surrendered.	Compensation Awarded.		
		Owner.	Licensee.	Total.
No.	No.	£	£	£
1,145 (a)	388 (b)	747,086	142,465	889,551

(a) Including 11 not yet compensated.

(b) Including 8 roadside licences and 1 not yet compensated.

In addition to the above closings, the following licences have been taken away under the local option vote:—1 Australian wine, 1 club, 4 grocers', and 5 spirit merchants', and under the 1922 Act, 2 spirit merchants' and 2 grocers' licences have been taken away, and 8 Australian wine licences surrendered.

(iii) *Mallee and Additional Licences.* Under the 1916 Act special provisions were made for the granting of victuallers' licences in the Mallee, and by the 1922 Act, these provisions, as amended by that Act, are extended to any area outside the Mallee country proclaimed for the purpose. Power is given to proclaim areas containing 500 resident electors, when petitions signed by a majority of the residents are lodged, and where the Licensing Court, after inquiry, recommends this course. On the proclamation of an area, a poll of the electors is to be taken, at which, if the poll is to be recognized, one-third of those enrolled must vote. A majority of those voting decides whether a licence is to issue or not. The annual value by which such licence adds to the annual value of the land and buildings is to be fixed by the Court, and the amount so fixed is to be paid by the licensee into the Licensing Fund. Under these provisions, 10 areas have been proclaimed, in 7 of which polls were taken and resulted in favour of licence. Licences have now been granted in 6 such areas.

4. *Queensland.* (i) *Local Option.* Local Option is regulated in Queensland by the Liquor Act of 1912, as amended by the Liquor Act Amendment Acts of 1920 and 1923. A vote on the question is to be taken on the request of one-tenth of the number of electors in an area, which is defined in the request, and such area may be (a) an electoral district, or (b) an electoral division of an electoral district, or (c) a group of two or more divisions of an electoral district, provided that the whole of such local option area is wholly comprised within one and the same electoral district. A separate request is necessary for each resolution on which a vote is to be taken. The resolutions on which a vote may be taken are:—(a) that the number of licences in the area be reduced by one-fourth of the existing number, (b) that the number of licences be further reduced by one-fourth of the number existing when resolution (a) was carried, (c) that the number of licences be still further reduced by one-fourth of the number existing when resolution (a) was carried, (d) that the sale of intoxicating liquors in the area shall be prohibited, and (e) that new licences may be granted in the area. Any resolution shall be carried if at least 35 per cent. of the electors of the area have voted and if, in the case of resolutions (a), (b), or (c) the majority of votes has been given in favour of the resolution, or, in the case of resolutions (d) or (e), at least three-fifths of the votes have been given in favour of the resolution.

Provision is made by the amending Act of 1920 under which every local option vote must be taken in the month of May in every third year on a day to be fixed by the Governor in Council, but no vote may be taken on the same day as the State General Election or a Commonwealth General or Senate Election, and every request must be made before the first of December in the year next preceding the year in which the local option vote is to be taken. In May, 1925, polls will be taken as requested in local option areas defined by the petitioners on the questions of prohibition and new licences.

Polls were taken in 1919, in which year there were 11 on the question of increase or new licences, and 1 on the question of reduction of licences. Increase was carried in 5 areas, but in 2 of these a sufficient number of electors did not vote. The poll in one area resulted in a majority against reduction.

For the polling on Saturday, 26th May, 1923, 13 requests were received by the Home Secretary, and the voting was on the question of increase or new licences. Increase was carried in 10 areas, but in only 3 cases a sufficient number of electors voted, and at least three-fifths of the votes given were in favour of new licences.

(ii) *State Management, Prohibition, or Continuance of the Present System.* The Liquor Act Amendment Act of 1920 provides that a poll shall be taken of the electors of every electoral district every three years on the following resolutions:—(a) State management of manufacture, importation, and sale of fermented and spirituous liquors; (b) prohibition of manufacture, importation, and retail of fermented and spirituous liquors, to take effect in July, 1925; (c) continuance of the present (or if (a) or (b) has been carried, return to the earlier) system of manufacture, importation, and retail of fermented and spirituous liquors. The Liquor Acts Amendment Act 1923 provides that after the poll in October, 1923, no further poll under the Act of 1920 shall be taken.

