

CHAPTER XXII. MANUFACTURING INDUSTRY.

[NOTE].—For the year 1922–23 the Queensland, Western Australian and Tasmanian year ended 31st December, 1922, and that of the three remaining States ended 30th June, six months later. In 1923–24 Tasmania adopted the year ended 30th June, and Queensland fell into line during 1924–25. Western Australia made the change over in 1925–26, but included particulars for the eighteen months ended 30th June, 1926.

In all tables relating to employees—except where specially mentioned—"Number of Employees" includes working proprietors.

§ 1. Number and Classification of Factories.

1. **General.**—The number of factories in each State does not necessarily furnish an accurate indication of the extent or progress of manufacturing throughout Australia, since the larger establishments in many cases tend to absorb smaller enterprises, while on the other hand new factories are constantly springing up, and small plants are as numerous as large ones.

2. **Number of Factories in each State, 1924–25 to 1928–29.**—The following table gives the number of factories in each State for the years 1924–25 to 1928–29 :—

FACTORIES.—NUMBER IN EACH STATE, 1924–25 TO 1928–29.

Year.(a)	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tasmania.	Australia.
1924–25 ..	7,906	7,425	1,890	1,711	1,188	675	20,795
1925–26 ..	8,196	7,461	1,897	1,791	1,170	727	21,242
1926–27 ..	8,222	7,690	1,877	1,807	1,216	767	21,579
1927–28 ..	8,362	8,245	2,118	1,860	1,398	792	22,775
1928–29 ..	8,465	8,197	2,156	1,844	1,469	785	22,916

(a) See general note above.

3. **Classification of Factories, Australia, 1924–25 to 1928–29.**—The following table shows the number of factories in Australia for each year from 1924–25 to 1928–29 classified in the groups agreed upon by the Conferences of Statisticians in 1902 and 1906. Details in regard to some of the principal industries in these groups will be found in § 9 hereinafter.

FACTORIES.—CLASSIFICATION, AUSTRALIA, 1924–25 TO 1928–29.

Class of Industry.	1924–25.	1925–26.	1926–27.	1927–28.	1928–29.
	(a)	(a)	(a)	(a)	(a)
I. Treating raw material, product of agricultural and pastoral pursuits, etc. ..	No. 780	No. 751	No. 710	No. 658	No. 627
II. Treating oils and fats, animal, vegetable, etc. ..	98	98	98	95	97
III. Processes in stone, clay, glass, etc. ..	871	900	910	896	877
IV. Working in wood ..	2,507	2,552	2,500	2,429	2,428
V. Metal Works, machinery, etc. ..	2,600	2,656	2,650	2,677	2,680
VI. Connected with food and drink, etc. ..	2,756	2,840	2,869	3,923	3,964
VII. Clothing and textile fabrics, etc. ..	4,618	4,635	4,757	4,813	4,871
VIII. Books, paper, printing, and engraving ..	1,477	1,511	1,533	1,556	1,562
IX. Musical instruments, etc. ..	55	48	55	55	56
X. Arms and explosives ..	13	12	12	12	13
XI. Motor and other road vehicles and accessories ..	2,338	2,499	2,626	2,707	2,794
XII. Ship and boat building and repairing ..	87	89	88	90	90
XIII. Furniture, bedding, and upholstery ..	1,192	1,223	1,273	1,303	1,267
XIV. Drugs, chemicals, and by-products ..	340	333	333	330	320
XV. Surgical and other scientific instruments ..	92	93	99	106	106
XVI. Jewellery, timepieces, and plated ware ..	262	270	269	264	273
XVII. Heat, light, and power ..	448	436	451	469	462
XVIII. Leatherware, n.e.i. ..	121	122	(b) 279	(b) 322	(b) 342
XIX. Other Industries, n.e.i. ..	142	174	67	70	87
Total ..	20,795	21,242	21,579	22,775	22,916

(a) See general note above. (b) Includes Rubber Goods formerly in Class XIX., Other Industries, n.e.i.

CLASSIFICATION OF FACTORIES ACCORDING TO NUMBER OF EMPLOYEES. 585

For the purpose of the returns in the above table the definition of a factory adopted at the Conference of Statisticians in 1902 is used, viz., "Any factory, workshop or mill where four or more persons are employed or power is used."

The expansion in the number of factories in Australia has been particularly marked during recent years. More than 500 additional establishments have been added to the total number in each of the past five years. The addition of 1,196 factories during the year 1927-28 is due mainly to the inclusion of 951 bakeries, particulars regarding which industry were incorporated for the first time in the year named. As previously pointed out, however, any increase or decrease in the number of factories from year to year does not necessarily indicate a change in the position of the industry.

4. Classification of Factories, States, 1928-29.—The following table shows the number of factories in each State during 1928-29 classified according to the nature of the industry :—

FACTORIES.—CLASSIFICATION, STATES, 1928-29.

Class of Industry.	N.S.W.	Vic.	Q'land.	S. Aust.	W. Aust.	Tas.	Aust.
No.	No.	No.	No.	No.	No.	No.	No.
I. Treating raw material, product of agricultural and pastoral pursuits, etc.	167	229	37	80	40	74	627
II. Treating oils and fats animal, vegetable, etc.	40	27	11	12	6	1	97
III. Processes in stone, clay, glass, etc.	405	251	46	91	62	22	877
IV. Working in wood	926	637	343	152	157	213	2,428
V. Metal works, machinery, etc.	997	1,024	199	237	181	42	2,680
VI. Connected with food and drink, etc.	1,195	1,237	693	413	287	139	3,964
VII. Clothing and textile fabrics, etc.	1,834	2,147	267	313	227	83	4,871
VIII. Books, paper, printing, and engraving	608	576	144	112	101	21	1,562
IX. Musical instruments, etc.	27	19	1	6	3	..	56
X. Arms and explosives	3	9	..	1	..	..	13
XI. Motor and other road vehicles and accessories	1,124	981	188	209	196	96	2,794
XII. Ship and boat building and repairing	49	15	7	6	7	6	90
XIII. Furniture, bedding and upholstery	455	466	115	97	39	45	1,267
XIV. Drugs, chemicals, and by-products	156	102	4	24	17	17	320
XV. Surgical and other scientific instruments	31	46	14	6	9	..	106
XVI. Jewellery, timepieces and plated ware	92	119	19	20	15	8	273
XVII. Heat, light, and power	187	131	48	35	52	9	462
XVIII. Rubber goods and leatherware, n.e.i.	127	149	13	28	17	8	342
XIX. Other Industries n.e.i.	42	32	7	2	3	1	87
Total	8,465	8,197	2,156	1,844	1,469	785	22,916

§ 2. Classification of Factories according to Number of Employees.

1. States, 1928-29.—A more satisfactory method of measuring the importance of the manufacturing industry in Australia may, perhaps, be obtained by grouping the factories according to the average number of employees therein.

The following table shows, for each State, the number of factories classified according to the number of hands employed, and the average number of hands employed therein, during 1928-29 :—

FACTORIES.—CLASSIFICATION ACCORDING TO NUMBER OF EMPLOYEES, 1928-29.

No. of Persons Employed in each Factory.	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tasmania.	Australia.
NUMBER OF FACTORIES.							
Under 4	2,466	2,585	444	407	507	187	6,596
4	782	823	211	182	125	96	2,219
5 to 10	2,387	2,241	674	614	417	305	6,638
11 to 20	1,221	1,085	357	303	183	112	3,261
21 to 50	963	903	275	225	149	49	2,564
51 to 100	355	300	97	72	67	22	913
Over 100	291	260	98	41	21	14	725
Total	8,465	8,197	2,156	1,844	1,469	785	22,916

FACTORIES.—CLASSIFICATION ACCORDING TO NUMBER OF EMPLOYEES,
1928-29—continued.

No. of Persons Employed in each Factory.	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tasmania.	Australia.
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AVERAGE NUMBER OF HANDS EMPLOYED.

Under 4 ..	4,997	4,907	959	910	1,018	430	13,221
4 ..	3,128	3,292	877	728	500	384	8,909
5 to 10 ..	16,556	15,391	4,687	4,224	2,875	2,091	45,824
11 to 20 ..	17,729	15,840	5,195	4,393	2,714	1,632	47,503
21 to 50 ..	30,631	28,472	8,332	7,051	4,847	1,558	80,891
51 to 100 ..	24,331	20,963	6,792	5,120	4,538	1,492	63,236
Over 100 ..	87,770	67,703	21,432	15,391	5,327	3,984	201,607
Total ..	185,142	156,568	48,274	37,817	21,819	11,571	461,191

2. Australia, 1924-25 to 1928-29.—A satisfactory feature disclosed by the classification in the following table is the continued growth of the larger factories, the average number employed in establishments with more than 100 hands increasing from 269 to 278 during the past four years:—

FACTORIES.—CLASSIFICATION ACCORDING TO NUMBER OF EMPLOYEES,
AUSTRALIA, 1924-25 TO 1928-29.

Year (a)	Establishments Employing on the Average—							
	20 hands and under.		21 to 100 hands.		101 hands and upwards.		Total.	
	Es- tab- lish- ments.	Hands.	Es- tab- lish- ments.	Hands.	Es- tab- lish- ments.	Hands.	Es- tab- lish- ments.	Hands.
1924-25—								
Number	16,672	110,884	3,428	141,773	695	187,292	20,795	439,949
Average per establishment ..	6.65	41.36	..	41.36	..	269.48	..	21.16
Percentage on total ..	80.17	25.20	16.49	32.23	3.34	42.57	100.00	100.00
1925-26—								
Number	17,053	111,653	3,465	143,724	724	195,543	21,242	450,920
Average per establishment ..	6.55	41.48	..	41.48	..	270.09	..	21.23
Percentage on total ..	80.28	24.76	16.31	31.87	3.41	43.37	100.00	100.00
1926-27—								
Number	17,259	111,545	3,587	151,339	783	204,863	21,579	467,247
Average per establishment ..	6.46	42.19	..	42.19	..	278.80	..	21.65
Percentage on total ..	79.98	23.87	16.62	32.39	3.40	43.74	100.00	100.00
1927-28—								
Number	18,502	116,930	3,566	148,901	707	198,365	22,775	464,196
Average per establishment ..	6.32	41.76	..	41.76	..	280.57	..	20.38
Percentage on total ..	81.24	25.19	15.66	32.08	3.10	42.73	100.00	100.00
1928-29—								
Number	18,714	115,457	3,477	144,127	725	201,607	22,916	461,191
Average per establishment ..	6.17	41.45	..	41.45	..	278.08	..	20.13
Percentage on total ..	81.66	25.03	15.17	31.25	3.17	43.71	100.00	100.00

(a) See general note on first page of this Chapter.

§ 3. Power used in Factories.

1. States, 1928-29.—The following table shows the number of factories using steam, gas, oil, electricity, or water, and the horse-power of engines or motors during 1928-29 :—

FACTORIES.—HORSE-POWER OF ENGINES USED, 1928-29.

State.	Number of Establishments.			Actual Horse-power of Engines Used.					
	Using Machinery worked by Steam, Gas, Oil, Electricity, or Water.	Others.	Total.	Steam.	Gas.	Oil.	Electricity.	Water.	Total.
	No.	No.	No.	H. P.	H. P.	H. P.	H. P.	H. P.	H. P.
N.S.W. ..	7,660	805	8,465	376,737	14,531	15,058	236,255	5,869	648,450
Victoria ..	7,295	902	8,197	248,066	10,886	13,330	147,835	20,265	440,382
Queensland ..	1,770	386	2,156	147,788	12,836	9,761	32,391	8	202,784
S. Australia ..	1,622	222	1,844	97,410	6,865	7,504	44,114	..	155,893
W. Australia ..	1,245	224	1,469	55,465	4,637	3,623	22,736	..	86,461
Tasmania ..	712	73	785	7,017	26	921	54,339	77,041	139,344
Australia ..	20,304	2,612	22,916	932,483	49,781	50,197	537,670	109,183	1,679,314

The utilization of mechanical power in factories is greatest in New South Wales where the largest number of industries requiring a considerable amount of power is located. Victoria, on the other hand, has the largest number of establishments, such as those connected with clothing and textile fabrics, wherein much less power is utilized.

The number of establishments in Australia during 1928-29 using steam, gas, oil, electricity, or water was 20,304, or 88.60 per cent. of the total; while 2,612 establishments, representing 11.40 per cent., used no mechanical power. The total actual horse-power in use was 1,679,314, distributed in the following proportions :—Steam, 55.53 per cent.; gas, 2.96 per cent.; oil, 2.99 per cent.; electricity, 32.2 per cent.; and water, 6.50 per cent.

2. Australia, 1924-25 to 1928-29.—The following table shows the horse-power of engines used in connexion with factories in Australia during each of the last five years :—

FACTORIES.—HORSE-POWER OF ENGINES USED, AUSTRALIA, 1924-25 TO 1928-29.

Year.(a)	Number of Establishments.			Actual Horse-power of Engines Used.					
	Using Machinery worked by Steam, Gas, Oil, Electricity, or Water.	Others.	Total.	Steam.	Gas.	Oil.	Electricity.	Water.	Total.
	No.	No.	No.	H. P.	H. P.	H. P.	H. P.	H. P.	H. P.
1924-25 ..	17,717	3,078	20,795	715,475	59,980	17,232	394,381	73,008	1,260,076
1925-26 ..	18,358	2,884	21,242	753,010	60,645	24,116	425,417	72,014	1,335,202
1926-27 ..	18,916	2,663	21,579	853,265	55,722	32,459	461,789	71,881	1,475,116
1927-28 ..	19,926	2,849	22,775	879,082	52,351	43,133	507,163	74,580	1,556,809
1928-29 ..	20,304	2,612	22,916	932,483	49,781	50,197	537,670	109,183	1,679,314

(a) See general note on first page of this Chapter.

The growth of electrical power has been one of the chief factors in the rapid increase of mechanical power which has taken place in factories during recent years. From 72,250 horse-power in 1913, or roughly one-sixth of the total horse-power of engines used, it has increased to 537,670 horse-power, or one-third of the total installations in 1928-29. Steam power continues to expand with the development of the larger industries, but the major portion of the quantity recorded is used for the generation of electric light and power. During the past four years an average of 104,810 horse-power has been added each year to the plant actually in use.

3. Classes of Industry, States, 1928-29.—The following table gives a classification of the actual horse-power of engines used in factories of different descriptions in each state during 1928-29:—

FACTORIES.—HORSE-POWER OF ENGINES USED IN EACH CLASS, 1928-29.

Class of Industry.	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tas.	Australia.
	H.P.	H.P.	H.P.	H.P.	H.P.	H.P.	H.P.
I. Treating raw material, product of agricultural and pastoral pursuits, etc. . .	7,672	8,772	1,576	1,979	769	794	21,562
II. Treating oils and fats, animal, vegetable, etc. . .	2,219	1,540	820	515	383	553	6,030
III. Processes in stone, clay, glass, etc. . .	34,529	21,482	4,096	6,478	3,432	3,918	73,935
IV. Working in wood . . .	27,815	17,946	10,499	4,358	9,276	4,571	74,465
V. Metal works, machinery, etc. . .	103,090	30,035	10,701	10,521	5,674	39,417	199,438
VI. Connected with food and drink, etc. . .	56,852	48,205	60,884	14,177	8,878	5,299	194,295
VII. Clothing and textile fabrics, etc. . .	15,963	26,940	2,487	1,998	1,034	1,950	50,372
VIII. Books, paper, printing, and engraving . . .	13,267	12,712	2,634	2,123	1,511	361	32,608
IX. Musical instruments, etc. . .	2,058	707	3	129	3	..	2,900
X. Arms and explosives . . .	673	867	..	4	..	..	1,544
XI. Motor and other road vehicles and accessories . . .	6,062	6,563	991	4,558	788	353	19,315
XII. Ship and boat building and repairing . . .	10,830	1,478	71	105	44	81	12,609
XIII. Furniture, bedding, and upholstery . . .	7,413	5,177	1,756	2,300	1,205	507	18,358
XIV. Drugs, chemicals, and by-products . . .	6,080	5,876	188	5,296	2,126	306	19,872
XV. Surgical and other scientific instruments . . .	113	93	19	20	10	..	255
XVI. Jewellery, timepieces, and plated ware . . .	544	842	68	86	18	16	1,574
XVII. Heat, light, and power . . .	342,710	243,738	105,442	101,075	51,173	81,185	925,323
XVIII. Rubber goods and leatherware, n.e.i. . .	10,309	13,086	408	169	95	14	24,081
XIX. Other Industries, n.e.i. . .	251	323	141	2	42	19	778
Total . . .	648,450	446,382	202,784	155,893	86,461	139,344	1,679,314

4. Classes of Industry, Australia, 1924-25 to 1928-29.—The following table shows a similar classification of the actual horse-power of engines used in manufacturing industries in Australia during the years 1924-25 to 1928-29 inclusive:—

FACTORIES.—HORSE-POWER OF ENGINES USED, AUSTRALIA, 1924-25 TO 1928-29.

Class of Industry.	1924-25. (a)	1925-26. (a)	1926-27.	1927-28.	1928-29.
I. Treating raw material, product of agricultural and pastoral pursuits, etc. . .	23,225	23,319	22,168	21,213	21,562
II. Treating oils and fats, animal, vegetable, etc. . .	4,684	4,973	5,507	5,546	6,030
III. Processes in stone, clay, glass, etc. . .	55,132	59,897	66,528	69,403	73,935
IV. Working in wood . . .	72,935	77,233	75,079	75,406	74,465
V. Metal works, machinery, etc. . .	167,801	187,129	195,308	201,496	199,438
VI. Connected with food and drink, etc. . .	160,194	172,519	174,355	186,092	194,295
VII. Clothing and textile fabrics, etc. . .	36,638	40,469	45,758	47,924	50,372
VIII. Books, paper, printing, and engraving . . .	27,700	29,613	29,954	33,346	32,608
IX. Musical instruments, etc. . .	1,192	1,550	2,046	2,429	2,900
X. Arms and explosives . . .	1,339	1,219	1,218	1,150	1,544
XI. Motor and other road vehicles and accessories . . .	13,084	14,887	16,388	17,402	19,315
XII. Ship and boat building and repairing . . .	11,775	11,998	12,513	13,477	12,609
XIII. Furniture, bedding, and upholstery . . .	12,084	14,728	16,542	17,443	18,358
XIV. Drugs, chemicals, and by-products . . .	14,166	15,190	16,712	18,650	19,872
XV. Surgical and other scientific instruments . . .	290	278	250	261	255
XVI. Jewellery, timepieces, and plated ware . . .	1,251	1,339	1,264	1,437	1,574
XVII. Heat, light, and power . . .	646,605	666,676	779,886	825,855	925,323
XVIII. Leatherware, n.e.i. . .	805	561	(b)13,143	(b)17,142	(b)24,081
XIX. Other Industries, n.e.i. . .	9,176	11,624	493	635	778
Total . . .	1,260,076	1,335,202	1,475,116	1,556,309	1,679,314

(a) See general note on first page of this Chapter.

(b) Includes Rubber Goods formerly in Class XIX., Other Industries, n.e.i.

The actual horse-power of engines used increased in all branches of industry except Class IV. Working in Wood, Class V. Metal Works, Machinery, etc., Class VIII. Books, Paper, etc., Class XII. Ship and Boat Building and Repairing, and Class XV. Surgical and other Scientific Instruments. The industries using the greatest amount of power were Class XVII. Heat, light, and power; Class V. Metal works, machinery, etc.; and Class VI. Connected with food and drink. These three classes, which together accounted for 78.55 per cent. of the total power used in 1928-29, increased their horse-power from 974,600 to 1,319,056 during the four years under review, and are mainly responsible for the development of mechanical power in factories since 1924-25.