The first poll was taken in October, 1920. Voting was compulsory under a compulsory preferential system, and State management was everywhere defeated. In 14 areas majorities were recorded for (b), and in 58 areas continuance was carried, with a majority for the whole State of 38,092 votes. The second poll was held in October, 1923. In 4 areas majorities were recorded for (b), and in 68 areas continuance was carried with a majority for the whole State of 88,879 votes.

5. *South Australia.*—In this State the subject of local option is regulated by Part VIII. of the Licensing Act 1917. Under this Act, each electoral district for the House of Assembly is constituted a local option district, and each electoral district may, by proclamation of the Governor, be divided into local option districts. A quorum of 500 electors, or of one-tenth of the total number of electors—whichever is the smaller number—in any district may petition the Governor for a local option poll. The persons entitled to vote are those whose names appear on the electoral roll and who reside in the local option district. A local option poll is taken on the same date as a general election. A poll was taken in the Local Option District of Encounter Bay on the 5th April, 1924. The voting resulted as follows :—

(a) That the number of licences be reduced	499	votes
(b) That the number of licences be not increased or reduced..	951	„
(c) That the Licensing Court may in its discretion increase the number of licences	109	„

In order to settle any doubt as to the validity of the proclamation of 1917 relating to local option districts, an Act was passed in 1922 by which such proclamation was declared to be valid, and the local option resolutions in force in old districts at the time of the proclamation were declared to be still in force, notwithstanding any alterations in the boundaries of the districts.

6. *Western Australia.*—(i) *General.* By an Amending Act No. 39 of 1922, the Local Option provisions of the Licensing Act 1911 were repealed, and in lieu thereof a Licences Reduction Board was constituted, and charged with the duty of reducing the number of licences throughout the State over a period of 6 years from 1st January, 1923, to the extent of the money for the time being to the credit of a fund to enable compensation to be paid to the lessors and licensees of premises deprived of a licence. The fund is formed by a levy of 2 per cent. per annum on the amount of liquor purchased for licensed premises, excluding duties thereon. The Licensing Magistrates (three in number) having jurisdiction throughout the State constitute the Reduction Board. Owners and licensees must be summoned before the Board to show cause why their premises should not be deprived of a licence; and in determining which licences shall cease to be in force the Board must consider the convenience of the public and the requirements of the locality, and, subject thereto, the character and accommodation afforded by the licensed premises, the manner in which the business has been conducted, and the distance between the premises and other licensed premises nearest thereto. Subject to the foregoing considerations, regard must be paid to convictions of the licensee within the preceding three years for offences against the licensing laws. The determination of the Board to deprive any premises of a licence is final; and on payment or tender of compensation the licence becomes void at the expiration of the current period for which it is granted. Compensation to an owner for the diminution in the value of the premises is limited to the difference in the rental value for 3 years; and to the licensee to the amount of net profits for 2 years, based on the average of the three years next preceding notice of deprivation. Provision is made to enable the lessee of premises deprived of a licence to surrender the lease, or require the rent to be adjusted by arbitration. Provision is also made for an apportionment between lessor and licensee of the contribution to the compensation fund, if the Board thinks fit.

(ii) *Prohibition.* In addition to the above provisions, the Act of 1922 provides that in the year 1925 and in every fifth year thereafter on a day to be fixed by proclamation a poll shall be taken in each electoral district as to whether prohibition shall come into force. It also provides that where prohibition has been carried and is in force, the proposal shall be that the licences for sale of intoxicating liquor be restored. Every person entitled

to vote at an election of members of the Legislative Assembly is entitled to vote at the poll. The proposal is carried if three-fifths at least of the number of votes given throughout the State are in favour thereof, provided that it shall not be carried unless 30 per cent., or more of the number of Assembly electors throughout the State vote for the proposal. If prohibition comes into force it takes effect at the expiration of the year in which the vote was taken, and all licences for the sale of intoxicating liquor cease, and the registration of all clubs is annulled, and until licences are restored no licences may be granted or certificates of clubs be registered. Nothing, however, shall prohibit the sale of alcoholic liquor for use in arts or manufacture, or for medical, scientific, sacramental or industrial purposes. Where a resolution of prohibition is carried, no compensation will be payable to any person whomsoever. The poll shall not be taken on the same day as elections for the Legislature.

7. *Tasmania.*—(i) *General.* In this State the subject of Local Option is dealt with in Part V. (Sections 39 to 53) of "The Licensing Act 1908" as amended by the "Licensing Act 1917". The provisions of Part V. of the Act of 1908 did not come into force until 1st January, 1917. It was thereby provided that a poll of ratepayers was to be taken in each city, and in each municipality in which more than one licensed house was situate, once in every third year. The most recent polls taken were in December, 1923, in Hobart and Launceston, and in April, 1924, in other municipalities. The resolutions submitted at the polls in accordance with the Act were (a) for continuance of the existing number of licences, (b) for reduction in such number. The Act provided that a resolution was carried if a majority in number of the votes was given in favour thereof, provided that such resolution should not be carried unless 25 per cent. or more of the number of the electors on the roll voted upon such resolution. In neither of the cities (Hobart and Launceston) was either resolution carried, the statutory proportion of the electors not having voted at either poll. In one municipality the resolution for continuance was carried. In each of the remaining 39 municipalities in which polls were taken, the statutory proportion of electors failed to vote, and accordingly no resolution was carried.

(ii) *Results of Polls.* The following table shows the results of the Local Option polls taken in each of the cities (Hobart and Launceston) in December, 1923, and in the municipalities in April, 1924:—

LOCAL OPTION POLLS.—TASMANIA, 1923 AND 1924.

Poll taken at—	Electors on Roll.	Votes for Continuance.	Votes for Reduction.	Informal Votes.
	No.	No.	No.	No.
Hobart	11,806	750	1,526	77
Launceston	6,520	579	1,252	146
Municipalities	37,973	3,611	2,950	316
Totals	56,299	4,940	5,728	539

§ 4. Lord Howe Island.

1. *Area, Location, etc.*—Between Norfolk Island and the Australian coast is Lord Howe Island, in latitude 31° 30' south, longitude 159° 5' east. It was discovered in 1788. The total area is 3,220 acres, the island being 7 miles in length and from $\frac{1}{2}$ to $1\frac{1}{2}$ miles in width. It is distant 436 miles from Sydney, and in communication therewith by monthly steam service. The flora is varied and the vegetation luxuriant, with shady forests, principally of palms and banyans. The highest point is Mount Gower, 2,840 feet. The climate is mild and the rainfall abundant, but on account of the rocky formation only about a tenth of the surface is suitable for cultivation.

2. **Settlement.**—The first settlement was by a small Maori party in 1853; afterwards a colony was settled from Sydney. Constitutionally, it is a dependency of New South Wales, and is included in the electorate of Sydney. A Board of Control manages the affairs of the island and supervises the palm seed industry referred to hereunder.

3. **Population.**—The population at the Census of 3rd April, 1921, was 65 males, 46 females—total 111.

4. **Production, Trade, etc.**—The principal product is the seed of the native or *Kentia* palm. The lands belong to the Crown. The occupants pay no rent, and are tenants on sufferance.

§ 5. Commercial and Industrial Bureau of the Board of Trade.

1. **Initiation.**—The initial step towards the creation of a trade promotion organization was taken in February, 1918, when the Prime Minister called a conference of the various associations connected with primary industries, manufactures, and commerce. On behalf of the Commonwealth Government the Prime Minister undertook to provide somewhat similar machinery to that set up by Governments of other countries with the object of co-operating with producers, manufacturers, and merchants in the improvement of methods and the finding of profitable markets. The proposals of the Government were endorsed by the conference, and the Bureau of Commerce and Industry was initiated, and, under the charge of a Director, attached to the Department of Trade and Customs.