§ 4. Employment in Factories.

1. Total Number Employed.—Each person employed in and about a factory, in whatever capacity, is now included as a factory employee, consequently every proprietor who works in his own business is counted as an employee, and all "outworkers" (see subsection 5 (ii) hereinafter) are also included. The individuals embraced may be classed under the following heads:—(i) Working proprietors; (ii) managers and overseers; (iii) accountants and clerks; (iv) engine-drivers and firemen; (v) skilled and unskilled workers in the factories, mills, or workshops; (vi) carters and messengers; and (vii) others.

The number of persons employed during the year 1928-29 has been computed in accordance with a resolution of the Conference of Statisticians held in 1928. The new method shows the average number of persons employed over the whole year rather than the average over the period worked. Employment figures for previous years have also been recomputed on this basis for purposes of comparison. The tables relating to Classification of Factories according to the Number of Employees (*see* §2 *ante*) are, however, on the old basis. In all other tables relating to employment, average salaries and wages paid, output per employee, etc., the factor used is the average obtained in accordance with the abovementioned resolution.

The following table shows, for each year from 1924-25 to 1928-29 inclusive, (a) the average numbers of persons (including both sexes and all ages) employed in manufacturing industries in each State: (b) the percentage of the numbers employed in each State on the total numbers employed in Australia; and (c) the numbers employed per ten thousand of the population in each State and Australia:—

FACTORIES.—EMPLOYMENT, 1924-25 TO 1928-29.

Year.(a)	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tas.	Australia.
AVERAGE NUMBER.							
1924-25	161,616	151,588	46,476	37,714	20,670	9,990	428,054
1925-26	169,748	149,135	47,551	39,050	20,666	10,147	436,297
1926-27	179,364	157,598	44,122	41,075	19,403	10,622	452,184
1927-28	178,094	156,348	44,711	39,044	20,420	11,111	449,728
1928-29	180,806	156,568	45,031	36,807	20,804	10,466	450,482
PERCENTAGE ON AUSTRALIAN TOTAL.							
1924-25	37.76	35.41	10.86	8.81	4.83	2.33	100.00
1925-26	38.91	34.18	10.90	8.95	4.74	2.32	100.00
1926-27	39.67	34.85	9.76	9.08	4.29	2.35	100.00
1927-28	39.60	34.76	9.95	8.68	4.54	2.47	100.00
1928-29	40.14	34.76	9.99	8.17	4.62	2.32	100.00
PER 10,000 OF POPULATION.							
1924-25	703	902	540	686	559	454	715
1925-26	722	872	540	685	544	483	714
1926-27	744	906	490	708	496	483	726
1927-28	727	888	486	673	498	485	711
1928-29	729	880	484	635	495	476	703

(a) See general note on first page of this Chapter.

2. Rates of Increase, 1924-25 to 1928-29.—The following table shows the percentage of increase or decrease on the average number of persons employed for the preceding year in each of the years from 1924-25 to 1928-29.

FACTORY EMPLOYEES.—PERCENTAGE OF INCREASE, 1924-25 TO 1928-29.

Year. (a)	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tas.	Australia.
	%	%	%	%	%	%	%
1923-24—1924-25..	4.71	-4.40	9.80	4.67	11.35	-6.57	9.25
1924-25—1925-26..	5.03	-1.62	2.31	3.54	-0.02	1.58	1.93
1925-26—1926-27..	5.66	5.67	-7.21	5.19	-6.11	4.68	3.64
1926-27—1927-28..	-7.08	-7.93	1.33	-4.94	5.24	4.60	-5.43
1927-28—1928-29..	1.52	0.14	0.72	-5.73	1.88	-5.81	0.17

NOTE.—The minus sign indicates decrease.

(a) See general note on first page of this Chapter.

3. Employees in Classes of Industry, Australia, 1924-25 to 1928-29.—The following table gives the average numbers of persons employed in factories under each group in Australia during the years 1924-25 to 1928-29 inclusive :—

FACTORY EMPLOYEES.—CLASSES, AUSTRALIA, 1924-25 TO 1928-29.

Class of Industry.	1924-25. (a)	1925-26. (a)	1926-27.	1927-28.	1928-29.
I. Treating raw material, product of agricultural and pastoral pursuits, etc.	10,011	10,076	9,990	8,879	7,805
II. Treating oils and fats, animal, vegetable, etc.	3,252	3,241	3,138	2,939	2,969
III. Processes in stone, clay, glass, etc.	19,792	20,051	20,894	20,720	19,692
IV. Working in wood	35,272	34,651	31,985	29,170	25,762
V. Metal works, machinery, etc.	88,431	93,643	98,432	95,830	98,145
VI. Connected with food and drink, etc.	62,962	63,941	62,818	68,975	67,029
VII. Clothing and textile fabrics, etc.	98,104	100,145	107,944	106,358	109,108
VIII. Books, paper, printing, and engraving	32,150	32,049	32,771	32,948	33,837
IX. Musical instruments, etc.	1,402	1,594	1,831	1,713	1,895
X. Arms and explosives	797	842	906	864	914
XI. Motor and other road vehicles and accessories	23,579	24,762	27,373	25,496	27,094
XII. Ship and boat building and repairing	6,062	5,909	6,095	6,543	6,144
XIII. Furniture, bedding, and upholstery	15,273	15,426	16,289	16,223	16,006
XIV. Drugs, chemicals, and by-products	7,308	7,496	7,932	7,940	8,251
XV. Surgical and other scientific instruments	671	674	703	749	771
XVI. Jewellery, timepieces, and plated ware	2,301	2,267	2,138	2,180	2,191
XVII. Heat, light, and power	13,364	11,160	11,571	11,722	12,216
XVIII. Leatherware, n.e.l.	2,438	2,690	(b)8,523	(b)9,544	(b)9,587
XIX. Other Industries, n.e.l.	4,885	5,680	851	935	1,066
Total	428,054	436,297	452,184	449,728	450,482

(a) See general note on first page of the Chapter.

(b) Includes Rubber Goods formerly in Class XIX., Other Industries, n.e.l.

Compared with the previous year, the number of employees in 1928-29 increased by 754, an improvement on the previous year when a decline of 2,456 was recorded. Except during the war years, the year 1927-28 is the first in which a decline has been recorded. On the average during each of the last four years, however, employment has been found for 5,607 additional persons in the manufacturing industries. The classes responsible for the bulk of the increase were Class V. Metal Works, Class VII. Clothing and Textile Fabrics, Class XI. Vehicles, etc., and Class XIII. Furniture, Bedding and Upholstery, in several of the principal industries of which classes considerable development has occurred during the period.

4. Employees in Classes of Industry, States, 1928-29.—The following table gives a classification of employees in manufacturing industries in each State during 1928-29 :—

FACTORY EMPLOYEES.—CLASSES, STATES, 1928-29.

Class of Industry.	N.S.W.	Vic.	Q'land.	S.A.	W.A.	Tas.	Australia.
I. Treating raw material, product of agricultural and pastoral pursuits, etc.	2,710	3,198	648	709	252	288	7,805
II. Treating oils and fats, animal, vegetable, etc.	1,417	880	228	280	120	44	2,969
III. Processes in stone, clay, glass, etc.	9,980	5,576	864	1,540	1,300	432	19,692
IV. Working in wood	8,611	6,601	4,909	1,491	2,811	1,339	25,762
V. Metal works, machinery, etc.	47,358	27,340	7,712	9,282	4,527	1,926	98,145
VI. Connected with food and drink, etc.	22,131	20,934	14,348	4,975	2,672	1,969	67,029
VII. Clothing and textile fabrics, etc.	37,606	53,949	6,859	5,061	3,408	2,195	109,108
VIII. Books, paper, printing and engraving	13,932	11,490	3,659	2,387	1,687	682	33,837
IX. Musical instruments, etc.	1,257	537	15	65	21	..	1,895
X. Arms and explosives	394	517	..	3	..	..	914
XI. Motor and other road vehicles and accessories	9,287	8,163	1,613	5,819	1,528	684	27,094
XII. Ship and boat building and repairing	5,450	396	98	115	49	36	6,144
XIII. Furniture, bedding, and upholstery	6,698	4,792	1,647	1,333	1,111	425	16,006
XIV. Drugs, chemicals, and by-products	3,536	2,791	60	1,143	645	76	8,251
XV. Surgical and other scientific instruments	287	284	92	67	41	..	771
XVI. Jewellery, timepieces, and plated ware	777	1,065	127	130	66	26	2,101
XVII. Heat, light, and power	4,879	3,034	1,514	2,104	402	283	12,216
XVIII. Rubber goods and leatherware, n.e.i.	3,895	4,688	538	295	114	57	9,587
XIX. Other industries, n.e.i.	601	333	70	8	50	4	1,066
Total	180,806	156,568	45,031	36,807	20,804	10,466	450,482

The largest number employed in any particular class in Australia during 1928-29 was in Class VII., in which there were 109,108 employees, or 24.22 per cent. of the total in all classes. The class affording employment to the smallest number of hands was Class XV., in which there were 771 hands, or 0.17 per cent. of the total. Classes VI., VII., and VIII. include those industries in which female labour is largely employed (See § 5, 5 hereof.)

5. Employees According to Nature of Employment.—(i) *General*. In the following table the average numbers of persons employed in each State during 1928-29 are classified according to the nature of their employment :—

FACTORY EMPLOYEES.—NATURE OF EMPLOYMENT, 1928-29.

State.	Average Number of Persons Employed.						Total.
	Working Proprietors.	Managers and Overseers.	Accountants and Clerks.	Engine-drivers and Firemen.	Workers, Skilled & Unskilled, in Factory Mill or Workshop. (a)	Carters, Messengers and Others.	
New South Wales	6,686	6,706	10,099	2,869	152,848	1,598	180,806
Victoria	7,302	5,826	6,847	1,850	132,544	2,199	156,568
Queensland	1,595	1,753	2,583	1,896	33,821	3,383	45,031
South Australia	1,431	1,409	2,591	428	30,178	770	36,807
Western Australia	1,005	830	1,167	408	16,757	637	20,804
Tasmania	482	517	799	204	8,200	264	10,466
Australia	18,501	17,041	24,086	7,655	374,348	8,851	450,482

(a) Including Outworkers.

(ii) *Outworkers.* The term "outworker" or "homeworker" has acquired a special meaning in connexion with manufacturing industries, and technically embraces only those to whom work is given out by factory owners to be wrought upon in the employees' own homes. Individuals working for themselves are not included. The following table gives particulars of the average number of outworkers connected with factories in each State during each year from 1924-25 to 1928-29 inclusive :—

FACTORIES.—OUTWORKERS^(a), 1924-25 TO 1928-29.

Year. ^(b)	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tasmania.	Australia.
1924-1925.. ..	461	728	32	62	4	19	1,306
1925-1926.. ..	403	736	23	83	2	24	1,271
1926-1927.. ..	336	592	31	66	7	53	1,085
1927-1928.. ..	333	380	40	51	5	67	876
1928-1929.. ..	288	240	44	41	2	22	637

(a) In all tables relating to number of hands employed in factories, outworkers are included.

(b) See general note on first page of this Chapter.

The Factories Acts in each State contain provisions regulating the employment of outworkers. Records of outwork, specifying the names and remuneration of workers, and stating the places where the work is done, must be kept by factory proprietors. Fuller information regarding the operation of the Factories Acts will be found in Official Year Book No. 16, pp. 540 to 566.

§ 5. Sex Distribution in Factories.

1. *Employment of Females.*—In all the States the employment of female labour in factories is regulated by Acts of Parliament. More extended reference to this matter will be found in Official Year Book No. 16, pp. 540 to 566.

2. *Distribution of Employees according to Sex.*—(i) *General.* In New South Wales the ratio of the number of females employed in factories to the number of males during 1886 was about one to seven; in 1891 one to six; in 1903 it became about one to four; and is now less than one to three. In Victoria the ratio of females to males during the year 1886 was about one to five. Five years later (1891) it was somewhat less, but in 1896 had increased to about one woman to three men, and at present is nearly one to two. In the remaining States the ratio was roughly one female employed to every five males, while that for Australia as a whole was one to three. The employment of women is, however, mainly confined to a few trades.

Increasing activity in the clothing and textile industries is the principal cause of the growth in female employment. Certain occupations are regarded as specially suitable for women, such as clothing and textile manufacture, preparation of food, book-binding, and wrapping and packing connected with various industries. A considerable number of women clerks and typists are also included in the returns.

(ii) *Average Number of Males and Females Employed, 1924-25 to 1928-29.* The following table shows the average number of male and female employees in factories in each State from 1924-25 to 1928-29 :—

FACTORIES.—MALES AND FEMALES EMPLOYED, 1924-25 TO 1928-29.

State.	1924-25.(a)	1925-26.(a)	1926-27.	1927-28.	1928-29.
MALES.					
New South Wales ..	123,334	128,933	135,418	134,488	135,813
Victoria ..	104,217	101,899	106,245	105,366	104,648
Queensland ..	38,850	40,045	37,119	37,381	37,107
South Australia ..	30,717	32,289	34,076	32,214	30,385
Western Australia ..	17,400	17,392	15,959	16,710	16,993
Tasmania ..	8,190	8,225	8,616	8,730	8,164
Australia ..	322,708	328,783	337,433	334,889	333,110
FEMALES.					
New South Wales ..	38,282	40,815	43,946	43,606	44,993
Victoria ..	47,371	47,236	51,353	50,982	51,920
Queensland ..	7,626	7,506	7,003	7,330	7,924
South Australia ..	6,997	6,761	6,999	6,830	6,422
Western Australia ..	3,270	3,274	3,444	3,710	3,811
Tasmania ..	1,800	1,922	2,006	2,381	2,302
Australia ..	105,346	107,514	114,751	114,839	117,372

(a) See general note on first page of this Chapter.

During the years specified in the above table there has been an increase in the number of male factory employees in Australia of 10,402, or an annual average of 2,080, whilst the number of female employees increased by 12,026, or an annual average of 2,405.

(iii) *Average Number of Males and Females Employed per 10,000 of Population, 1924-25 to 1928-29.* The following table shows the average number of male and female employees per 10,000 of the male and female population respectively in each State from 1924-25 to 1928-29 :—

MALE AND FEMALE FACTORY EMPLOYEES PER 10,000 OF MALE AND FEMALE POPULATION RESPECTIVELY, 1924-25 TO 1928-29.

State.	1924-25.(a)	1925-26.(a)	1926-27.	1927-28.	1928-29.
MALES.					
New South Wales ..	1,072	1,102	1,128	1,102	1,087
Victoria ..	1,271	1,213	1,250	1,211	1,189
Queensland ..	883	890	790	779	757
South Australia ..	1,138	1,153	1,175	1,074	1,013
Western Australia ..	870	870	798	796	772
Tasmania ..	754	748	783	794	742
Australia ..	1,077	1,074	1,082	1,050	1,028

(a) See general note on first page of this Chapter.

MALE AND FEMALE FACTORY EMPLOYEES PER 10,000 OF MALE
AND FEMALE POPULATION RESPECTIVELY—*continued.*

State.	1924-25.(a)	1925-26.(a)	1926-27.	1927-28.	1928-29.
FEMALES.					
New South Wales ..	348	361	382	370	375
Victoria ..	571	556	597	586	583
Queensland ..	196	183	167	176	184
South Australia ..	269	250	259	244	229
Western Australia ..	192	192	191	206	201
Tasmania ..	164	175	182	217	209
Australia ..	366	367	384	377	379

(a) See general note on first page of this Chapter.

3. Rate of Variation for each Sex.—The percentages of annual increase or decrease during the years 1924-25 to 1928-29 in the average number of males and females employed in factories are shown below:—

PERCENTAGES OF ANNUAL INCREASE, MALE AND FEMALE FACTORY
EMPLOYEES, 1924-25 TO 1928-29.

State.	1923-24— 1924-25.(a)	1924-25— 1925-26.(a)	1925-26— 1926-27.(a)	1926-27— 1927-28.	1927-28— 1928-29.
MALES.					
New South Wales ..	4.71	3.73	5.03	-0.69	0.99
Victoria ..	-0.64	-2.22	4.27	-0.83	-0.68
Queensland ..	12.15	3.08	-7.36	0.71	-0.79
South Australia ..	5.01	5.12	5.53	-5.46	-5.68
Western Australia ..	12.40	-0.05	-8.25	4.71	1.69
Tasmania ..	-6.83	0.43	4.75	1.32	-6.48
Total ..	3.82	1.88	2.63	-0.75	-0.53
FEMALES.					
New South Wales ..	4.69	6.62	7.67	-0.77	3.18
Victoria ..	0.00	-0.28	8.72	-0.72	1.84
Queensland ..	-0.75	-1.57	-6.70	4.67	8.10
South Australia ..	3.19	-3.37	3.52	-2.41	-5.97
Western Australia ..	6.10	0.12	5.19	7.72	2.72
Tasmania ..	-5.36	6.78	4.37	18.69	-3.32
Total ..	1.90	1.11	6.73	0.77	2.20

NOTE.—The minus sign indicates decrease.

(a) See general note on first page of this Chapter.

The largest proportion of females is engaged in one or other of the three classes of industry indicated, Class VII. being the most important. The classification of the employment of females in the several industries in that class, and the relation of their number to that of the males so employed, are shown in the following table :—

FEMALES EMPLOYED IN EACH INDUSTRY IN CLASS VII. DURING 1928-29.

Industry.	New South Wales.			Victoria.			Other States.		
	Males.	Females.	Femini- nity. (a)	Males.	Females.	Femini- nity. (a)	Males.	Females.	Femini- nity. (a)
Woolen and tweed mills	1,060	1,933	29.17	2,949	3,612	10.11	713	1,138	22.96
Knitting factories	1,060	3,432	52.80	1,336	5,397	60.32	41	317	77.09
Cotton mills	176	270	21.08	144	338	40.25	16	..	..
Boots and shoes	2,850	2,340	- 9.64	6,135	5,372	- 6.63	1,224	867	-17.07
Boot repairing includ- ing bespoken work ..	1,108	22	-96.11	557	10	-96.47	418	21	-90.43
Clothing (tailoring and slop)	2,391	8,908	57.68	1,947	6,651	54.71	1,597	5,139	52.58
Clothing (waterproof and oilskin)	30	155	67.57	65	216	53.74	..	..	..
Dressmaking and mil- linery	133	3,154	91.91	532	8,327	87.99	44	2,379	96.37
Dyeworks and cleaning	302	238	-11.85	186	171	- 4.20	167	201	9.24
Furriers	162	227	16.71	213	293	15.81	59	108	29.34
Hats and caps	618	1,250	33.83	547	1,158	35.83	58	113	32.16
Shirts, ties, and scarves	402	4,413	83.30	607	6,059	81.79	151	2,173	87.01
Rope and cordage	220	98	-38.33	439	316	-16.29	102	4	-92.45
Tents and tarpaulins	151	134	- 5.97	129	101	-12.17	127	105	- 9.48
Bags and sacks	182	178	- 1.11	72	70	- 1.41	131	140	3.32
Total, Class VII. ..	10,845	26,761	42.95	15,858	38,091	41.21	4,848	12,705	44.76

NOTE.—The minus sign denotes excess of males over females.

(a) Excess of females over males per 100 of both sexes combined.