Associated with the first Director, in an honorary capacity, there was a temporary general council containing representatives of the primary producers, the Associated Chambers of Manufactures, the Associated Chambers of Commerce, together with representatives of the banking, shipping, metals, coal and timber interests, and the Commercial Travellers' Association. The first Director resigned in March, 1919, and the new Director was later on appointed a member of the Board of Trade, and the Bureau of Commerce and Industry, as it was then termed, was merged into that body, under the title of "The Commercial and Industrial Bureau of the Board of Trade." The direction of the Bureau was assumed by the Board of Trade, and the temporary general council ceased to function.

2. **Functions.**—The functions of the Bureau now closely resemble those of the Departments of Trade of Great Britain and of the Bureau of Foreign and Domestic Commerce of the United States of America, the two latter, in their present form, being comparatively recent creations. The aim of the Bureau is to foster and develop the foreign and domestic commerce, the manufacturing industries, and the transportation facilities of Australia.

Amongst its duties also are the direction of the work of the Trade Commissioner for the East and the investigation of markets for Australian products. In fulfilling its prime function of assisting commerce and manufacturing, the Bureau collects information from the Australian Trade Commissioners, from British and foreign official sources, from Trade Representatives and other sources; and it distributes this information to the Council of Industrial Development of Western Australia, the Advisory Council of Science and Industry of South Australia, the Queensland State Trade Commissioner, Trade Associations, Chambers of Commerce and Manufactures in the various States, the Press, and sometimes confidentially to individuals.

3. **Activities.**—(i) *Nature of Inquiries dealt with.* Inquiries received and answered by the Bureau may, for convenience, be divided under two heads:—

- (a) *From Overseas manufacturers*—(1) The availability, cost and quality of raw materials. (2) Import duties. (3) Tariff considerations. (4) Rates of wage and labour conditions generally. (5) Assistance in transferring plant and skilled operatives. (6) Local markets and possibility of export, etc.

(b) *General inquiries*—(1) By oversea merchants asking to be put in touch with suitable representatives in Australia. (2) By Australian exporters asking to be put in touch with reliable representatives in oversea countries. (3) By Australian producers regarding possible markets, local and external, for their products. (4) By oversea buyers regarding supplies of materials produced in Australia. (5) General and technical inquiries for varied information by local merchants, manufacturers, and producers.

(ii) *The Woollen Manufacturing Industry.* The Bureau has been particularly active in its endeavours to assist in the development of the woollen manufacturing industry in Australia, and the ease with which some of the companies have been floated may, in some measure, be ascribed to the information collected and disseminated by the Bureau.

(iii) *Publications.* Further particulars concerning the activities of the Bureau may be found in the Reports which are issued annually.

§ 6. Commonwealth Institute of Science and Industry.

1. *General.*—An account of the origin of the temporary Institute was given in Official Year Book No. 9, pp. 1135-8, while the progress of its activities has been outlined in succeeding issues.

The "Institute of Science and Industry Act 1920," assented to 14th September, 1920, provides for the establishment of the Institute on a permanent basis.

The Act also provides that the Institute shall establish (a) a Bureau of Agriculture, (b) a Bureau of Industries, and (c) such other Bureaux as the Governor-General determines. Power is given for the establishment of a General Advisory Council and Advisory Boards in each State to advise the Director with regard to—(a) the general business of the Institute or any Bureau thereof, and (b) any particular matter of investigation or research.

The term for which the appointment of Director is made is five years, and any person so appointed shall at the expiration of his term of office be eligible for reappointment. The first director of the permanent Institute is Sir G. H. Knibbs, K.B., C.M.G., President of the Australian Association for the Advancement of Science, Hon. F.S.S., M.I.I.S., Hon. M.S.S., Paris, Hon. M. Amer., S.A., etc., etc., formerly Commonwealth Statistician, who was appointed on the 18th March, 1921.