§ 6. Child Labour in Factories.

1. **Conditions of Child Labour.**—The employment of young persons in factories in each State of Australia is regulated by Acts of Parliament, as is the case with the employment of female labour. Reference to the legislation regarding the employment of child labour in factories will be found in Official Year Book No. 16, pp. 540 to 566. The general object of the restrictions imposed is to assure that a proper period shall be devoted to primary education, and that the early years of toil shall not exhaust the worker before the attainment of full growth.

2. **Average Number of Children Employed, 1924-25 to 1928-29.**—In the statistical compilations of the various States the term "child" may be taken to denote any person

under sixteen years of age. The following table shows the average number of children of each sex employed in manufacturing industries in each State during the years 1924-25 to 1928-29 :—

CHILDREN EMPLOYED IN FACTORIES, 1924-25 TO 1928-29.

State.	1924-25.(a)	1925-26.(a)	1926-27.	1927-28.	1928-29.
MALES.					
New South Wales ..	3,968	4,527	4,594	4,016	3,983
Victoria ..	4,027	3,980	4,567	4,231	4,209
Queensland ..	1,507	1,566	1,281	1,272	1,254
South Australia ..	1,080	1,095	1,215	1,073	883
Western Australia ..	552	682	614	677	647
Tasmania ..	238	214	311	343	290
Australia ..	11,372	12,064	12,582	11,612	11,266
FEMALES.					
New South Wales ..	4,256	4,688	5,001	4,747	5,085
Victoria ..	3,223	3,489	4,041	3,992	4,298
Queensland ..	979	1,003	927	850	921
South Australia ..	839	783	856	763	679
Western Australia ..	254	248	242	297	276
Tasmania ..	190	191	254	304	265
Australia ..	9,741	10,402	11,321	10,953	11,524
TOTAL.					
New South Wales ..	8,224	9,215	9,595	8,763	9,068
Victoria ..	7,250	7,469	8,608	8,223	8,507
Queensland ..	2,486	2,569	2,208	2,122	2,175
South Australia ..	1,919	1,878	2,071	1,836	1,562
Western Australia ..	806	930	856	974	923
Tasmania ..	428	405	565	647	555
Australia ..	21,113	22,466	23,903	22,565	22,790

(a) See general note on first page of this Chapter.

3. Percentage of Children on Total Number of Employees.—In the foregoing table a general increase in the number of children employed in factories is recorded, although the total shown for the last two years is below that for 1926-27. This increase is greater among the females and amounted to 1,783, while a decrease of 106 is shown in respect of males. Examined in conjunction with the total number of persons employed, the percentage of children has varied little since 1924-25.

PERCENTAGE OF CHILDREN ON TOTAL NUMBER OF FACTORY EMPLOYEES,
1924-25 TO 1928-29.

State.	1924-25.(a)	1925-26.(a)	1926-27.	1927-28.	1928-29.
	%	%	%	%	%
New South Wales ..	5.09	5.43	5.35	4.92	5.02
Victoria ..	4.78	5.01	5.46	5.26	5.43
Queensland ..	5.35	5.40	5.00	4.75	4.81
South Australia ..	5.09	4.81	5.04	4.70	4.24
Western Australia ..	3.90	4.50	4.41	4.77	4.44
Tasmania ..	4.28	3.99	5.32	5.82	5.30
Australia ..	4.93	5.15	5.29	5.02	5.06

(a) See general note on first page of this Chapter.

4. Industries Employing Child Labour.—The employment of children is largely confined to a limited number of industries, the most important of which are specified in the next table, which shows the average number of children of each sex employed during 1928-29 in the several industries indicated.

CHILDREN EMPLOYED.—VARIOUS INDUSTRIES, 1928-29.

Class.	Industry.	N.S.W.		Victoria.		Q'land.		S. Aust.		W. Aust.		Tas.		Australia.	
		M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
II.	Soap and candles ..	40	28	23	20	7	1	10	10	4	..	1	1	85	60
III.	Bricks, tiles, pottery, and earthenware ..	159	4	47	8	20	..	15	..	21	..	4	..	266	12
IV.	Joinery, boxes, cases, etc. ..	82	2	72	1	41	2	19	..	20	..	5	..	239	5
	Saw mills ..	22	3	7	..	73	1	8	..	37	..	11	..	158	4
V.	Agricultural imple- ments ..	23	..	65	4	3	..	51	2	3	..	..	..	145	6
	Engineering, ironworks, and foundries ..	300	5	356	18	66	..	68	6	40	2	2	..	832	31
	Galvanized ironwork- ing and tinsmithing ..	166	72	196	44	28	1	42	1	14	..	1	..	447	118
	Railway carriage, rail- way and tramway workshops ..	49	..	83	..	6	..	42	..	10	..	2	..	192	..
	Wire working ..	85	2	31	2	6	2	8	..	12	..	..	..	142	6
	Electric apparatus ..	114	12	106	20	1	..	9	..	5	..	..	..	235	32
VI.	Meat and fish preserving ..	..	..	11	..	64	2	..	..	..	..	..	..	75	2
	Biscuits ..	155	200	139	98	..	..	11	21	48	43	..	..	353	362
	Confectionery ..	92	289	59	71	25	66	10	43	1	8	53	67	240	544
	Jams, pickles, sauces, etc. ..	18	9	23	14	14	14	7	22	1	..	9	..	72	59
	Condiments, coffee, spices, etc. ..	29	81	25	26	..	..	41	13	11	1	..	1	106	122
	Tobacco, cigars, etc. ..	49	155	41	17	..	..	..	..	1	15	..	..	91	187
VII.	Woolen and tweed mills ..	155	229	321	451	4	32	18	15	7	5	34	88	534	820
	Knitting factories ..	70	506	110	624	..	6	..	14	2	13	1	30	183	1,193
	Boots and shoes ..	196	306	380	480	37	63	26	32	24	12	10	3	673	896
	Clothing (tailoring and slop) ..	70	829	76	366	38	242	24	116	9	41	6	21	223	1,615
	Dressmaking and mil- linery ..	7	397	23	786	1	84	..	137	1	54	..	14	32	1,472
	Shirts, ties, scarves, etc. ..	20	656	26	489	8	193	2	80	1	37	..	12	57	1,467
	Hats and caps ..	43	157	21	55	2	10	1	..	..	..	..	..	67	222
	Rope and cordage ..	16	8	63	21	10	..	3	..	..	..	..	..	92	29
VIII.	Printing and binding ..	371	216	394	153	211	49	58	35	69	18	12	9	1,115	480
	Paper making, paper boxes, etc. ..	98	269	19	69	7	15	15	33	2	6	..	..	141	392
XI.	Motor Vehicles and Accessories ..	252	10	258	2	47	3	125	13	59	1	21	..	762	29
XIII.	Billiard tables, cabinet making and furniture ..	117	12	146	3	54	7	39	..	48	..	24	1	428	23
	Bedding, flock, and upholstery ..	31	24	24	14	7	2	5	3	2	1	4	..	73	44
XIV.	Chemicals, drugs, and medicines ..	61	90	19	39	..	14	2	26	4	..	..	2	86	171
XVIII.	Leather belting, etc. ..	60	65	34	46	10	17	5	23	2	4	..	..	111	155
	Rubber goods ..	58	32	65	59	15	21	4	..	3	..	6	1	151	113

5. Apprenticeship.—In all the States Acts are in force for the regulation of the age at which children may be employed in gainful occupations. Legislative provision is also made for the regulation of apprenticeship under the various State Factories Acts or Arbitration Acts. These Acts, while laying down general principles, leave to the wages tribunals the actual determination of the conditions under which apprentices may be employed.

§ 7. Salaries and Wages Paid and Value of Production.

[NOTE.]—In all tables relating to Salaries and Wages paid in Factories the amounts given are exclusive of all sums drawn by working proprietors.

1. General.—The importance of the manufacturing industries of Australia is indicated by the fact that the total value of the output for 1928–29 was £420,445,288, of which amount the sum of £238,938,566 represents the value of the raw materials used, and £13,883,406 the value of the fuel and light used. The difference between the sum of the two latter amounts and the value of the output, viz., £167,623,316, represents the amount by which the value of the raw materials was enhanced in the process of manufacture. The total amount of salaries and wages paid in factories during 1928–29 was £90,986,908. This figure shows a decline of £378,411 as compared with the total for the previous year and is the first so recorded since 1915.

2. Salaries and Wages Paid.—(i) *Total Amount, 1928–29.* The total amount of salaries and wages paid during the year 1928–29 in various classes of factories in Australia is shown in the following table:—

SALARIES AND WAGES PAID IN FACTORIES, 1928–29.

Class of Industry.	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tas.	Australia.
	£	£	£	£	£	£	£
I. Treating raw material, product of agricultural and pastoral pursuits, etc.	648,959	750,274	115,904	137,029	55,926	45,993	1,754,085
II. Treating oils and fats, animal, vegetable, etc.	304,386	185,377	52,627	59,906	33,049	9,212	644,557
III. Processes in stone, clay, glass, etc.	2,480,461	1,300,585	185,138	351,411	292,031	85,874	4,695,500
IV. Working in wood	1,962,287	1,424,998	962,937	314,648	649,743	220,773	5,535,386
V. Metalworks, machinery, etc.	11,717,156	6,103,702	1,774,176	2,241,634	1,068,239	478,504	23,378,411
VI. Connected with food and drink, etc.	4,711,656	4,450,595	3,314,175	1,026,892	616,684	368,625	14,488,627
VII. Clothing and textile fabrics, etc.	5,260,059	7,472,009	791,432	625,417	417,730	262,857	14,829,504
VIII. Books, paper, printing, and engraving	3,048,194	2,376,284	771,392	502,544	389,305	161,493	7,249,212
IX. Musical instruments, etc.	306,879	113,032	2,815	12,087	4,876	..	439,689
X. Arms and explosives	103,229	115,211	..	208	..	..	223,648
XI. Motor and other road vehicles and accessories	1,802,520	1,653,240	293,791	1,189,369	314,070	99,752	5,352,742
XII. Ship and boat building and repairing	1,525,011	95,249	20,971	30,129	11,555	5,309	1,688,224
XIII. Furniture, bedding, and upholstery	1,333,106	809,177	309,000	224,149	209,094	62,094	2,946,620
XIV. Drugs, chemicals, and by-products	815,433	608,074	11,180	254,589	154,300	14,442	1,858,018
XV. Surgical and other scientific instruments	62,779	54,481	14,457	12,421	6,984	..	151,122
XVI. Jewellery, timepieces, and plated ware	153,066	187,266	22,848	22,809	12,961	3,810	402,760
XVII. Heat, light & power	1,361,323	768,514	381,840	565,447	112,801	72,880	3,262,865
XVIII. Rubber goods and leatherware, n.e.f.	839,308	949,842	64,847	38,167	16,357	7,739	1,916,260
XIX. Other industries, n.e.f.	103,875	48,857	8,094	957	7,385	570	169,738
Total	38,544,687	29,466,767	9,097,624	7,609,813	4,373,090	1,894,927	90,986,908

The maximum amount of salaries and wages paid in any particular class during 1928-29 was in Class V., the amount being £23,378,411, or 25.69 per cent. on the total amount; the minimum amount was in Class XV., £151,122, or 0.17 per cent. on the total. The State in which the largest amount was paid was New South Wales.

(ii) *Totals and Averages, 1924-25 to 1928-29.* The following statement shows the total amount of salaries and wages paid, and the average amount paid per employee in each State, during each of the years 1924-25 to 1928-29. It should be noted that the average wage paid is not comparable with that shown in similar tables in previous issues of the Official Year Book. This is due to the change in method of computing the average number of hands employed as explained heretofore. The figures are exclusive of working proprietors and of the amounts drawn from the business by them :—

SALARIES AND WAGES PAID IN FACTORIES.—TOTAL AND AVERAGE PER ANNUM PER EMPLOYEE, 1924-25 TO 1928-29.

Year. (a)	Particulars.	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tas.	Australia.
		£	£	£	£	£	£	£
1924-25	Total amount paid ..	31,520,849	27,444,141	9,228,454	7,150,658	4,127,839	1,888,080	81,360,021
	Average per employee ..	203.29	189.99	204.16	196.83	206.35	197.44	198.15
1925-26	Total amount paid ..	33,586,546	27,657,753	9,544,115	7,787,912	6,288,036	1,880,321	86,724,683
	Average per employee ..	206.20	194.69	206.41	207.02	210.98	194.38	207.35
1926-27	Total amount paid ..	37,092,196	29,889,557	9,298,370	8,390,603	3,922,923	1,981,517	90,575,166
	Average per employee ..	215.04	198.67	216.99	211.84	210.83	196.17	208.65
1927-28	Total amount paid ..	37,818,141	30,030,352	9,140,223	8,164,238	4,210,675	2,001,690	91,365,319
	Average per employee ..	220.75	201.83	212.33	217.34	216.60	189.30	212.12
1928-29	Total amount paid ..	38,544,687	29,466,767	9,097,624	7,609,813	4,373,090	1,894,927	90,986,908
	Average per employee ..	221.37	197.41	209.45	215.11	220.87	189.80	210.63

(a) See general note on first page of this Chapter.

(b) Average computed on estimated salaries and wages for twelve months ended 30th June, 1926.

In comparing the figures in the preceding table, regard should be paid to the nature of certain industries which are carried on to a greater extent in some States than in others. In Victoria, for instance, there is a large number of hands employed in Class VII., comprising a heavy percentage of women and children. The highest average wage per employee in 1928-29 was paid in New South Wales, where the more highly skilled industries are largely located.

In consequence of the rapid rise in the cost of living, on which changes in rates of wage are chiefly based, the salaries and wages paid in factories have advanced considerably during recent years. During the past four years the average was increased by £12.48 or 11.8 per cent., while the additional outlay for wage increases amounted in the aggregate to more than £5,379,000.

(iii) *Earnings of Males and Females, 1928-29.* The following table shows the approximate amount paid in salaries and wages to males and females in each class of industry in each State during the year 1928-29 :—

SALARIES AND WAGES.—MALE AND FEMALE FACTORY EMPLOYEES, 1928-29.

Class of Industry.	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tas.	Australia.
MALES.							
	£	£	£	£	£	£	£
I. Treating raw material product of agricultural and pastoral pursuits, etc. ..	637,291	744,639	114,381	136,105	54,588	45,450	1,732,454
II. Treating oils and fats, animal, vegetable, etc. ..	259,968	165,773	49,218	53,738	32,764	8,388	569,849
III. Processes in stone, clay, glass, etc. ..	2,453,816	1,281,992	183,489	348,975	287,582	85,256	4,641,110
IV. Working in wood ..	1,935,821	1,411,967	949,911	308,032	648,011	216,788	5,470,530
V. Metal works, machinery, etc. ..	11,530,202	5,987,192	1,750,248	2,215,643	1,060,684	468,709	23,012,678

SALARIES AND WAGES.—MALE AND FEMALE FACTORY EMPLOYEES,
1928-29—continued.

Class of Industry.	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tas.	Australia.
MALES—continued.							
	£	£	£	£	£	£	£
VI. Connected with food and drink, etc. . .	3,977,208	3,875,876	3,207,894	946,401	567,624	325,460	12,900,463
VII. Clothing and textile fabrics, etc. . .	2,272,398	3,282,809	357,881	254,891	158,734	125,608	6,452,321
VIII. Books, paper, printing, and engraving	2,594,237	1,997,824	678,737	437,494	340,961	145,764	6,195,017
IX. Musical instruments, etc. . .	268,992	108,301	2,662	11,783	4,876	..	396,614
X. Arms and explosives	106,787	90,648	..	208	..	..	197,643
XI. Motor and other road vehicles and accessories . .	1,753,533	1,629,169	280,550	1,146,082	302,694	95,307	5,207,335
XII. Ship and boat building and repairing	1,516,162	94,716	20,971	30,129	11,555	5,309	1,678,842
XIII. Furniture, bedding, and upholstery . .	1,210,028	735,381	293,745	210,411	200,222	59,466	2,709,253
XIV. Drugs, chemicals, and by-products	694,708	514,498	5,124	242,148	150,322	13,588	1,620,388
XV. Surgical and other scientific instruments . .	58,114	50,688	12,388	11,113	6,508	..	138,811
XVI. Jewellery, timepieces, and plated ware	142,654	174,820	21,449	22,306	12,392	3,790	377,411
XVII. Heat, light, & power	1,346,922	711,789	373,267	548,412	112,261	71,811	3,164,462
XVIII. Rubber Goods and Leatherware, n.e.i.	669,844	793,833	41,586	31,155	14,027	7,156	1,557,601
XIX. Other industries, n.e.i.	80,220	32,679	7,544	905	4,939	570	126,927
Total . .	33,508,975	23,684,594	8,351,045	6,955,931	3,970,744	1,678,420	78,149,709

FEMALES.