Under the Act the Director shall co-operate, so far as is possible, with existing State organizations in the co-ordination of scientific investigations. The statutory powers and functions of the Director are as follow :—(a) the initiation and carrying out of scientific researches in connexion with, or for the promotion of, primary or secondary industries in Australia; (b) the establishing and awarding of industrial research studentships and fellowships; (c) the making of grants in aid of pure scientific research; (d) the recognition or establishment of associations of persons engaged in any industry or industries for the purpose of carrying out industrial scientific research, and the co-operation with and the making of grants to such associations when recognized or established; (e) the testing and standardization of scientific apparatus and instruments, and of apparatus, machinery, materials and instruments used in industry; (f) the establishment of a Bureau of Information for the collection and dissemination of information relating to scientific and technical matters; and (g) the collection and dissemination of information regarding industrial welfare and questions relating to the improvement of industrial conditions.

2. *Work of the Institute.*—The Institute has made investigations into various matters of importance to Australia, and has issued a number of bulletins and pamphlets. The subjects considered in previous years are briefly indicated on page 1037 of Year Book No. 15. The more important subjects studied in recent years are :—

A. Agricultural and Pastoral Industries. (i) Prickly Pear, (ii) White Ant Pest, (iii) Cereals, (iv) Viticultural Problems, (v) Sheep Blow-fly, (vi) Food Preservation, (vii) Cattle Tick, (viii) Castor Beans, (ix) Fruit By-products, (x) Dehydration of Fruit and Vegetables, (xi) Milk Products, (xii) Fertilizers, (xiii) Herbicides, (xiv) Animal Pests, (xv) Citrus Fruit Problems, (xvi) Bunchy-top of Bananas, (xvii) Seed Improvement.

- B. Forest and Vegetable Products.* (i) Paper Pulp, (ii) Tanning Materials, (iii) Preservation of Timber, (iv) Wood Borers, (v) Essential Oils, (vi) Wood Waste, (vii) Physical Properties of Australian Timbers.
- C. Manufacturing Industries.* (i) Leather and Tanning, (ii) Pottery, (iii) Engineering Standardization, (iv) Liquid Fuels, (v) Power Alcohol, (vi) Paints, (vii) Animal Products, (viii) Textiles, (ix) Building Materials, (x) Oil, Fat and Waxes, (xi) Refrigeration and Cold Storage Problems.
- D. Mining and Metallurgy.* (i) Malleable Iron, (ii) Economic Minerals, e.g., Magnesite, Barytes, etc., (iii) Pigments, (iv) Metals and Alloys, (v) Ores, (vi) Oil Shale.
- E. Miscellaneous.* (i) Carburetters, (ii) Power, (iii) Clays.

In addition to these investigations, the nucleus of a Bureau of Information has been established, with a library of scientific books and journals catalogued and indexed. A large amount of information has been disseminated among Government Departments, technologists, manufacturers and others vitally interested in Australian Industry.

3. **Publications.**—A list of the publications issued up to the 14th March, 1921, is given in Year Book No. 14, p. 1063, since which date the following bulletins have been issued:—(i) A Classification and detailed Description of the Barleys of Australia, (ii) A Classification and detailed Description of the Oats of Australia, (iii) The Production of Liquid Fuels from Oil Shale and Coal in Australia, (iv) The Manufacture of Pulp and Paper from Australian Woods, (v) A Classification and detailed Description of the more important Wheats of Australia. A pamphlet has also been published on "The Co-operative Development of Australia's Natural Resources," as well as circulars on the following subjects:—(i) Weevils in Wheat Stacks, (ii) Leaks in Fruit Containers, (iii) Scientific Road-making, (iv) a Forest Policy for Australia, (v) Cotton, its Cultivation in Australia, (vi) The Water Hyacinth, (vii) New Tanning Materials. The publication of "Science and Industry," the Journal of the Institute, has been suspended since the end of 1920.