I. Treating raw material product of agricultural and pastoral pursuits, etc. . .	11,668	5,635	1,523	924	1,338	543	21,631
II. Treating oils and fats, animal, vegetable, etc. . .	44,418	19,604	3,409	6,168	285	824	74,708
III. Processes in stone, clay, glass, etc. . .	26,645	18,593	1,649	2,436	4,449	618	54,390
IV. Working in wood . .	26,466	13,031	13,026	6,616	1,732	3,985	64,856
V. Metal works, machinery, etc. . .	186,954	116,510	23,928	25,991	7,555	4,795	365,733
VI. Connected with food and drink, etc. . .	734,448	574,719	106,281	80,491	49,060	43,165	1,588,164
VII. Clothing and textile fabrics, etc. . .	2,987,661	4,189,200	433,551	370,526	258,996	137,249	8,377,183
VIII. Books, paper, printing, and engraving	453,957	378,460	92,655	65,050	48,344	15,729	1,054,195
IX. Musical instruments, etc. . .	37,887	4,731	153	304	..	..	43,075
X. Arms and explosives	1,442	24,563	..	..	..	..	26,005
XI. Motor and other road vehicles and accessories . .	48,987	24,071	13,241	43,287	11,376	4,445	145,407
XII. Ship and boat building and repairing	8,849	533	..	..	..	..	9,382
XIII. Furniture, bedding, and upholstery . .	123,078	73,796	15,255	13,738	8,872	2,628	237,367
XIV. Drugs, chemicals, and by-products	120,725	93,576	6,056	12,441	3,978	854	237,630
XV. Surgical and other scientific instruments . .	4,665	3,793	2,069	1,308	476	..	12,311
XVI. Jewellery, timepieces, and plated ware	10,412	12,446	1,399	503	569	20	25,349
XVII. Heat, light, & power	14,401	56,725	8,573	17,035	540	1,069	98,343
XVIII. Rubber Goods and Leatherware, n.e.i.	169,464	156,009	23,261	7,012	2,330	583	358,659
XIX. Other industries, n.e.i.	23,585	16,178	550	52	2,446	..	42,811
Total . .	5,035,712	5,782,173	746,579	653,882	402,346	216,507	12,837,199

(iv) *Total and Average Earnings of Males and Females, 1924-25 to 1928-29.*
Similar information for the last five years is given in the table hereunder:—

**SALARIES AND WAGES.—MALE AND FEMALE FACTORY EMPLOYEES,
1924-25 TO 1928-29.**

Particulars.	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tas.	Australia.
MALES.							
1924-25. <i>a</i> Amount paid .. £	27,670,943	22,515,561	8,508,263	8,504,470	3,817,930	1,726,633	70,743,800
Per cent. on total ..	78.78	82.04	92.20	90.96	92.49	91.45	86.96
Average per employee ..	236.19	230.37	226.14	221.39	227.65	222.01	230.86
1925-26. <i>a</i> Amount paid .. £	29,370,062	22,544,903	8,797,552	7,139,556	5,790,951	1,705,209	75,357,263
Per cent. on total ..	87.50	81.51	92.18	91.67	92.19	90.85	86.89
Average per employee ..	237.07	236.17	226.89	231.02	232.40	220.10	241.59
1926-27. Amount paid .. £	32,319,649	24,199,245	8,529,729	7,700,633	3,560,698	1,794,371	78,104,325
Per cent. on total ..	87.13	80.96	91.73	91.78	90.77	90.56	85.23
Average per employee ..	256.64	242.59	237.66	235.80	234.21	221.42	243.65
1927-28. Amount paid .. £	32,929,659	24,268,920	8,388,158	7,471,581	3,814,905	1,790,152	78,663,378
Per cent. on total ..	87.07	80.81	91.77	91.52	90.80	89.43	86.10
Average per employee ..	257.11	246.31	234.24	242.65	241.80	218.07	248.00
1928-29. Amount paid .. £	33,508,975	23,684,594	8,351,045	8,955,931	3,970,744	1,678,420	78,149,709
Per cent. on total ..	86.04	80.38	91.79	91.41	90.80	88.57	85.89
Average per employee ..	258.68	241.51	234.71	239.74	247.57	217.89	247.35
FEMALES.							
1924-25. <i>a</i> Amount paid .. £	3,849,906	4,928,580	720,191	646,188	309,909	161,447	10,616,221
Per cent. on total ..	12.22	17.96	7.80	9.04	7.51	8.55	13.05
Average per employee ..	101.59	105.49	95.05	92.98	95.86	90.40	101.92
1925-26. <i>a</i> Amount paid .. £	4,196,484	5,112,850	746,563	648,356	491,055	172,112	11,367,420
Per cent. on total ..	12.50	18.49	7.82	8.33	7.81	9.15	13.11
Average per employee ..	103.89	109.72	100.01	96.54	101.04	90.02	106.91
1926-27. Amount paid .. £	4,772,547	5,690,312	768,641	689,970	362,225	187,146	12,470,841
Per cent. on total ..	12.87	19.04	8.27	8.22	9.23	9.44	13.77
Average per employee ..	109.61	112.25	110.42	99.25	106.41	93.71	109.83
1927-28. Amount paid .. £	4,888,482	5,761,432	752,065	692,657	395,767	211,538	12,701,941
Per cent. on total ..	12.93	19.19	8.23	8.48	9.40	10.57	13.90
Average per employee ..	113.06	114.64	103.92	102.27	108.04	89.45	111.88
1928-29. Amount paid .. £	5,035,712	5,782,173	746,579	655,882	402,346	216,507	12,837,199
Per cent. on total ..	13.06	19.62	8.21	8.59	9.20	11.43	14.11
Average per employee ..	112.96	112.94	95.05	102.78	107.01	94.92	110.63

(a) See general note on first page of this Chapter.

(b) Averages computed on estimated salaries and wages for twelve months ended 30th June, 1926.

(v) *Managers, Overseers, and Other Employees.* A further analysis of salaries and wages paid is given in the following table, the amounts paid to managers, overseers, etc., being differentiated from those paid to other employees. As previously mentioned, amounts drawn by working proprietors are excluded in all cases.

**SALARIES AND WAGES.—MANAGERS, OVERSEERS, AND OTHER FACTORY
EMPLOYEES, AUSTRALIA, 1928-29.**

Class of Industry.	Salaries and Wages Paid to—						
	Managers, Overseers, Accountants, and Clerks.		All other Employees.		All Employees.		
	Males.	Females.	Males.	Females.	Males.	Females.	Total.
I. Treating raw material, product of agricultural and pastoral pursuits, etc. . .	233,810	13,715	1,498,644	7,916	1,732,454	21,631	1,754,085
II. Treating oils and fats, animal, vegetable, etc. . .	135,378	26,791	434,471	47,917	569,849	74,708	644,557
III. Processes in stone, clay, glass, etc. . .	547,684	32,954	4,093,426	21,436	4,641,110	54,390	4,695,500
IV. Working in wood . .	695,971	55,637	4,774,559	9,219	5,470,530	64,856	5,535,386
V. Metal works, machinery, etc. . .	2,543,107	182,610	20,469,571	183,123	23,012,678	365,733	23,378,411
VI. Connected with food and drink, etc. . .	2,361,233	308,834	10,539,230	1,279,330	12,900,463	1,588,164	14,488,627
VII. Clothing and textile fabrics, etc. . .	1,170,834	468,592	5,281,487	7,908,591	6,452,321	8,377,183	14,829,504
VIII. Books, paper, printing and engraving . .	1,063,577	227,450	5,131,440	826,745	6,195,017	1,054,195	7,249,212
IX. Musical instruments, etc. . .	53,771	17,398	342,843	25,677	396,614	43,075	439,689
X. Arms and explosives	30,354	2,346	167,289	23,659	197,643	26,005	223,648

SALARIES AND WAGES.—MANAGERS, OVERSEERS, AND OTHER
FACTORY EMPLOYEES, AUSTRALIA, 1928-29—*continued.*

Class of Industry.	Salaries and Wages Paid to—						
	Managers, Overseers, Accountants, and Clerks.		All Other Employees.		All Employees.		
	Males.	Females.	Males.	Females.	Males.	Females.	Total.
	£	£	£	£	£	£	£
XI. Motor and other road vehicles and accessories ..	694,286	102,114	4,513,049	43,293	5,207,335	145,407	5,352,742
XII. Ship and boat building and repairing..	208,303	6,933	1,470,539	2,449	1,678,842	9,382	1,688,224
XIII. Furniture, bedding, and upholstery ..	259,225	49,047	2,450,028	188,320	2,709,253	237,367	2,946,620
XIV. Drugs, chemicals, and by-products ..	355,243	58,289	1,265,145	179,341	1,620,388	237,030	1,858,018
XV. Surgical and other scientific instruments ..	24,057	7,138	114,754	5,173	138,811	12,311	151,122
XVI. Jewellery, timepieces, and plated ware ..	36,998	9,952	340,413	15,397	377,411	25,349	402,760
XVII. Heat, light, and power	602,926	33,489	2,561,536	64,854	3,164,462	98,343	3,262,805
XVIII. Rubber Goods and Leatherware, n.e.i.	263,268	39,520	1,294,333	319,139	1,557,601	358,659	1,916,260
XIX. Other Industries, n.e.i.	25,048	3,320	101,879	39,491	126,927	42,811	169,738
Total ..	11,305,073	1,646,129	66,844,636	11,191,070	78,149,709	12,837,199	90,986,908
Average paid per employee	375. 65	149. 21	233. 85	106. 58	247. 35	110. 63	210. 63

3. Value of Fuel and Light Used.—(i) *Total Amount, 1928-29.* The expenditure in factories on fuel and light is of considerable importance; in 1928-29 it amounted to £13,883,406, a decline of £90,571 when compared with the previous year. The classes of industry in which fuel was most extensively used were Class V., Metal Works, Machinery, etc., £3,518,192; Class XVII., Heat, Light, Power, etc., £3,417,958, of which amount £2,763,611 was expended on generating electric light and power; Class VI., Connected with Food, Drink, etc., £2,582,351; and Class III., Stone, Clay, Glass, etc., £1,722,656. The following table shows the value of fuel and light used in the different classes of industry during 1928-29:—

VALUE OF FUEL AND LIGHT USED IN FACTORIES, 1928-29.

Class of Industry.	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tas.	Australia.
	£	£	£	£	£	£	£
I. Treating raw material, product of agricultural and pastoral pursuits, etc. ..	123,820	110,671	16,728	20,843	6,257	3,963	282,282
II. Treating oils and fats, animal, vegetable, etc. ..	55,484	56,591	7,280	8,655	10,010	1,124	139,144
III. Processes in stone, clay, glass, etc. ..	853,970	511,910	73,192	134,140	92,928	56,516	1,722,656
IV. Working in wood ..	88,105	58,027	35,359	16,491	19,896	17,892	235,770
V. Metal works, machinery, etc. ..	2,192,438	411,972	81,868	449,518	66,422	315,974	3,518,192
VI. Connected with food and drink, etc. ..	878,246	787,173	526,001	211,025	95,724	84,182	2,582,351
VII. Clothing and textile fabrics, etc. ..	198,904	349,069	21,222	23,271	12,838	34,289	639,573
VIII. Books, paper, printing, and engraving ..	146,467	153,618	33,758	16,987	13,610	5,177	369,617
IX. Musical instruments, etc. ..	19,620	4,669	26	249	88	..	24,652
X. Arms and explosives..	4,478	20,469	..	14	..	..	24,961
XI. Motor and other road vehicles and accessories ..	76,966	70,330	12,313	48,298	11,020	5,756	224,683
XII. Ship and boat building and repairing ..	73,134	5,884	257	938	67	127	80,407
XIII. Furniture, bedding and upholstery ..	42,216	31,307	10,329	9,386	5,254	2,164	100,656
XIV. Drugs, chemicals, and by-products ..	96,838	79,578	1,842	36,099	24,374	1,187	239,918
XV. Surgical and other scientific instruments	2,145	1,775	627	526	375	..	5,448
XVI. Jewellery, timepieces, and plated ware ..	5,940	8,799	771	1,532	533	119	17,694
XVII. Heat, light, and power	1,812,536	833,087	181,119	306,982	262,590	21,044	3,417,958
XVIII. Rubber Goods and Leatherware, n.e.i.	98,783	144,090	3,367	2,756	1,534	1,147	251,677
XIX. Other industries, n.e.i.	3,124	1,529	568	19	511	16	5,767
Total ..	6,773,214	3,641,148	1,006,627	1,287,729	624,031	550,657	13,883,406

(ii) *Total Amount, 1924-25 to 1928-29.* The following table gives the sums expended on fuel and light during the past five years :—

VALUE OF FUEL AND LIGHT USED IN FACTORIES, 1924-25 TO 1928-29.

Year.(a)	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tas.	Australia.
	£	£	£	£	£	£	£
1924-25	5,883,494	2,964,635	782,384	1,154,902	392,753	535,082	11,713,250
1925-26	6,256,725	3,156,382	1,134,530	1,332,914	701,008	501,667	13,083,226
1926-27	6,919,014	3,392,448	990,618	1,384,937	549,796	487,234	13,724,047
1927-28	6,791,285	3,712,886	1,032,303	1,366,853	586,965	483,685	13,973,977
1928-29	6,773,214	3,641,148	1,006,627	1,287,729	624,031	550,657	13,883,406

(a) See general note on first page of this Chapter.

4. *Value of Materials Used.*—(i) *Total Amount, 1928-29.* The value of materials used (which includes the value of containers, packing, etc., the cost of tools replaced and repairs to plant) in factories in Australia during 1928-29 was £238,938,566, which represents 56.83 per cent. of the total value of the final output. (See next sub-section.) The following table shows the value of the materials used in various classes of industry in each State :—

VALUE OF MATERIALS USED IN FACTORIES, 1928-29.

Class of Industry.	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tas.	Australia.
	£	£	£	£	£	£	£
I. Treating raw material, product of agricultural and pastoral pursuits, etc. . .	4,549,017	4,049,288	1,713,295	811,474	289,280	49,091	11,461,445
II. Treating oils and fats, animal, vegetable, etc. . .	1,714,653	977,264	182,869	224,709	184,555	26,336	3,310,386
III. Processes in stone, clay, glass, etc. . .	2,214,116	1,063,510	176,093	262,362	209,346	78,470	4,003,897
IV. Working in wood . .	4,990,964	1,806,015	1,779,132	1,018,638	1,020,888	268,654	10,884,291
V. Metal works, machinery, etc. . .	27,131,306	7,164,461	1,577,880	5,982,520	914,333	1,350,066	44,120,566
VI. Connected with food and drink, etc. . .	37,824,897	28,825,986	21,484,225	6,893,197	3,379,576	1,627,748	100,035,629
VII. Clothing and textile fabrics, etc. . .	9,616,239	15,000,084	1,424,762	1,074,435	801,308	579,483	28,496,311
VIII. Books, paper, printing, and engraving . .	3,789,497	2,892,064	572,191	504,810	321,912	97,810	8,178,284
IX. Musical instruments, etc. . .	443,926	158,586	3,128	13,592	917	..	620,149
X. Arms and explosives . .	18,605	267,103	..	1,130	..	..	286,838
XI. Motor and other road vehicles and accessories . .	1,512,891	1,074,737	177,689	1,342,260	210,838	57,240	4,375,655
XII. Ship and boat building and repairing . .	935,525	41,731	12,956	10,500	6,465	1,907	1,009,084
XIII. Furniture, bedding, upholstery . .	2,411,851	1,403,290	383,220	360,754	270,547	54,315	4,883,977
XIV. Drugs, chemicals, and by-products . .	2,840,928	2,078,590	22,109	894,873	964,587	98,808	6,899,895
XV. Surgical and other scientific instruments . .	47,298	46,248	14,151	9,985	4,782	..	122,464
XVI. Jewellery, timepieces, and plated ware . .	148,740	231,448	10,974	21,227	10,892	533	423,814
XVII. Heat, light, and power . .	2,559,205	1,721,339	185,041	315,479	90,325	66,655	4,938,044
XVIII. Rubber goods and leatherware, n.e.i.	1,927,845	2,344,495	83,010	79,022	26,939	11,193	4,472,504
XIX. Other industries, n.e.i.	220,417	84,797	79,709	295	29,359	756	415,338
Total . . .	104,897,920	71,231,036	29,882,434	19,821,262	8,736,849	4,369,065	238,938,566

The largest value of materials used was in Class VI., "Connected with Food and Drink, etc." the total being £100,035,629. The next in order of importance was Class V., "Metal Works, Machinery, etc.", in which raw materials valued at £44,120,566 were used. The minimum value appears in Class XV., "Surgical and other Scientific Instruments," the total being only £122,464.

(ii) *Total Amount, 1924-25 to 1928-29.* The following table presents particulars of the values of raw materials used in factories during the past five years:—

VALUE OF RAW MATERIALS USED IN FACTORIES, 1924-25 TO 1928-29.

Year.(a)	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tasmania.	Australia.
	£	£	£	£	£	£	£
1924-25 ..	94,681,328	66,290,693	30,726,434	19,409,892	6,993,731	3,891,000	221,993,978
1925-26 ..	98,868,051	68,788,141	27,885,361	21,430,234	11,137,678	3,725,443	231,834,008
1926-27 ..	102,534,388	71,102,047	25,067,489	21,848,126	8,067,569	4,023,899	232,643,518
1927-28 ..	102,807,287	70,954,166	28,620,664	20,571,650	8,579,656	4,083,837	235,617,260
1928-29 ..	104,897,920	71,231,036	29,882,434	19,821,262	8,736,849	4,369,065	238,938,566

(a) See general note on first page of this Chapter.

5. *Total Value of Output.*—(i) *Total, 1928-29.* The value of the output of new goods manufactured and of repairs effected in factories of various classes in each State during 1928-29 is shown in the following table. The figures given represent not only the increase in value due to the process of manufacture, but also include the value of the raw materials and the fuel and light used. The difference between the sum of the values of the materials and the fuel and light used and the total output (see sub-section 6 hereof) is the real value of production from manufactories.

TOTAL VALUE OF OUTPUT OF FACTORIES, 1928-29.

Class of Industry.	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tas.	Australia.
	£	£	£	£	£	£	£
I. Treating raw material, product of agricultural and pastoral pursuits, etc.	5,773,246	5,553,421	1,783,760	1,058,481	416,659	126,411	14,711,978
II. Treating oils and fats, animal, vegetable, etc.	2,673,435	1,609,649	317,372	333,909	272,634	45,771	5,252,770
III. Processes in stone, clay, glass, etc.	7,609,642	3,810,587	683,933	956,601	835,948	273,143	14,169,854
IV. Working in wood	8,245,106	4,043,117	3,327,825	1,540,190	2,055,754	622,656	19,834,648
V. Metal works, machinery, etc.	48,123,001	16,511,644	3,924,477	9,484,204	2,667,190	2,637,664	83,348,180
VI. Connected with food and drink, etc.	52,116,826	40,333,101	29,524,555	9,335,285	5,004,658	2,428,707	138,743,132
VII. Clothing and textile fabrics, etc.	18,686,984	27,544,210	2,788,302	2,059,270	1,534,003	1,021,624	53,634,398
VIII. Books, paper, printing, and engraving	9,270,165	7,153,207	1,858,006	1,372,753	993,674	327,661	20,945,466
IX. Musical instruments, etc.	997,111	335,387	7,796	29,580	7,655	..	1,377,529
X. Arms and explosives	162,397	495,262	..	1,550	..	..	659,209
XI. Motor and other road vehicles and accessories	4,197,784	3,619,896	842,772	3,305,791	743,901	218,300	12,928,444
XII. Ship and boat building and repairing	2,673,936	176,189	39,110	50,026	21,923	13,458	2,974,642
XIII. Furniture, bedding, and upholstery	4,495,570	2,820,520	839,604	701,809	589,489	151,517	9,598,509
XIV. Drugs, chemicals, and by-products	5,638,968	3,641,975	51,003	1,374,003	1,436,954	141,274	12,284,177
XV. Surgical and other scientific instruments	163,083	143,407	47,196	39,750	19,069	..	412,505
XVI. Jewellery, timepieces, and plated ware	403,526	560,257	47,627	61,889	34,161	6,099	1,113,559
XVII. Heat, light, and power	9,825,988	4,914,195	1,225,091	1,819,832	741,401	433,410	18,959,917
XVIII. Rubber goods and leather-ware, n.e.i.	3,808,407	4,457,422	228,042	150,227	64,420	26,269	8,734,787
XIX. Other industries, n.e.i.	433,400	174,017	105,065	2,218	44,937	1,952	761,589
Total ..	185,298,575	127,897,463	47,641,536	33,677,368	17,454,430	8,475,916	420,445,288

New South Wales far exceeds the other States in respect of the total value of output, the value being £185,298,575, or 44.07 per cent. on the total for all States. Next in order of value is Victoria, which produced 30.42 per cent.; the value of the output of Queensland was 11.33 per cent.; of South Australia 8.01 per cent.; of Western Australia 4.15 per cent.; and of Tasmania 2.02 per cent. The two most important classes in order of value of output (Classes VI. and V.) are the same as in order of value of raw materials used.

(ii) *Totals and Averages, 1924-25 to 1928-29.* The following statement shows the value of output of factories, value per employee, and value per head of population in each State during the five years ended 1928-29:—

TOTAL VALUE OF OUTPUT OF FACTORIES, 1924-25 TO 1928-29.

Year.(a)	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tasmania.	Australia.
TOTAL.							
	£	£	£	£	£	£	£
1924-25 ..	159,608,873	118,177,398	49,142,436	32,143,993	13,928,782	7,842,504	380,843,986
1925-26 ..	169,963,146	119,986,439	45,900,668	35,437,147	21,449,799	7,605,194	400,342,393
1926-27 ..	179,302,446	127,397,951	41,327,767	36,888,469	15,671,660	8,104,545	408,692,838
1927-28 ..	181,403,084	128,465,317	46,462,840	35,426,174	16,998,184	8,238,410	416,994,009
1928-29 ..	185,298,575	127,897,463	47,641,536	33,677,368	17,454,430	8,475,916	420,445,288

PER EMPLOYEE.

	£	£	£	£	£	£	£
1924-25 ..	988	780	1,057	852	674	785	890
1925-26 ..	1,001	805	965	907	(b) 692	750	918
1926-27 ..	1,000	808	937	898	808	763	904
1927-28 ..	1,019	822	1,039	907	832	741	927
1928-29 ..	1,025	817	1,058	915	839	810	933

PER HEAD OF POPULATION.

	£	£	£	£	£	£	£
1924-25 ..	70.80	71.32	58.86	59.69	38.25	36.00	64.84
1925-26 ..	73.94	71.25	53.30	64.24	b 38.42	35.04	65.62
1926-27 ..	76.37	74.42	46.85	65.13	41.38	37.74	66.88
1927-28 ..	75.58	73.77	51.67	61.53	43.33	38.17	66.88
1928-29 ..	75.78	72.63	51.97	58.13	43.00	39.15	66.35

(a) See general note on first page of this Chapter.

(b) Averages computed on the estimated output for the twelve months ended 30th June, 1926.

6. Value added in Process of Manufacture.—(i) *Total in Classes, 1928-29.* The difference between the figures given in sub-section 5 and the sum of the corresponding figures in sub-sections 3 and 4 represents the amount added to the value of the raw materials by the process of manufacture. This is the real measure of the value of production of manufacturing industries. The following table shows the value added in this manner during 1928-29 in each State for the various classes of factories.

VALUE ADDED IN PROCESS OF MANUFACTURE, 1928-29.

Class of Industry.	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tas.	Australia.
	£	£	£	£	£	£	£
I. Treating raw material, product of agricultural and pastoral pursuits, etc. . .	1,100,409	1,393,462	53,737	226,164	121,122	73,357	2,968,251
II. Treating oils and fats, animal, vegetable, etc. . .	903,208	575,794	127,223	100,545	78,069	18,311	1,803,240
III. Processes in stone, clay, glass, &c. . .	4,541,556	2,235,167	434,648	560,099	533,674	138,157	8,443,301
IV. Working in wood . .	3,106,037	2,179,075	1,513,334	505,061	1,014,970	336,110	8,714,587
V. Metal works, machinery, etc. . .	18,799,257	8,935,211	2,264,729	3,052,166	1,686,435	971,624	35,709,422
VI. Connected with food and drink, etc. . .	13,413,683	10,719,942	7,514,329	2,231,063	1,529,358	710,777	36,125,152
VII. Clothing and textile fabrics, etc. . .	8,871,841	12,195,057	1,342,318	961,564	719,857	407,872	24,498,509
VIII. Books, paper, printing and engraving . .	5,334,201	4,107,525	1,252,057	850,956	628,152	224,674	12,397,565
IX. Musical instruments, etc. . .	533,565	172,132	4,642	15,739	6,650	..	732,728
X. Arms and explosives	139,314	207,690	..	406	..	..	347,410
XI. Motor and other road vehicles and accessories . .	2,607,927	2,474,829	652,770	1,915,233	522,043	155,304	8,328,106
XII. Ship and boat building and repairing . .	1,665,277	128,574	25,897	38,588	15,391	11,424	1,885,151
XIII. Furniture, bedding, and upholstery . .	2,041,503	1,385,923	446,055	331,669	313,638	95,038	4,613,876
XIV. Drugs, chemicals, and by-products . .	2,701,202	1,483,807	27,052	443,031	447,993	41,279	5,144,364
XV. Surgical & other scientific instruments . .	113,640	95,384	32,418	29,239	13,912	..	284,593
XVI. Jewellery, timepieces, and plated ware . .	248,846	320,010	35,882	39,130	22,736	5,447	672,051
XVII. Heat, light and power	5,454,247	2,359,169	858,931	1,197,371	388,436	345,711	10,603,915
XVIII. Rubber goods and leatherware, n.e.i.	1,781,779	1,968,837	141,665	68,449	35,947	13,929	4,010,606
XIX. Other industries, n.e.i.	209,859	87,691	24,788	1,904	15,067	1,180	340,489
Total ..	73,627,441	53,025,279	16,752,475	12,568,377	8,093,550	3,556,194	167,623,316

(ii) *Totals and Averages, 1924-25 to 1928-29.* The amount of the value added is in much the same order as in the case of value of output, the six most important classes being VI., V., VII., VIII., XVII. and IV., in the order named. The value added to raw materials by process of manufacture and the amount per employee and per head of population are shown in the following table for the years 1924-25 to 1928-29 :-

**FACTORIES.—VALUE ADDED IN PROCESS OF MANUFACTURE,
1924-25 TO 1928-29.**

Year.(a)	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tasmania.	Australia.
VALUE.							
1924-25 ..	£ 59,044,051	£ 48,922,070	£ 17,633,618	£ 11,579,199	£ 6,542,298	£ 3,415,522	£ 147,136,758
1925-26 ..	64,838,370	48,041,916	16,880,777	12,673,999	9,611,113	3,378,084	155,424,259
1926-27 ..	69,849,044	52,903,456	15,269,660	13,655,406	7,054,295	3,593,412	162,325,273
1927-28 ..	71,804,512	53,798,265	16,809,873	13,487,671	7,331,563	3,670,888	167,402,772
1928-29 ..	73,627,441	53,025,279	16,752,475	12,568,377	8,093,550	3,556,194	167,623,316

(a) See general note on first page of this Chapter.

FACTORIES—VALUE ADDED IN PROCESS OF MANUFACTURE, 1924-25 TO 1928-29—*continued.*

Year.(a)	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tasmania.	Australia.
PER EMPLOYEE.							
	£	£	£	£	£	£	£
1924-25 ..	365	323	379	307	317	342	344
1925-26 ..	382	322	355	325	(b) 310	333	356
1926-27 ..	389	336	346	332	364	338	358
1927-28 ..	403	344	376	345	384	330	372
1928-29 ..	407	339	372	341	389	340	372
PER HEAD OF POPULATION.							
	£	£	£	£	£	£	£
1924-25 ..	26.19	29.52	21.12	21.50	17.97	15.68	25.05
1925-26 ..	28.21	28.53	21.99	22.03	b 17.22	15.56	25.40
1926-27 ..	29.75	30.90	17.31	24.11	18.63	16.73	26.56
1927-18 ..	29.92	30.89	18.69	23.43	19.06	17.01	26.85
1928-29 ..	30.11	30.11	18.27	21.69	19.94	16.43	26.45

(a) See general note on first page of this chapter.

(b) Averages computed on the estimated added value for the twelve months ended 30th June, 1926.

7. Value of Output and Cost of Production.—As the total value of the output for Australia for 1928-29 was estimated at £420,445,288, there remained, after payment of £238,938,566, the value of the materials used, of £90,986,908 for salaries and wages, and of £13,883,406 for fuel, the sum of £76,636,406 to provide for all other expenditure and profits. The following table gives corresponding particulars for each State expressed absolutely, and as percentages on the total value of the output for the year 1928-29 :—

FACTORIES.—VALUE OF OUTPUT AND COST OF PRODUCTION, 1928-29.

State.	Materials Used. (a)	Fuel and Light.	Salaries and Wages.	All other Expenditure, Interest, and Profits.	Total Value of Output.
VALUE AND COST, ETC.					
	£	£	£	£	£
New South Wales ..	104,897,920	6,773,214	38,544,687	35,082,754	185,298,575
Victoria ..	71,231,036	3,641,148	29,466,767	23,558,512	127,897,463
Queensland ..	29,882,434	1,006,627	9,097,624	7,654,851	47,641,536
South Australia ..	19,821,262	1,287,729	7,609,813	4,958,564	33,677,368
Western Australia ..	8,736,849	624,031	4,373,090	3,720,460	17,454,430
Tasmania ..	4,369,065	550,657	1,894,927	1,661,267	8,475,916
Australia ..	238,938,566	13,883,406	90,986,908	76,636,408	420,445,288

PERCENTAGE OF COSTS, ETC., ON TOTAL VALUE.

	%	%	%	%	%
New South Wales ..	56.61	3.66	20.80	18.93	100.00
Victoria ..	55.69	2.85	23.04	18.42	100.00
Queensland ..	62.72	2.11	19.10	16.07	100.00
South Australia ..	58.86	3.82	22.60	14.72	100.00
Western Australia ..	50.06	3.58	25.05	21.31	100.00
Tasmania ..	51.55	6.50	22.35	19.60	100.00
Australia ..	56.83	3.30	21.64	18.23	100.00

(a) Including the values of containers, packing, etc., also the cost of tools replaced and repairs to plant.

§ 8. Value of Land, Buildings, Plant, and Machinery.

1. General.—As an indication of the permanent character and stability of the industries which have been established in Australia, it may be noted that the values of land and buildings and of plant and machinery used in the factories are rapidly increasing. Thus, for the whole of Australia the total value of land and buildings and plant and machinery has increased from 1924-25 to 1928-29 by £38,864,042, i.e., from £200,484,807 to £239,348,849, or at the rate of £9,716,011 per annum.

The following statement shows the values of land and buildings and of plant and machinery used in connexion with manufacturing industries in each State during the year 1928-29:—

VALUE OF LAND, BUILDINGS, PLANT, AND MACHINERY, 1928-29.

Value of—	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tasmania.	Australia.
	£	£	£	£	£	£	£
Land and buildings	51,375,003	36,184,460	9,665,239	8,934,405	5,808,539	2,688,415	114,656,061
Plant and machinery	51,365,710	33,724,910	16,719,349	10,382,257	6,154,115	6,346,447	124,692,788
Total ..	102,740,713	69,909,370	26,384,588	19,316,662	11,962,654	9,034,862	239,348,849

The total capital invested in land, buildings, plant and machinery in manufacturing industries in Australia during the year 1928-29 was approximately £239,348,849 (or £37 15s. 5d. per head of population); of that sum, £114,656,061 was invested in land and buildings occupied as manufacturing, the remaining £124,692,788 being the value of the plant and machinery used in connexion therewith.

2. Value of Land and Buildings.—(i) Total, Australia, 1924-25 to 1928-29. The value of the land and buildings occupied in connexion with manufacturing industries may be conveniently classified according to the nature of the industry concerned.

The following table shows for Australia as a whole the approximate value of land and buildings occupied in connexion with manufacturing industries of various classes during each year from 1924-25 to 1928-29 inclusive:—

VALUE OF LAND AND BUILDINGS.—AUSTRALIA, 1924-25 TO 1928-29.

Class of Industry.	1924-25.(a)	1925-26.(a)	1926-27.	1927-28.	1928-29.
	£	£	£	£	£
I. Treating raw material, product of agricultural and pastoral pursuits, etc.	2,249,180	2,273,275	2,257,921	2,108,813	2,072,791
II. Treating oils and fats, animal, vegetable, etc.	1,024,779	1,022,445	982,578	1,097,949	1,008,214
III. Processes in stone, clay, glass, etc.	4,247,108	4,368,411	4,687,979	4,916,866	5,102,907
IV. Working in wood	4,322,832	4,620,929	4,325,257	4,438,903	4,452,016
V. Metal works, machinery, etc.	14,389,282	15,382,362	16,049,605	17,399,778	18,253,678
VI. Connected with food and drink, etc.	19,568,157	20,802,518	21,892,282	24,708,527	26,013,697
VII. Clothing and textile fabrics, etc.	14,841,895	15,289,607	16,464,556	17,222,358	17,770,668
VIII. Books, paper, printing, and engraving	7,376,113	8,022,096	8,544,071	9,310,538	9,526,079
IX. Musical instruments, etc.	325,792	356,935	427,333	450,506	466,710
X. Arms and explosives	417,831	573,136	597,519	587,493	619,069
XI. Motor and other road vehicles and accessories	6,175,406	7,130,967	8,546,494	8,515,210	8,565,876
XII. Ship and boat building and repairing	1,822,238	1,852,896	1,717,756	1,718,777	1,754,487
XIII. Furniture, bedding, and upholstery	2,693,412	2,947,986	3,155,723	3,231,962	3,396,394
XIV. Drugs, chemicals, and by-products	2,453,897	2,565,553	2,815,161	3,199,653	3,467,608
XV. Surgical and other scientific instruments	274,283	259,766	296,435	282,113	335,285
XVI. Jewellery, timepieces, and plated ware	629,775	679,828	666,618	682,038	659,734
XVII. Heat, light, and power	7,170,768	7,107,993	7,600,312	7,805,082	8,523,226
XVIII. Leatherware, n.e.l.	401,588	409,110	61,516,040	62,065,878	62,324,033
XIX. Other industries, n.e.l.	857,571	869,810	201,543	283,947	343,540
Total ..	91,241,907	96,535,632	103,345,178	110,026,393	114,656,061

(a) See general note on first page of this Chapter.

(b) Includes Rubber Goods formerly in Class XIX. Other Industries n.e.l.

As shown in the above table, the total net increase during the four years was £23,414,154, or an annual average of £5,853,539. The largest increases were in Classes VI., V., VII., VIII., XI. and XVII., and amounted to £6,445,540; £3,864,396; £2,928,773; £2,149,966; £2,390,469, and £1,352,458 respectively.

(ii) *Value in each State, 1928-29.* The following table gives similar information for each State for the past year:—

VALUE OF LAND AND BUILDINGS.—STATES, 1928-29.

Class of Industry.	N.S.W.	Vic.	Q'land.	S. Aust.	W. Aust.	Tas.	Australia.
	£	£	£	£	£	£	£
I. Treating raw material, product of agricultural and pastoral pursuits, etc.	853,808	909,050	85,482	124,558	84,543	15,350	2,072,791
II. Treating oils and fats, animal, vegetable, etc.	515,017	267,410	89,917	104,323	24,037	7,510	1,008,214
III. Processes in stone, clay, glass, etc.	2,782,113	1,294,570	175,030	388,013	206,872	261,309	5,102,907
IV. Working in wood	2,093,375	1,070,760	477,271	286,567	390,189	133,854	4,452,016
V. Metal works, machinery, etc.	9,194,862	4,996,240	1,118,478	1,526,238	909,858	508,002	18,253,678
VI. Connected with food and drink, etc.	9,742,433	7,247,890	4,525,253	2,283,679	1,459,744	754,698	26,013,697
VII. Clothing and textile fabrics, etc.	7,504,511	7,533,190	688,487	964,040	675,908	404,532	17,770,668
VIII. Books, paper, printing, and engraving	4,109,844	3,151,860	886,009	803,547	463,515	111,304	9,526,079
IX. Musical instruments, etc.	249,807	183,780	850	22,363	9,910	..	466,710
X. Arms and explosives	160,429	453,640	..	5,000	..	..	619,069
XI. Motor and other road vehicles and accessories	3,527,039	2,604,870	595,964	1,054,742	562,895	220,365	8,565,875
XII. Ship and boat building and repairing	1,507,569	197,360	7,987	30,175	5,305	6,091	1,754,487
XIII. Furniture, bedding, and upholstery	1,642,255	1,055,570	242,123	222,374	182,098	51,974	3,396,394
XIV. Drugs, chemicals, and by-products	1,671,040	919,240	66,881	354,255	384,938	71,254	3,467,608
XV. Surgical and other scientific instruments	140,815	120,660	18,535	33,810	21,465	..	385,285
XVI. Jewellery, timepieces, and plated ware	257,558	270,190	31,531	48,200	34,350	17,905	659,734
XVII. Heat, light, and power	4,152,797	2,800,650	541,315	573,281	343,362	111,821	8,523,226
XVIII. Rubber goods and leatherware, n.e.l.	1,065,478	1,033,890	58,689	111,855	42,725	11,446	2,324,083
XIX. Other industries, n.e.l.	204,253	73,640	55,437	2,885	6,825	1,000	343,540
Total	51,375,003	36,184,460	9,665,239	8,934,405	5,808,539	2,688,415	114,656,061

The maximum value for Australia of land and buildings in any particular class was in Class VI., amounting to £26,013,697, or 22.69 per cent. on the total value. The next in order of importance were Classes V., VII., VIII., XI. and XVII., in which the values were £18,253,678; £17,770,668; £9,526,079; £8,565,875, and £8,523,226 respectively. The sum of the values for the six classes mentioned amounted to £84,961,493, or 77.32 per cent. on the total value for all classes.

(iii) *Value in each State, 1924-25 to 1928-29.* The total value of factory land and buildings at the end of each year from 1924-25 to 1928-29 is given hereunder.

VALUE OF LAND AND BUILDINGS, 1924-25 TO 1928-29.

Year. (a)	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tasmania.	Australia.
	£	£	£	£	£	£	£
1924-25	41,351,080	28,468,160	7,873,660	6,882,119	4,562,184	2,104,704	91,241,907
1925-26	43,954,312	29,847,370	8,155,604	7,520,625	4,855,161	2,202,560	96,535,632
1926-27	46,950,706	32,269,655	8,645,580	8,207,999	4,822,145	2,449,093	103,345,178
1927-28	49,414,310	34,761,340	9,123,821	8,786,280	5,381,864	2,558,778	110,026,393
1928-29	51,375,003	36,184,460	9,665,239	8,934,405	5,808,539	2,688,415	114,656,061

(a) See general note on first page of this Chapter.

Since 1924-25 there has been a marked increase throughout Australia, the States showing the greatest progress being New South Wales, Victoria, and South Australia, with average annual increases of £2,505,981, £1,929,075, and £513,072 respectively.

3. Value of Plant and Machinery.—(i) *Total, Australia, 1924-25 to 1928-29.* The following table shows for Australia as a whole the approximate value of plant and machinery used in factories during each year from 1924-25 to 1928-29 inclusive :—

VALUE OF PLANT AND MACHINERY.—AUSTRALIA, 1924-25 TO 1928-29.

Class of Industry.	1924-25.(a)	1925-26.(a)	1926-27.	1927-28.	1928-29.
	£	£	£	£	£
I. Treating raw material, product of agricultural and pastoral pursuits, etc.	2,065,838	2,130,333	2,043,422	1,804,612	1,802,467
II. Treating oils and fats, animal, vegetable, etc.	1,166,482	1,322,592	1,207,096	1,015,775	1,007,548
III. Processes in stone, clay, glass, etc.	5,781,144	5,928,978	6,509,183	6,422,300	6,643,768
IV. Working in wood	5,405,755	5,562,722	5,171,047	4,827,638	4,615,488
V. Metal works, machinery, etc.	19,723,951	21,015,046	21,836,505	21,194,939	21,733,398
VI. Connected with food and drink, etc.	22,845,337	25,368,336	26,283,623	27,401,095	28,040,253
VII. Clothing and textile fabrics, etc.	7,164,675	7,251,468	8,235,014	8,191,144	8,013,923
VIII. Books, paper, printing, and engraving	7,282,913	7,736,172	8,114,407	8,187,155	8,422,027
IX. Musical instruments, etc.	111,238	140,000	195,203	197,703	218,124
X. Arms and explosives	309,017	328,458	337,291	368,961	465,530
XI. Motor and other road vehicles and accessories	1,524,491	1,896,950	2,157,518	2,630,624	2,681,231
XII. Ship and boat building and repairing	1,888,127	1,949,848	2,093,447	2,081,791	2,155,557
XIII. Furniture, bedding, and upholstery	743,217	891,450	957,976	961,486	1,078,168
XIV. Drugs, chemicals, and by-products	2,289,112	2,460,230	2,800,020	3,171,262	3,407,246
XV. Surgical and other scientific instruments	55,094	58,143	60,411	61,329	70,829
XVI. Jewellery, timepieces, and plated ware	144,983	159,058	139,185	147,984	136,632
XVII. Heat, light, and power	29,538,177	26,752,765	27,175,926	30,636,949	32,196,267
XVIII. Leatherware, n.e.i.	99,684	93,340	1,357,774	1,847,052	1,972,401
XIX. Other industries, n.e.i.	1,103,665	1,232,261	72,137	78,016	91,911
Total	109,242,900	112,278,150	116,747,185	121,227,815	124,692,788

(a) See general note on first page of this Chapter.