§ 7. Department of Chemistry, South Australia.

In South Australia, a Department of Chemistry was formed in 1915. The Department is principally engaged in general routine chemical examinations and analyses in pursuance of various Acts of Parliament and for Government Departments, but the chemical investigation of local products and industries forms an important branch of its work. At first the Department issued bulletins, of which nine have been published, but since 1918 the results of investigations made have been embodied in the reports of the Advisory Council of Science and Industry of South Australia. Researches have been carried out for the Wheat Weevil Committee, and investigations have been made into the lignites at Moorlands, the utilization of grapes and surplus lemons, cold-water paints and tannins. Further investigations into South Australian lignite are reported in the South Australian Mining Review.

§ 8. State Advisory Council of Science and Industry of South Australia.

The Advisory Council of Science and Industry of South Australia is the result of the fusion of the members of the Committee of Scientific Research and the Committee on Post-war Problems. The members of the Council, who all act in an honorary capacity, are the nominees of the different public-bodies in the State, such as the Chamber of Commerce, the Chamber of Manufactures, Associated Banks, United Trades and Labour Council, Employers' Federation, etc., and include a number of Government technical officials and University professors.

For the purposes of investigation, the Council is divided into Committees, under the headings Agriculture, Pastoral, Mineral, Manufacture, Trade, Commerce, and Transport. These Committees consider and take evidence on subjects proper to their provinces, and report to the Government.

The office of the Council is attached to the Department of Chemistry, where research work is carried out at the instance of the Council, the Director of Chemistry being Vice-Chairman of the Council. Four reports have been issued for the years 1919 to 1922, and contain a summary of the work done, with reports of investigations, including the "Wheat Pests Problem," "Utilization of Surplus Lemons," "Cold Water Paint," "Tannins," etc. The Council also distributes information forwarded by the Commercial and Industrial Bureau of the Board of Trade.

§ 9. Valuation of Australian Production.

1. Value of Production.—The want of uniformity in methods of compilation and presentation of Australian statistics renders it an extremely difficult task to make anything like a satisfactory valuation of the various elements of production. At present there is so little accurate statistical knowledge regarding such industries as forestry, fisheries, poultry, and bee-farming, that any valuation of the production therefrom can only be regarded as the roughest approximation. As a matter of fact, complete information as to value of production in all States is available in regard to the mining industry alone, and even in this case adjustments have to be made before the returns are strictly comparable. Careful estimates have been made in connexion with the value of production from the agricultural and pastoral industries, which, it is believed, in the main give fairly accurate results. The returns given in the following table for 1912 and subsequent years may be taken as substantially correct. The table hereunder shows the approximate value of the production from all industries during the years specified:—

ESTIMATED VALUE OF PRODUCTION.—AUSTRALIA, 1912 TO 1922-23.

Year.	Agriculture.	Pastoral.	Dairy, Poultry, and Bee-farming.	Forestry and Fisheries.	Mining.	Manufacturing.(a)	Total.
	£1,000	£1,000	£1,000	£1,000	£1,000	£1,000	£1,000
1912 ..	45,754	51,615	20,280	6,432	25,475	57,022	206,578
1913 ..	46,162	57,866	20,341	6,338	25,594	61,586	217,887
1914 ..	36,052	61,055	21,562	6,419	22,053	62,956	210,097
1915 ..	75,475	66,180	21,156	5,777	22,060	62,883	253,531
1916 ..	61,255	76,142	26,949	5,505	23,192	64,205	257,248
1917 ..	59,641	82,322	31,326	5,523	24,998	69,797	273,607
1918 ..	59,036	86,793	33,738	7,137	25,462	75,362	287,528
1919-20 ..	72,202	100,920	38,830	10,170	18,982	98,162	339,266
1920-21 ..	112,801	86,882	52,613	10,490	21,613	109,435	393,834
1921-22 ..	81,890	69,254	44,417	10,373	19,977	120,751	346,662
1922-23 ..	84,182	91,475	43,542	10,845	20,316	131,848	382,208

(a) These amounts differ from those given in Chapter XXII., Manufacturing Industry, which include certain products included under Dairy Farming and Forestry in this table.