(b) Includes Rubber Goods formerly in Class XIX., Other Industries n.e.i.

During the past four years there has been a steady and substantial net increase amounting in all to £15,449,888, or an annual average of £3,862,472. All classes of industry but four participated, the largest increase being in Class VI., "Connected with Food and Drink, etc." where it amounted to £5,194,916, while the next in order were Class XVII., "Heat, Light, and Power," £2,658,090, and Class V., "Metal Works, Machinery, etc.," £2,009,447.

(ii) *Value in each State, 1924-25 to 1928-29.* The figures in the previous table refer to Australia as a whole. In the following table results are shown for each State, and it will be seen that the increase is general throughout the States. New South Wales shows the largest advance, viz., £7,811,810; while South Australia came next with £2,862,403, followed closely by Queensland with £2,716,873.

VALUE OF PLANT AND MACHINERY.—STATES, 1924-25 TO 1928-29.

Year.(a)	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tasmania.	Total.
	£	£	£	£	£	£	£
1924-25	43,553,900	32,563,815	14,002,476	7,529,854	4,864,253	6,728,602	109,242,900
1925-26	45,994,534	30,549,130	15,226,566	8,322,025	5,480,905	6,704,990	112,278,150
1926-27	48,659,375	31,580,350	16,043,679	8,741,929	5,310,140	6,411,712	116,747,185
1927-28	50,489,675	32,745,680	16,592,358	9,421,202	5,553,295	6,425,605	121,227,815
1928-29	51,365,710	33,724,910	16,719,349	10,382,257	6,154,115	6,346,447	124,692,788

(a) See general note on first page of this Chapter.

(iii) *Value according to Industry, 1928-29.* The following table shows the value of plant and machinery used in factories in each State during 1928-29, classified according to the nature of the industry in which used :—

VALUE OF PLANT AND MACHINERY.—INDUSTRIES, 1928-29.

Class of Industry.	N.S.W.	Vic.	Q'land.	S. Aust.	W. Aust.	Tas.	Australla.
	£	£	£	£	£	£	£
I. Treating raw material, product of agricultural and pastoral pursuits, etc.	713,342	705,050	132,571	110,201	73,030	68,293	1,802,487
II. Treating oils and fats, animal, vegetable, etc.	440,020	317,620	89,603	111,709	45,877	2,719	1,007,548
III. Processes in stone, clay, glass, etc.	3,729,096	1,356,600	317,380	538,588	329,992	372,112	6,643,768
IV. Working in wood	1,329,871	1,045,900	742,870	190,254	1,080,978	225,615	4,616,488
V. Metal works, machinery, etc.	12,272,574	4,151,130	1,139,159	1,976,984	741,048	1,452,503	21,733,398
VI. Connected with food and drink, etc.	8,566,322	6,273,170	9,516,512	1,911,652	1,431,643	340,954	28,040,253
VII. Clothing and textile fabrics, etc.	2,585,317	4,340,960	247,221	292,494	199,303	348,628	8,013,923
VIII. Books, paper, printing, and engraving	3,799,826	2,829,760	622,461	656,270	387,736	125,944	8,422,027
IX. Musical instruments, etc.	162,759	47,920	100	6,502	843	..	218,124
X. Arms and explosives	76,260	328,870	..	400	..	..	405,530
XI. Motor and other road vehicles and accessories	682,950	993,170	118,186	740,158	115,319	31,448	2,681,231
XII. Ship and boat building and repairing	1,988,534	110,950	37,144	3,951	2,328	12,650	2,155,557
XIII. Furniture, bedding and upholstery	514,059	282,790	90,368	109,458	59,071	22,422	1,078,168
XIV. Drugs, chemicals, and by-products	1,010,593	1,030,020	14,126	658,133	644,053	50,321	3,407,246
XV. Surgical and other scientific instruments	32,625	23,280	7,213	4,335	3,376	..	70,829
XVI. Jewellery, timepieces, and plated ware	46,886	67,820	6,467	9,715	4,062	1,682	136,632
XVII. Heat, light and power	12,483,034	8,775,070	3,594,481	3,043,415	1,014,197	3,285,470	32,196,267
XVIII. Rubber Goods and Leatherware, n.e.i.	884,898	1,025,290	25,064	17,498	14,806	4,845	1,972,401
XIX. Other industries, n.e.i.	46,744	18,940	18,393	540	6,453	841	91,911
Total	51,365,710	33,724,910	16,719,349	10,382,257	6,154,115	6,346,447	124,692,788

The greatest value for any particular class of industry is for class XVII., "Heat, Light and Power," and amounts to £32,196,267, or 25.82 per cent. on the total for all classes. The next in order of importance is Class VI., "Connected with Food and Drink, etc.," amounting to £28,040,253, or 22.49 per cent. on the total, followed by Class V., "Metal Works, Machinery, etc.," which amounts to £21,733,398 or 17.48 per cent. on the total value. The total for these three classes amounts to £81,969,918, or 65.74 per cent. on the total value for all classes.

§ 9. Individual Industries.

1. *General.*—The preceding remarks and tables furnish a general view of the recent development of particular classes of industries in Australia treated under the nineteen categories adopted by the Conference of Statisticians in 1906. In order to make the information complete, it is necessary to furnish details of the development of individual industries. While it is not possible, within the limits of this work, to give a full and detailed account of all the manufacturing industries of Australia, it is proposed to deal herein with such particular industries as are of special importance by reason of the number of persons employed, the number of factories, the amount of capital invested therein, the value of the production, or other features of special interest. In cases where there are only one or two establishments of a particular class in any State, returns relative to output are not published, in order to avoid disclosing information as to the operations of individual factories.

Reference has already been made to the change in method of computing the average number of persons employed in manufacturing industries. (See § 4 *ante*.) In the following tables relating to individual industries the number of employees shown in each case for the year 1928-29 has been computed by the new method, while those for previous years are on the old basis. The employment figures for each year of the period 1924-25 to 1927-28 are, therefore, somewhat in excess of the average number employed over the twelve months.

2. Tanneries.—(i) *Details for each State, 1928-29.* In Class I. the most important industry is tanning. Formerly the production of tanneries in Australia was confined to the coarser class of leathers, but there are now very few kinds which cannot be produced locally, and by reason of their superiority an export trade has been built up in some varieties.

TANNERIES, 1928-29.

Items.	N.S.W.	Vic.	Q'land.	S. Aust.	W.A.	Tas.	Australia.
Number of factories	69	42	14	8	7	2	142
Number of employees	1,175	1,879	268	163	114	89	3,688
Actual horse-power of engines employed	2,962	4,005	453	438	303	218	8,379
Approx. value of land and buildings £	253,423	472,830	28,792	25,803	41,788	12,439	835,135
Approx. value of plant and machinery £	164,981	366,680	31,780	23,205	33,836	7,813	628,295
Total amount of wages paid during year £	267,453	433,997	49,998	36,977	24,290	15,363	828,078
Value of fuel used £	27,350	42,842	4,550	4,500	2,484	1,056	82,788
Value of materials used £	1,582,515	1,914,562	238,502	140,895	110,809	40,417	4,027,700
Total value of output £	2,089,373	2,722,296	346,792	198,315	170,427	66,553	5,593,756
Value added in process of manufacture £	479,502	764,892	103,740	62,920	57,134	25,080	1,483,268

(ii) *Development in Australia, 1924-25 to 1928-29.* The development of the tanning industry during the period 1924-25 to 1928-29 is shown in the following table :—

TANNERIES.—AUSTRALIA, 1924-25 TO 1928-29.

Items.	1924-25.	1925-26.	1926-27.	1927-28.	1928-29.
Number of factories	155	156	152	142	142
Number of employees	4,189	4,347	4,206	3,607	(a) 3,688
Actual horse-power of engines used ..	8,140	8,672	8,392	8,041	8,379
Approx. value of land and buildings £	879,185	902,089	917,997	835,376	835,135
Approx. value of plant and machinery £	604,603	729,546	730,857	669,575	628,295
Total amount of wages paid £	906,492	959,653	945,598	825,841	828,078
Value of fuel used £	80,858	84,041	81,274	87,748	82,788
Value of materials used £	3,507,778	3,908,737	3,701,332	3,835,412	4,027,700
Value of final output £	5,171,005	5,564,646	5,443,334	5,435,810	5,593,756
Value added in process of manufacture £	1,582,369	1,571,868	1,660,728	1,512,650	1,483,268

(a) See § 9.1.

Decreases were recorded in both the number of factories and employees in the tanning industry during the past four years. The output, however, remained fairly constant, the production of leather during each of the years 1924-25 to 1928-29 being as follows :— 1924-25, 48,911,506 lb.; 1925-26, 55,078,267 lb.; 1926-27, 53,885,830 lb.; 1927-28, 45,353,368 lb.; and 1928-29, 47,207,759 lb.

(iii) *Raw Material Used and Production, 1928-29.* The quantities of raw material used and leather produced in tanneries in each State are shown in the following table :—

TANNERIES.—RAW MATERIAL USED AND PRODUCTION, 1928-29.

Particulars.	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tas.	Australia.
Hides and calf skins No.	975,535	1,082,917	170,971	47,706	50,628	26,791	2,354,548
Sheep pelts	2,481,917	653,350	61,285	126,367	13,417	..	3,336,336
Other skins	526,470	477,002	75,269	2,756	..	..	1,081,497
Bark tons	9,078	10,931	1,838	792	574	450	23,663
Leather made lb.	19,396,619	20,825,649	3,071,791	1,257,759	1,952,941	703,000	47,207,759
Basis produced	1,990,712	692,244	81,805	126,377	..	..	2,891,138

3. **Fellmongering and Wool-scouring Works.**—(i) *Details for each State, 1928-29.* The next industry in importance in Class I. is that of fellmongering and wool-scouring, one of the earliest industries established in Australia. The following table gives particulars of the industry in each State during the past year :—

FELLMONGERING AND WOOL-SCOURING WORKS, 1928-29.

Items.	N.S.W.	Vic.	Q'land.	S. Aust.	W.A.	Tas.	Aus- tralia.
Number of factories	31	32	14	5	5	..	87
Number of employees	674	449	419	116	80	..	1,738
Actual horse-power of engines used ..	2,076	1,646	831	229	205	..	4,987
Approx. value of land and buildings £	174,034	189,290	41,439	22,739	35,046	..	462,548
Approx. value of plant and machinery £	156,767	173,310	74,618	29,326	26,364	..	460,385
Total amount of wages paid	£ 150,594	102,599	45,676	20,747	16,244	..	335,860
Value of fuel used	£ 28,438	27,381	9,356	4,329	1,844	..	71,348
Value of materials used	£ 1,969,370	1,661,155	1,326,293	301,630	141,852	..	5,400,300
Value of final output	£ 2,175,240	1,949,721	1,212,186	331,046	176,318	..	5,844,511
Value added in process of manufacture £	177,432	261,185	-123,463	25,087	32,622	..	372,863

(ii) *Development in Australia, 1924-25 to 1928-29.* The following return furnishes particulars of fellmongering and wool-scouring establishments in Australia for the last five years :—

**FELLMONGERING AND WOOL-SCOURING WORKS.—AUSTRALIA,
1924-25 TO 1928-29.**

Items.	1924-25.	1925-26.	1926-27.	1927-28.	1928-29.
Number of factories	94	93	93	90	87
Number of employees	1,997	2,195	2,175	1,901	a 1,738
Actual horse-power of engines used ..	5,458	5,734	4,993	4,798	4,987
Approx. value of land and buildings £	570,258	537,540	527,306	485,521	462,548
Approx. value of plant and machinery £	668,960	704,789	595,632	468,054	460,385
Total amount of wages paid	£ 356,938	398,278	463,313	387,696	335,860
Value of fuel used	£ 75,706	85,308	94,866	82,748	71,348
Value of materials used	£ 7,813,400	6,324,429	7,224,472	6,989,508	5,400,300
Value of final output	£ 8,343,973	7,130,008	8,631,769	7,363,212	5,844,511
Value added in process of manufacture £	454,867	720,271	712,431	290,956	372,863

(a) See § 9.1.

The wool-scouring industry developed considerably under the régime of the Central Wool Committee, and during 1919-20 the record output of 107,726,653 lb. of scoured wool was produced. The production declined considerably since that date, however, and during 1928-29 only 86,473,983 lb. of greasy wool and 3,736,880 skins were treated for an output of 51,086,708 lb. of scoured wool.

4. **Soap and Candle Factories.**—(i) *Details for each State, 1928-29.* In Class II. soap and candle factories are the most important establishments. The manufacture of these two products is frequently carried on in the same factory, so that separate returns cannot be obtained; it may, however be noted that the manufacture of soap is the more important. The following table gives particulars of soap and candle factories in each State during the year 1928-29 :—

SOAP AND CANDLE FACTORIES, 1928-29.

Items.	N.S.W.	Vic.	Q'land.	S. Aust.	W.A.	Tas.	Australia.
Number of factories	27	17	10	6	6	1	67
Number of employees	1,080	671	179	239	170	44	2,383
Actual horse-power of engines employed	1,196	851	193	374	a	b	3,550
Approx. value of land and buildings £	352,700	188,840	38,795	89,243	a	a	701,125
Approx. value of plant and machinery £	304,446	240,640	32,281	92,648	a	a	718,611
Total amount of wages paid during year £	218,551	137,903	39,495	51,131	a	a	489,341
Value of fuel used £	39,747	39,289	3,164	7,221	a	a	100,555
Value of materials used £	908,765	719,465	116,161	177,722	a	a	2,133,004
Total value of output £	1,613,066	1,230,451	227,698	272,340	a	a	3,661,958
Value added in process of manufacture £	664,554	471,697	108,371	87,397	a	a	1,428,399

(a) Particulars not available for publication.

(b) Including Western Australia and Tasmania.

(ii) *Development in Australia, 1924-25 to 1928-29.* The following table gives similar particulars for the last five years as regards Australia as a whole :—

SOAP AND CANDLE FACTORIES.—AUSTRALIA, 1924-25 TO 1928-29.

Items.	1924-25.a	1925-26.a	1926-27.a	1927-28.a	1928-29.a
Number of factories	67	66	66	66	67
Number of employees	2,425	2,487	2,507	2,362	2,383
Actual horse-power and engines used	2,744	2,962	2,933	3,084	3,550
Approx. value of land and buildings £	637,819	638,013	636,116	743,823	701,125
Approx. value of plant and machinery £	775,027	893,712	843,399	689,718	718,611
Total amount of wages paid £	454,149	492,789	493,505	473,550	489,341
Value of fuel used £	33,138	104,697	112,885	98,745	100,555
Value of materials used £	2,037,505	2,145,157	1,949,717	1,988,093	2,133,004
Value of final output £	3,365,010	3,592,832	3,421,879	3,452,912	3,661,958
Value added in process of manufacture £	1,244,367	1,342,778	1,359,277	1,366,069	1,428,399

(a) Including other small establishments in Western Australia.

(b) See § 9.1.

(iii) *Raw Material Used and Production, 1924-25 to 1928-29.* The following statement shows the quantities of certain raw material used, together with the production, in soap and candle factories in Australia during the years 1924-25 to 1928-29 :—

SOAP AND CANDLE FACTORIES.—RAW MATERIAL USED, AND PRODUCTION, AUSTRALIA, 1924-25 TO 1928-29.

Particulars.	1924-25.a	1925-26.a	1926-27.a	1927-28.a	1928-29.
Tallow used cwt.	483,756	470,101	473,787	502,903	548,112
Alkali used "	168,587	162,887	188,785	204,003	226,156
Coconut oil used gal.	796,400	763,910	800,140	807,941	1,012,246
Soap made cwt.	997,902	955,893	1,001,378	1,020,192	1,130,947
Candles made "	80,771	80,043	75,444	66,091	70,526

(a) Exclusive of Western Australia.

The total output for the year 1928-29 comprised the following quantities of the various kinds of soap manufactured :—Household, 894,698 cwt. ; toilet, 114,098 cwt. ; sand, 96,856 cwt. ; soft, 17,505 cwt. ; and other 7,790 cwt.

5. Saw-mills, etc.—(i) *Details for States, 1928–29.* The most important industry in Class IV. is that of saw-milling. As separate particulars of forest saw-mills are not available for some of the States, both forest and other saw-mills, as well as joinery, moulding, and box factories, have been combined in the following table:—

SAW-MILLS, FOREST AND OTHER ; JOINERY, ETC., 1928–29.

Items.	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tas.	Australia.
Number of factories ..	821	533	321	140	150	199	2,164
Number of employees ..	8,451	5,647	4,929	1,558	3,014	1,376	24,975
Actual horse-power of engines employed ..	25,607	16,113	9,614	4,177	9,244	3,575	68,330
Approximate value of land and buildings ..	1,829,786	873,600	423,363	265,055	388,484	96,914	3,877,292
Approximate value of plant and machinery ..	1,166,296	921,680	646,563	182,507	1,079,320	187,894	4,184,260
Total amount of wages paid during year ..	£ 1,780,090	£ 1,211,299	£ 894,602	£ 295,764	£ 649,082	£ 186,702	£ 5,017,539
Value of fuel used ..	£ 77,269	£ 48,727	£ 29,782	£ 15,572	£ 19,793	£ 12,890	£ 204,033
Value of materials used ..	£ 4,741,970	£ 1,573,452	£ 1,599,730	£ 971,641	£ 1,019,401	£ 233,235	£ 10,139,429
Total value of output ..	£ 7,653,625	£ 3,446,830	£ 3,038,706	£ 1,455,491	£ 2,050,610	£ 532,891	£ 18,178,153
Value added in process of manufacture ..	£ 2,834,386	£ 1,824,651	£ 1,409,194	£ 468,278	£ 1,011,416	£ 286,766	£ 7,834,691

(ii) *Development in Australia, 1924–25 to 1928–29.* The development of forest and other saw-mills, etc., since 1924–25 is shown in the following table:—

SAW-MILLS, FOREST AND OTHER ; JOINERY, ETC.—AUSTRALIA,
1924–25 TO 1928–29.

Items.	1924–25.	1925–26.	1926–27.	1927–28.	1928–29.
Number of establishments ..	2,312	2,340	2,244	2,168	2,164
Number of employees ..	34,041	33,309	30,217	27,396	a 24,975
Actual horse-power of engines used ..	69,099	72,924	69,813	69,912	68,330
Approx. value of land and buildings ..	£ 3,870,005	£ 4,119,714	£ 3,757,056	£ 3,878,825	£ 3,877,292
Approx. value of plant and machinery ..	£ 5,081,439	£ 5,195,973	£ 4,760,400	£ 4,428,949	£ 4,184,260
Total amount of wages paid ..	£ 6,754,128	£ 7,401,907	£ 6,074,006	£ 5,571,162	£ 5,017,539
Value of fuel used ..	£ 173,840	£ 221,458	£ 214,842	£ 221,108	£ 204,033
Value of materials used ..	£ 10,758,499	£ 11,555,751	£ 11,097,006	£ 10,751,059	£ 10,139,429
Value of final output ..	£ 21,228,966	£ 22,223,017	£ 20,712,673	£ 19,705,157	£ 18,178,153
Value added in process of manufacture ..	£ 10,296,627	£ 10,645,808	£ 9,400,825	£ 8,732,990	£ 7,834,691

(a) See § 9.1.