2. Relative Productive Activity.—The relative output or production per head of population measured quantitatively cannot be gauged from a mere statement of the total value of production from year to year. If measured by mere value, increase of price would have the effect of making an equal production with that of a time when prices were lower, and show an increase which would, of course, be misleading. For example, the annual figures showing the estimated value of production from Australian industries do not directly show whether there has been any increase in the quantity produced, since the price-level at the time is itself a factor in the determination of the values. Before, therefore, any estimate of the relative increase or decrease in production (that is, in the

relative quantity of output) can be formed, the variations due to the price element must be eliminated. This is done in the following table, in which Column I. shows the estimated value of production (i) in the aggregate and (ii) per head of mean population. In Column II. the estimated value of production per head of population is shown in the form of index-numbers with the year 1911 as base; that is to say, the production per head in 1911 is made equal to 1,000, and the values for the other years computed accordingly. In Column III. production price index-numbers are given; it is assumed that these index-numbers reflect, with substantial accuracy, variations in production prices in Australia as a whole. The figures in Column IV. are obtained by dividing the figures for each year in Column II. by the corresponding figures in Column III. They show the estimated relative productive activity per head of population, taking the year 1911 as the basic or standard year, the fluctuations due to variations in prices having been eliminated.

RELATIVE PRODUCTIVE ACTIVITY.—AUSTRALIA, 1871 TO 1922-23.

Year.	I.		II.	III.	IV.
	Estimated Value of Production.		Relative Value of Production per Head (Year 1911 = 1,000).	Production Price Index-Number (Year 1911 = 1,000). (a)	Estimated Relative Productive Activity Index-Numbers (Year 1911 = 1,000). (a)
	(i) Total (000 omitted)	(ii) Per Head of Population.			
	£	£			
1871	46,700	27.46	667	1,229	543
1881	71,116	30.83	748	1,121	667
1891	96,087	29.65	720	945	762
1892	95,244	28.81	699	918	761
1894	83,773	24.45	594	749	793
1896	92,605	26.06	633	922	686
1899	112,273	30.21	733	809	906
1901	114,585	29.96	727	974	746
1902	109,615	28.29	687	1,051	654
1903	117,672	30.04	729	1,049	695
1904	122,343	30.78	747	890	839
1905	135,846	33.68	818	910	899
1906	147,043	35.94	873	948	921
1907	166,042	39.90	969	1,021	949
1908	164,934	38.97	946	1,004	942
1909	174,195	40.29	978	976	1,062
1910	187,741	42.43	1,030	963	1,070
1911	188,404	41.19	1,000	1,000	1,000
1912	206,578	43.52	1,057	1,074	984
1913	217,887	44.52	1,081	1,054	1,026
1914	210,097	42.25	1,026	1,256	817
1915	253,531	51.01	1,238	1,292	958
1916	257,248	52.30	1,270	1,398	908
1917	273,607	54.91	1,333	1,486	897
1918	287,528	56.58	1,374	1,583	868
1919-20	339,266	63.96	1,553	1,875	828
1920-21	393,834	72.77	1,767	1,911	925
1921-22	346,662	62.91	1,527	1,579	967
1922-23	382,208	67.85	1,647	1,753	940

(a) Production Price Index-numbers are not available prior to 1903, and Wholesale Price Index-numbers are substituted therefor.

The total production from all industries during 1922-23 was £382,208,000, equal to an average of £67.85 per inhabitant.

In Year Book No. 5 (page 1217) will be found the value of production in each State at decennial intervals since 1871, and for the year 1909. Details for individual States are not available for subsequent years owing to discontinuance by the Customs Department of the collection of statistics of interstate trade.