The effect of the depression in the saw-milling industry is reflected in the decreases recorded in the manufacturing returns during the past three years. The saw-mill output of native timber declined from 664,550,000 super. feet in 1924–25 to 516,388,000 super. feet in 1928–29.

6. Agricultural Implement Works.—(i) *General.* The manufacture of agricultural implements is an important industry in Australia, and is of particular interest, owing to the fact that it was one of the first to which it was sought to apply the so-called "New Protection." The articles manufactured include stripper-harvesters, header harvesters or reaper thrashers, strippers, reapers and binders, stump-jump and other ploughs, harrows, disc and other cultivators, winnowers, corn-shellers and baggers, drills, kerosene and petrol engines, and other implements employed in agriculture. The stripper harvester, which combines the stripper with a mechanism for winnowing and bagging grain, is an Australian invention, and is universally employed in agriculture.

(ii) *Details for States, 1928-29.* The following table gives particulars of the agricultural implement works in each State for the year 1928-29 :—

AGRICULTURAL IMPLEMENT WORKS, 1928-29.

Items.	N.S.W.	-Vic.	Q'land.	S. Aust.	W. Aust.	Tas.	Australia.
Number of factories	28	71	5	40	0	..	150
Number of employees	668	3,239	254	1,113	206	..	5,480
Actual horse-power of engines employed ..	548	2,711	46	1,286	217	..	4,808
Approx. value of land and buildings £	174,050	331,550	43,621	167,213	55,371	..	771,805
Approx. value of plant and machinery £	76,508	338,610	19,098	203,112	24,791	..	662,119
Total amount of wages paid during year £	161,658	743,598	44,467	226,159	51,838	..	1,227,720
Value of fuel used	£ 5,497	53,588	3,163	13,490	1,904	..	77,642
Value of materials used	£ 204,595	760,556	38,213	235,290	27,474	..	1,266,128
Total value of output	£ 454,740	1,885,154	110,059	552,958	164,421	..	3,167,332
Value added in process of manufacture £	244,648	1,071,010	68,683	304,178	135,043	..	1,823,562

(iii) *Development in Australia, 1924-25 to 1928-29.* The agricultural implement industry declined considerably during the war years, but great progress has since been made, and considerable increases have occurred in all the items enumerated in the following table. Details for the past five years are as follows :—

AGRICULTURAL IMPLEMENT WORKS.—AUSTRALIA, 1924-25 TO 1928-29.

Items.	1924-25.	1925-26.	1926-27.	1927-28.	1928-29.
Number of factories	153	148	155	157	150
Number of employees	5,535	5,691	6,636	5,729	(a) 5,480
Actual horse-power of engines used	4,439	5,344	6,002	6,355	4,808
Approx. value of land and buildings £	625,767	695,214	767,817	789,966	771,805
Approx. value of plant and machinery £	559,419	625,165	686,821	682,270	662,119
Total amount of wages paid	£ 1,191,572	1,270,555	1,501,725	1,291,330	1,227,720
Value of fuel used	£ 70,680	71,137	82,651	87,996	77,642
Value of materials used	£ 1,569,456	1,385,089	1,574,499	1,335,986	1,266,128
Value of final output	£ 3,283,008	3,228,502	3,819,449	3,303,557	3,167,332
Value added in process of manufacture £	1,642,872	1,772,276	2,162,306	1,879,575	1,823,562

(a) See § 9.1.

7. *Engineering Works.* Formerly it was impossible to record separate details for the engineering industry owing to the limited classification adopted by some of the States, but since 1926-27 these particulars have been obtained, and with one or two duplications of minor importance, the following figures are representative of the engineering industry :—

ENGINEERING WORKS, 1928-29.

Items.	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tas.	Australia.
Number of factories	294	290	45	55	74	14	772
Number of employees	7,486	5,968	1,586	1,203	901	238	17,382
Actual horse-power of engines employed ..	9,073	8,089	2,981	1,552	1,429	317	23,441
Approximate value of land and buildings £	1,377,995	1,227,950	193,856	117,771	187,558	38,466	3,143,596
Approximate value of plant and machinery £	1,247,670	1,210,340	267,505	193,482	178,840	33,665	3,136,502
Total amount of wages paid during year	£ 1,739,991	1,402,409	335,991	252,715	182,006	54,864	3,967,976
Value of fuel used	£ 79,468	78,513	19,656	17,592	16,959	4,102	216,290
Value of materials used £	2,286,280	1,601,058	274,366	274,030	181,313	23,886	4,645,933
Total value of output £	4,897,237	3,840,472	789,593	639,767	507,216	97,616	10,771,901
Value added in process of manufacture	£ 2,531,489	2,160,901	495,571	348,145	308,944	64,628	5,909,678

In addition to engineering works which supply ordinary requirements, there is now a large number of establishments which engage in the manufacture of special classes of machinery and implements. The manufacture of mining, smelting, and textile machinery and apparatus forms an important section of this industry.

8. **Ironworks and Foundries.** The extension of the classification noted in the preceding sub-section has made possible the separate publication of details for the group of industries comprised under the heading of ironworks and foundries. This combination consists of ironworks, foundries, iron safes and doors, steel castings, iron bedsteads, sash weights, steel window frames and sashes, nut and bolt making, oxy-acetylene welding, springs, horse-shoes, screws, lift making, tools, and brickmakers' implements. Particulars for the year 1928-29 are as follows :—

IRONWORKS AND FOUNDRIES, 1928-29.

Items.	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tas.	Australia.
Number of factories	164	166	16	30	15	..	391
Number of employees	7,838	4,273	591	995	398	..	14,095
Actual horse-power of engines employed	35,281	7,394	1,037	1,268	411	..	45,391
Approximate value of land and buildings £	1,493,995	631,370	63,609	130,690	40,656	..	2,360,320
Approximate value of plant and machinery £	2,713,787	692,500	120,360	74,978	47,208	..	3,648,833
Total amount of wages paid during year £	2,013,771	943,087	121,172	205,873	103,166	..	3,387,069
Value of fuel used £	385,638	116,815	11,916	17,139	8,604	..	540,112
Value of materials used £	8,505,844	1,052,530	128,468	200,538	121,524	..	10,008,904
Total value of output £	12,378,380	2,641,271	298,148	495,469	267,144	..	16,080,412
Value added in process of manufacture £	3,486,898	1,471,926	157,764	277,702	137,016	..	5,531,396

9. **Railway and Tramway Workshops.**—(i) *Details for each State, 1928-29.* The railway and tramway workshops which form an important item in Class V. are chiefly State-owned institutions. The following table giving details concerning them includes, however, private and municipal establishments for manufacturing and repairing rolling-stock :—

RAILWAY AND TRAMWAY WORKSHOPS, 1928-29.

Items.	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tas.	Australia.
Number of factories	42	21	14	17	22	6	122
Number of employees	14,688	6,873	3,965	3,352	2,424	356	31,658
Actual horse-power of engines employed	15,081	5,832	4,991	3,135	2,870	437	32,346
Approximate value of land and buildings £	2,721,695	1,281,270	563,192	787,761	472,783	9,450	5,836,151
Approximate value of plant and machinery £	2,922,916	1,071,360	519,200	701,831	418,685	92,047	5,726,039
Total amount of wages paid during year £	3,857,163	1,658,952	1,002,273	868,463	587,532	85,817	8,058,200
Value of fuel used £	117,588	85,281	37,302	43,929	31,830	7,006	322,936
Value of materials used £	2,964,574	1,558,582	750,648	992,503	381,266	20,061	6,667,634
Total value of output £	8,076,974	3,593,496	1,907,182	2,116,400	1,254,419	124,228	17,072,699
Value added in process of manufacture £	4,994,812	1,949,633	1,119,232	1,079,968	841,323	97,161	10,082,129

In addition to the above, a railway workshop is in operation in the Northern Territory. The work is confined almost exclusively to repairs to rolling-stock, etc., no new goods being manufactured. For the sake of convenience this establishment is not included in any of the tables in this chapter.

(ii) *Development in Australia, 1924-25 to 1928-29.* The following table shows the development of railway and tramway workshops in Australia since 1924-25 :—

RAILWAY AND TRAMWAY WORKSHOPS.—AUSTRALIA, 1924-25 TO 1928-29.

Items.	1924-25.	1925-26.	1926-27.	1927-28.	1928-29.
Number of factories	123	121	125	122	122
Number of employees	26,345	28,558	30,715	31,315	31,658
Actual horse-power of engines used ..	20,965	26,168	28,938	31,819	32,346
Approx. value of land and buildings £	4,174,175	4,491,396	5,062,626	5,345,963	5,836,151
Approx. value of plant and machinery £	4,204,254	5,076,776	5,722,784	5,338,210	5,726,639
Total amount of wages paid £	6,140,676	7,192,869	7,815,202	7,967,515	8,052,200
Value of fuel used	175,760	250,632	278,508	294,913	322,936
Value of materials used	4,919,728	6,008,231	6,043,377	6,319,442	6,667,634
Value of final output	12,384,177	14,885,994	15,589,846	16,338,583	17,072,699
Value added in process of manufacture £	7,288,689	8,627,131	9,267,961	9,724,228	10,082,129

(a) See § 9.1.

The growth of the railway and tramway systems, conjointly with heavy increases in passenger and goods traffic throughout Australia, has resulted in corresponding activity in workshops engaged in the manufacture or repair of rolling-stock, etc. During the past four years the number of employees has increased by more than 5,000, and the output has grown from £12,384,177 to £17,072,699.

10. *Metal Extraction and Ore Reduction Works.*—The following table gives particulars of metal extraction and ore reduction works. The classification of these works is not uniform in the several States, and the combination of industries is, therefore, somewhat unsatisfactory. The returns do not include particulars of plants used on mines.

METAL EXTRACTION AND ORE REDUCTION WORKS, 1928-29.

Items.	N.S.W.	Vic.	Q'land.	S. Aust.	W.A. (a)	Tas.	Australia.
Number of factories	18	8	7	2	..	5	40
Number of employees	2,503	47	83	1,428	..	1,178	5,239
Actual horse-power of engines employed	24,839	71	618	..	..	b	c 66,534
Approx. value of land and buildings £	548,579	17,100	29,626	b	..	b	c 1,157,441
Approx. value of plant and machinery £	3,015,474	8,040	35,728	b	..	b	c 5,027,275
Total amount of wages paid during year ^c	822,725	10,890	11,755	b	..	b	c 1,602,643
Value of fuel used	1,345,264	2,221	725	b	..	b	c 1,998,126
Value of materials used	6,095,170	97,031	22,657	b	..	b	c 11,339,983
Total value of output	9,813,474	128,878	35,345	b	..	b	c 17,171,500
Value added in process of manufacture £	2,373,040	29,626	11,963	b	..	b	c 3,833,391

(a) In Western Australia all the plants are worked on the mines, and are therefore not included.
 (b) Information not available for publication. (c) Including South Australia and Tasmania.

11. Bacon-curing Factories.—(i) *Details for each State, 1928-29.*—The following table gives particulars of factories engaged in bacon-curing in each State during the past year :—

BACON-CURING FACTORIES, 1928-29.

Items.	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tas.	Aus- tralia.
Number of factories	23	19	8	8	5	6	69
Number of employees	342	556	555	171	50	37	1,711
Actual horse-power of engines employed	960	1,838	1,354	377	122	99	4,750
Approximate value of land and buildings £	159,991	228,250	190,883	60,889	19,503	12,498	672,014
Approximate value of plant and machinery £	65,268	124,010	137,149	32,664	7,931	7,272	374,294
Total amount of salaries and wages paid £	98,780	138,252	143,558	43,166	12,951	7,282	443,989
Value of fuel used £	15,439	25,359	14,967	5,151	2,456	2,597	65,969
Value of materials used £	1,087,878	1,112,209	1,046,089	325,163	153,517	71,851	3,796,707
Total value of output £	1,369,341	1,409,897	1,563,964	409,087	187,305	94,753	5,034,347
Value added in process of manu- facture £	266,024	272,329	502,908	78,773	31,332	20,305	1,171,671

(ii) *Quantity and Value of Production.* The following table shows the number of pigs killed and the quantity and value of the production of bacon-curing factories in each State for the year 1928-29 :—

BACON-CURING FACTORIES.—PIGS KILLED, AND PRODUCTION, 1928-29.

Particulars.	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tasmania.	Aus- tralia.
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PIGS KILLED.

Number	234,643	198,131	301,943	48,685	20,792	18,531	822,725
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PRODUCTS.

Bacon and ham lb.	^a 22,340,106	18,611,728	21,710,900	4,654,651	^a 2,438,462	1,594,645	71,350,492
Lard „	590,319	935,952	1,112,954	149,331	122,598	84,574	2,996,278

VALUE.

Bacon and ham £	1,163,507	1,098,728	1,038,687	287,951	161,106	81,946	3,831,925
Lard £	21,553	39,837	40,517	6,453	4,953	3,353	113,666
Other products £	160,599	274,326	471,926	114,683	21,246	9,454	1,052,234

(a) A portion of the bacon and ham treated was imported or purchased.

Bacon and ham and other pig products are dealt with more fully in Chapter XVIII., *Farmyard, Dairy, and Bee Products.*

12. Butter, Cheese, and Condensed Milk Factories.—(i) *Details for each State, 1928-29.* The subjoined table gives particulars of butter, cheese and condensed milk factories in each State during the year 1928-29 :—

BUTTER, CHEESE, AND CONDENSED MILK FACTORIES, 1928-29.

Items.	N.S.W.	Victoria.	Q'land.	S. Aust.	W.A.	Tas.	Australia.
Number of factories	144	189	119	48	12	31	523
Number of employees	1,279	2,449	1,176	290	96	151	5,441
Actual horse-power of engines employed	8,117	7,346	7,080	887	420	369	24,219
Approximate value of land and buildings £	716,760	967,510	410,267	184,021	58,570	33,761	2,366,789
Approximate value of plant and machinery £	797,307	963,850	652,160	108,957	44,039	32,380	2,598,702
Total amount of wages paid £	341,468	576,081	264,737	58,005	24,157	24,552	1,286,000
Value of fuel used £	93,412	158,685	53,953	13,700	6,894	7,912	334,556
Value of materials used £	7,263,994	8,014,230	5,916,333	726,909	299,572	402,702	23,623,740
Total value of output £	8,008,167	9,814,084	7,006,839	881,429	375,833	479,338	26,365,600
Value added in process of manufacture £	650,761	1,441,169	1,036,553	140,820	69,367	68,724	3,407,394

(ii) *Development in Australia, 1924-25 to 1928-29.* The following table shows the progress of the factories in this industry during the past five years :—

BUTTER, CHEESE, AND CONDENSED MILK FACTORIES.—AUSTRALIA, 1924-25 TO 1928-29.

Items.	1924-25.	1925-26.	1926-27.	1927-28.	1928-29.
Number of factories	600	585	579	563	523
Number of employees	5,826	5,490	5,419	5,520	5,441
Actual horse-power of engines used	15,934	17,989	20,148	22,668	24,219
Approx. value of land and buildings £	1,863,439	1,964,887	2,297,656	2,302,225	2,366,789
Approx. value of plant and machinery £	2,386,027	2,522,367	2,649,044	2,604,018	2,598,702
Total amount of wages paid £	1,287,689	1,244,470	1,242,813	1,298,540	1,289,000
Value of fuel used £	311,685	314,186	315,004	342,404	334,556
Value of materials used £	19,080,739	19,248,172	17,907,326	20,529,240	22,623,740
Value of final output £	22,728,214	22,971,416	21,737,110	21,788,248	26,365,600
Value added in process of manufacture £	3,333,790	3,409,058	3,514,780	3,916,604	3,407,394

(a) See § 9.1.

(iii) *Quantity and Value of Production.* The following table shows the quantity and value of butter, cheese, and condensed milk produced, and the quantity of milk used in butter, cheese, and condensed milk factories in each State during the past year :—

BUTTER, CHEESE, AND CONDENSED MILK FACTORIES.—PRODUCTION, 1928-29.

Particulars.	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tasmania.	Australia.
MILK USED (,000 OMITTED).							
Butter factories .. gals.	192,150	200,912	159,377	16,146	6,583	12,638	587,806
Cheese	6,589	5,169	14,178	2,807	(a)	699	29,442
Condensed milk factories ..	(a)	14,959	(a)	..	..	..	(b) 14,959

(a) Information not available for publication.

(b) Excluding New South Wales and Queensland.

BUTTER, CHEESE, AND CONDENSED MILK FACTORIES.—PRODUCTION,
1928-29—continued.

Particulars.	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tas.	Australia.
PRODUCTS (,000 OMITTED).							
Butter lb.	91,733	90,264	74,387	8,157	3,622	5,385	273,548
Cheese "	6,203	5,259	14,391	2,975	(a)	681	29,509
Condensed and concentrated milk lb.	(a)	42,328	(a)	..	..	..	(b) 42,328
Powdered milk "	..	11,621	..	..	..	..	11,621
VALUE (,000 OMITTED).							
Butter £	7,173	7,398	6,143	740	305	448	22,207
Cheese £	283	316	641	111	(a)	27	1,378
Condensed and concentrated milk £	(a)	1,089	(a)	..	..	..	(b) 1,089
Powdered milk £	..	523	..	..	..	..	523

(a) Information not available for publication.

(b) Excluding New South Wales and Queensland.

The butter, cheese, and condensed milk industries are dealt with more fully in the Chapter entitled *Farmyard, Dairy, and Bee Products*.

13. **Meat and Fish Preserving Works.**—These industries are now of considerable importance in Australia. Large freezing works have been installed at many ports throughout the continent for the purpose of freezing produce chiefly for export, while insulated space for the carriage of frozen produce is provided by steamship companies trading between Australia and other parts of the world.

MEAT AND FISH PRESERVING WORKS, 1928-29.

Items.	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tas.	Australia.
Number of factories	4	12	11	..	4	2	33
Number of employees	210	851	3,327	..	163	20	4,571
Actual horse-power of engines employed	(a)	3,927	9,125	..	641	..	13,867
Approximate value of land and buildings £	(a)	598,690	1,369,893	..	330,613	(a)	b 2,348,785
Approximate value of plant and machinery £	(a)	309,380	831,423	..	431,446	(a)	b 1,595,108
Total amount of wages paid during year £	(a)	229,245	614,343	..	78,477	(a)	b 970,565
Value of fuel used £	(a)	32,140	87,356	..	2,986	(a)	b 130,932
Value of materials used	(a)	1,627,355	3,134,899	..	116,849	(a)	b 5,033,781
Total value of output £	(a)	2,049,866	3,973,517	..	226,186	(a)	b 6,504,704
Value added in process of manufacture £	(a)	390,371	751,262	..	106,351	(a)	b 1,337,991

(a) Not available for publication.

(b) Including New South Wales and Tasmania.

Full particulars regarding quantities and values of beef, mutton, and lamb preserved by cold process, exported from Australia during a series of years, will be found in Chapter XVI.

14. **Bakeries.**—The following table gives particulars regarding establishments at which the manufacture of bread, cakes, etc., was carried on in each State during the year 1928-1929.

BAKERIES (INCLUDING CAKES AND PASTRY), 1928-29.

Items.	N.S.W.	Victoria.	Q'land. (b)	S. Aust.	W. Aust.	Tas. (a)	Australia.
Number of factories	328	487	220	92	65	..	1,192
Number of employees	3,097	3,248	1,981	780	314	..	9,420
Actual horse-power of engines employed	2,139	1,822	608	614	247	..	5,490
Approximate value of land and buildings £	1,414,939	1,087,550	383,313	265,811	106,006	..	3,257,619
Approximate value of plant and machinery £	467,582	368,050	168,412	91,632	32,295	..	1,127,961
Total amount of wages paid dur- ing year £	711,967	611,327	343,111	156,619	62,456	..	1,885,480
Value of fuel used £	92,355	89,942	30,372	19,317	8,058	..	240,044
Value of materials used £	2,110,536	2,056,334	719,415	513,796	226,704	..	5,626,785
Total value of output £	3,662,716	3,480,992	1,483,489	834,198	397,330	..	9,853,725
Value added in process of manu- -facture £	1,459,825	1,334,716	733,702	301,085	162,568	..	3,991,896

(a) Included with Confectionery. (b) Includes Biscuits.

15. Jam and Fruit Preserving, Pickles, Sauces, and Vinegar Factories.—(i) *Details for each State, 1928-29.* The subjoined table gives particulars of factories at which these industries were carried on in each State during the year 1928-29.

JAM AND FRUIT PRESERVING, PICKLES, ETC., FACTORIES, 1928-29.

Items.	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tas.	Australia.
Number of factories	42	38	13	16	5	7	121
Number of employees	1,822	2,126	455	571	34	470	5,478
Actual horse-power of engines employed	1,035	2,148	277	327	71	1,340	5,198
Approximate value of land and buildings £	324,015	453,390	48,158	118,659	13,117	101,106	1,058,445
Approximate value of plant and machinery £	151,126	307,560	37,836	68,435	4,859	31,363	601,229
Total amount of wages paid dur- ing year £	222,551	386,605	71,202	84,682	5,990	98,114	869,144
Value of fuel used £	19,037	37,613	3,604	7,293	323	10,552	78,422
Value of materials used £	818,485	1,361,167	179,814	278,667	23,626	369,003	3,030,762
Total value of output £	1,417,197	2,202,502	373,609	443,744	39,474	578,069	5,054,595
Value added in process of manu- -facture £	579,675	803,722	190,191	157,784	15,525	108,514	1,945,411

(ii) *Development in Australia, 1924-25 to 1928-29.* The following table refers to jam and fruit preserving, etc., establishments in Australia for the last five years:—

JAM AND FRUIT PRESERVING, PICKLES, ETC., FACTORIES.—AUSTRALIA,
1924-25 TO 1928-29.

Items.	1924-25.	1925-26.	1926-27.	1927-28.	1928-29.
Number of factories	164	165	164	167	121
Number of employees	6,278	6,189	6,119	6,627	5,478
Actual horse-power of engines employed	3,989	4,520	4,328	5,215	5,198
Approx. value of land and buildings £	937,288	1,038,819	1,084,835	1,177,963	1,058,445
Approx. value of plant and machinery £	616,675	615,452	634,771	748,888	601,229
Total amount of wages paid £	381,317	902,859	974,224	1,049,136	869,144
Value of fuel used £	69,152	70,549	79,311	92,373	78,422
Value of materials used £	3,127,593	3,135,573	3,511,388	3,703,161	3,030,762
Total value of output £	4,995,671	5,002,487	5,480,065	5,967,876	5,054,595
Value added in process of manufacture £	1,798,926	1,796,365	1,889,366	2,172,342	1,945,411

(a) See § 9.1.

The progress of the jam-making industry was very marked during the war years, when considerable quantities were exported overseas for the supply of army requirements. With the loss of this trade on the termination of the war, production declined considerably, and in 1928-29 amounted to only 75,252,189 lb., compared with 84,922,496 lb. in 1927-28, and 142,290,204 in 1918-19. The output of preserved fruit has grown to considerable proportions, and during 1928-29, 68,367,499 lb. were processed, while the production of pickles and sauces is increasing.

(iii) *Production.* The following table shows the quantity and value of jams, pickles, and sauces manufactured in each State during 1928-29 :—

JAMS, PRESERVED FRUIT, PICKLES AND SAUCES.—OUTPUT, 1928-29.

Particulars.	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tas.	Australia.
QUANTITY (,000 OMITTED).							
Jams lb.	16,365	31,991	8,113	6,774	(a)	(a)	b 75,252
Pulp "	217	6,457	837	4,453	..	10,916	22,880
Fruit, preserved "	13,969	39,317	5,642	2,692	..	6,747	68,367
Pickles pints	2,538	1,804	(a)	1,061	(a)	(a)	b 5,646
Sauces "	7,468	7,906	828	4,160	(a)	(a)	b 20,757
VALUE.							
Jams £	497,231	749,171	178,587	142,191	(a)	(a)	b1,889,824
Pulp £	2,250	53,475	7,774	23,725	..	133,528	220,752
Fruit, preserved £	248,638	753,040	117,204	57,185	..	121,627	1,302,694
Pickles £	78,521	75,185	12,691	25,554	(a)	(a)	b 194,040
Sauces £	437,926	305,044	24,443	132,070	(a)	(a)	b 910,557

(a) Particulars not available for publication.

(b) Including Western Australia and Tasmania.

16. Confectionery Factories.—(i) *Details for each State, 1928-29.* The growth of this industry will be apparent when it is stated that at the close of 1900 there were in New South Wales only 16 establishments, with 706 employees, and in Victoria 16 establishments, employing 731 persons, the plant and machinery in the former State being valued at £2,815, and in the latter at £19,070. Returns for 1928-29 are given hereunder :—

CONFECTIONERY FACTORIES, 1928-29.

Items.	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tas. (a)	Australia.
Number of factories	76	156	13	22	15	38	320
Number of employees	3,187	3,040	551	406	291	911	8,386
Actual horse-power of engines employed	3,611	5,959	728	732	284	1,423	12,737
Approximate value of land and buildings £	1,026,865	570,510	151,764	102,085	57,193	293,468	2,201,885
Approximate value of plant and machinery £	1,019,563	945,360	131,782	92,598	71,538	107,867	2,368,208
Total amount of wages paid during year £	498,915	525,376	80,471	53,730	42,902	134,603	1,335,997
Value of fuel used £	55,405	85,345	9,616	11,823	4,561	17,632	183,787
Value of materials used £	1,600,914	1,590,984	134,491	178,688	159,210	334,619	3,998,900
Total value of output £	3,068,532	2,924,846	378,305	283,017	231,239	569,489	7,455,428
Value added in process of manufacture £	1,412,213	1,248,517	234,798	92,501	67,468	217,238	3,272,735

(a) Including Biscuits and Bakeries.

(ii) *Development in Australia, 1924-25 to 1928-29.* The growth of the confectionery industry during the past four years is exhibited in the following table :—

CONFECTIONERY FACTORIES.—AUSTRALIA, 1924-25 TO 1928-29.

Items.	1924-25. (a)	1925-26. (a)	1926-27. (a)	1927-28. (a)	1928-29. (a)
Number of factories	276	267	286	293	320
Number of employees	8,818	8,849	9,048	8,616	b 8,386
Actual horse-power of engines employed	12,725	13,047	14,166	14,241	12,737
Approx. value of land and buildings £	2,021,439	2,014,563	2,084,233	2,074,074	2,201,885
Approx. value of plant and machinery £	2,104,208	2,199,860	2,311,513	2,332,479	2,368,208
Total amount of wages paid during year £	1,349,717	1,391,114	1,426,779	1,365,241	1,335,997
Value of fuel used £	155,050	166,846	165,181	186,323	183,787
Value of materials used £	3,619,005	3,884,045	3,918,090	4,054,201	3,998,906
Total value of output £	6,623,828	6,993,566	7,097,911	7,300,429	7,455,428
Value added in process of manufacture £	2,849,773	2,942,675	3,014,640	3,059,905	3,272,735

(a) Including Biscuits and Bakeries in Tasmania.

(b) See § 9.1.

The confectionery industry has expanded considerably during recent years, largely as a result of the stimulus afforded by the embargo placed on the importation of luxuries during the period of the war. The establishments engaged therein found employment for 8,386 persons in 1928-29, and the value of the output amounted to £7,455,428, or more than 12 per cent. greater than the value of the production in 1924-25. The Australian market has been captured, and an export trade is being developed. Several large British manufacturers of confectionery have established branch works in Australia.

17. Flour Mills.—(i) *Details for States, 1928-29.* The following table shows the position of the flour-milling industry in each State in 1928-29 :—

FLOUR MILLS, 1928-29.

Items.	N.S.W.	Victoria.	Q'land.	S. Aust. (a)	W. Aust.	Tas. (a)	Australia.
Number of factories ..	56	41	9	38	17	10	169
Number of employees ..	1,146	985	303	488	355	107	3,384
Actual horse-power of engines employed ..	7,893	5,982	1,621	3,035	2,635	530	21,696
Approximate value of land and buildings ..	£ 804,901	£ 468,600	£ 145,088	£ 222,288	£ 231,456	£ 59,980	£ 1,932,313
Approximate value of plant and machinery ..	£ 884,194	£ 634,510	£ 157,596	£ 335,163	£ 272,293	£ 48,632	£ 2,332,388
Total amount of wages paid during year ..	£ 312,880	£ 258,056	£ 67,892	£ 110,030	£ 88,319	£ 24,491	£ 861,668
Value of fuel used ..	£ 75,361	£ 59,661	£ 11,030	£ 31,166	£ 21,242	£ 5,420	£ 203,880
Value of materials used ..	£ 5,493,782	£ 4,610,551	£ 735,687	£ 1,638,671	£ 1,409,941	£ 334,734	£ 14,223,866
Total value of output ..	£ 6,276,317	£ 5,378,763	£ 943,751	£ 1,831,758	£ 1,645,652	£ 393,525	£ 16,469,706
Value added in process of manufacture ..	£ 707,174	£ 708,551	£ 197,034	£ 161,921	£ 214,469	£ 53,371	£ 2,042,520

(a) The manufacture of cornflour, oatmeal, etc., was also carried on in some of these establishments.

(ii) *Production of Flour and By-products, 1924-25 to 1928-29.* The production of flour by the mills in each State for the years 1924-25 to 1928-29 was as follows :—

FLOUR MILLS.—PRODUCTION OF FLOUR, 1924-25 TO 1928-29.

Year.(b)	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tasmania.	Australia.
	Tons.a	Tons.a	Tons.a	Tons.a	Tons.a	Tons.a	Tons.a
1924-25 ..	395,409	359,597	52,592	117,042	122,192	21,866	1,068,698
1925-26 ..	434,407	336,704	61,587	138,127	190,369	24,774	1,185,968
1926-27 ..	431,532	360,051	52,959	140,426	133,919	22,861	1,141,748
1927-28 ..	400,363	367,383	53,358	122,107	127,246	21,675	1,092,632
1928-29 ..	449,011	390,286	54,433	137,202	119,550	21,277	1,171,759

(a) Tons of 2,000 lb.

(b) See general note on first page of this Chapter.

The total production of flour in Australia for the last year, viz., 1,171,759 tons, was valued at £12,964,802. In addition, 478,385 tons of bran and pollard, valued at £3,216,949 were made. The total quantity of wheat ground was 55,768,310 bushels.

18. Sugar Mills.—(i) *Details for 1928-29.* The following table shows the position of the cane-crushing branch of the sugar-making industry in Queensland and New South Wales in 1928-29. Sugar-cane is not grown in the other States. Details regarding the area, yield, etc., of sugar-cane will be found in Chapter XVII., *Agricultural Production.*

SUGAR MILLS, 1928-29.

Items.	N.S.W.	Queensland.	Australia.
Number of factories	3	35	38
Number of employees	375	6,077	6,452
Actual horse-power of engines employed ..	2,114	31,790	33,904
Approximate value of land and buildings £	133,870	878,046	1,011,916
Approximate value of plant and machinery £	538,046	6,314,762	6,852,808
Total amount of wages paid during year ..	77,995	1,330,857	1,408,852
Value of fuel used	£ 7,952	205,517	213,469
Value of materials used	£ 259,152	7,884,897	8,144,049
Total value of output	£ 367,983	10,810,466	11,178,449
Value added in process of manufacture ..	£ 100,879	2,720,052	2,820,931

The products of the sugar mill are raw sugar and molasses, the former being sent to the refineries in different parts of Australia for further treatment. Part of the molasses produced is used for distillation, part is prepared for human consumption, part is turned into food-cake for cattle, part is used for manuring land, and the balance is either burnt as fuel or is allowed to run to waste. This latter quantity, however, is being reduced each year.

(ii) *Progress of Industry.* (a) *New South Wales.* The following table shows the progress of this industry in New South Wales since 1924-25 :—

SUGAR MILLS.—NEW SOUTH WALES, 1924-25 TO 1928-29.

Items.	1924-25.	1925-26.	1926-27.	1927-28.	1928-29.
Number of factories ..	3	3	3	3	3
Number of employees ..	445	487	447	413	(a) 375
Cane crushed .. tons	228,978	297,335	230,254	208,612	147,414
Sugar produced .. tons	26,682	32,385	26,604	23,349	16,954
Molasses produced gals.	1,313,400	1,820,000	1,371,700	1,196,700	914,000

(a) See § 9.1.

The number of mills in New South Wales has been reduced to three during recent years owing chiefly to the tendency towards concentration of cane-crushing in mills fitted with modern machinery, and the consequent closing of the small home mill. The stability afforded the sugar industry by Government assistance referred to in the chapter dealing with agriculture has been responsible for considerable progress in the cultivation of sugar cane, and consequently increased activity has occurred in the sugar mills of New South Wales and Queensland during recent years.

(b) *Queensland.* Details for Queensland from 1911 onwards are given hereunder.

SUGAR MILLS.—QUEENSLAND, 1911 TO 1928-29.

Items.	1911.	1925-26.	1926-27.	1927-28.	1928-29.
Number of factories ..	49	40	39	35	35
Number of employees ..	4,295	7,322	6,949	6,005	(a) 6,077
Cane crushed .. tons	1,534,451	3,653,860	2,930,860	3,570,743	3,741,715
Sugar produced .. tons	173,296	479,023	457,914	479,803	516,081
Molasses—					
Sold to distillers and others .. gals.	2,393,669	3,749,788	3,301,557	4,823,728	5,676,821
Used as fodder .. gals.	789,564	2,176,649	2,828,118	2,523,390	2,524,136
Used as manure .. gals.	223,000	1,287,400	89,600	473,260	7,200
Run to waste .. gals. }	1,847,333	{ 6,278,973	{ 4,748,015	{ 3,495,063	{ 3,044,889
Burnt .. gals. }		{ 3,681,394	{ 2,547,140	{ 3,204,997	{ 5,131,726
In Stock .. gals.	1,197,626	1,590,212	1,172,003	1,335,366	488,600
Total Molasses .. gals.	6,451,192	18,764,416	14,686,433	15,855,804	16,873,372

(a) See § 9.1.

19. **Sugar Refineries.**—The establishment of the sugar-refining industry considerably antedates the establishment of the sugar-milling industry, the raw material operated upon being originally brought chiefly from Mauritius and the East. In 1928–29 there were two sugar refineries in each of the States of Victoria and Queensland, and one in each of the States of New South Wales and South Australia. The quantity of raw sugar operated upon amounted to 331,071 tons, for a yield of 321,715 tons of refined sugar, valued at £11,436,158.

20. **Breweries.**—(i) *Details for each State, 1928–29.* The following table gives particulars concerning breweries in each State :—

BREWERIES, 1928–29.

Items.	N.S.W.	Vic.	Q'land.	S. Aust.	W. Aust. (a).	Tas.	Australia.
Number of breweries	8	9	10	6	9	3	45
Number of employees	1,276	1,194	482	361	428	133	3,874
Actual horse-power of engines employed	4,124	4,180	2,113	1,466	1,544	790	14,217
Approximate value of land and buildings £	843,365	692,090	337,370	190,175	277,506	135,701	2,476,207
Approximate value of plant and machinery £	1,038,768	944,880	350,030	228,820	284,370	56,210	2,912,078
Total amount of wages paid during year £	387,017	411,714	117,575	118,676	136,034	37,683	1,208,699
Value of fuel used £	104,020	81,432	33,027	27,488	19,242	30,699	295,908
Value of raw materials used £	1,255,474	1,114,378	252,092	287,324	340,563	60,828	3,310,659
Total value of output £	3,215,957	2,522,933	576,863	651,771	784,451	169,035	7,921,010
Value added in process of manufacture £	1,856,463	1,327,123	291,744	336,959	424,646	77,508	4,314,443

(a) Includes malting.

(ii) *Development in Australia, 1924–25 to 1928–29.* The following table shows the progress of this industry during the past four years :—

BREWERIES.—AUSTRALIA, 1924–25 TO 1928–29.

Items.	1924–25.	1925–26.	1926–27.	1927–28.	1928–29.
Number of breweries	56	52	48	46	45
Number of employees	3,965	3,812	3,844	3,881	a 3,874
Actual horse-power of engines employed	13,403	13,246	13,143	14,688	14,217
Approx. value of land and buildings £	1,996,644	2,141,888	2,205,779	2,347,851	2,476,207
Approx. value of plant and machinery £	2,506,284	2,595,955	2,710,319	2,853,623	2,912,078
Total amount of wages paid £	1,093,323	1,194,424	1,173,086	1,208,091	1,208,699
Value of fuel used £	241,918	283,300	248,780	272,151	295,908
Value of raw materials used £	3,019,592	3,577,212	3,315,441	3,318,521	3,310,659
Value of final output £	7,117,029	7,342,180	7,941,978	7,964,626	7,921,010
Value added in process of manufacture £	3,855,519	3,981,668	4,377,757	4,373,954	4,314,443

(a) See § 9.1.

The main feature in the history of the brewing industry, which was established at an early date in Australia, has been the change from the small local brewery in every township of moderate size to the large centralized city brewery. This, however, has not been so much in evidence during the period embraced in the above table, the reduction of the number of establishments during recent years being mainly due to several large amalgamations. The total value of output of breweries in Australia increased from £7,117,029 in 1924–25 to £7,921,010 in 1928–29, and the quantity of ale and stout brewed rose from 67,188,370 to 73,723,234 gallons during the same period. The consumption of ale and stout per head of the population remains fairly constant in Australia, and for the year 1928–29 averaged nearly 11½ gallons.

(iii) *Materials Used and Production.* The table below shows the quantity of raw material used and the quantity and value of ale and stout brewed in each State during the year 1928–29.

BREWERIES.—MATERIALS USED AND PRODUCTION, 1928–29.

Particulars.	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tasmania.	Australia.
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RAW MATERIAL USED.

Malt .. bushels	992,385	806,252	199,925	197,135	196,205	45,698	2,437,600
Hops .. lb.	935,989	777,849	177,503	205,920	187,764	57,987	2,343,012
Sugar .. cwt.	110,108	110,968	25,869	24,427	29,782	4,130	305,284

RAW MATERIAL USED PER 1,000 GALLONS OF ALE AND STOUT PRODUCED.

Malt .. bushels	33.73	32.25	30.56	35.30	33.06	36.76	33.06
Hops .. lb.	31.81	31.12	27.13	36.87	31.64	46.65	31.78
Sugar .. cwt.	3.74	4.44	3.95	4.37	5.02	3.32	4.14

ALE AND STOUT BREWED.

Quantity gallons	29,420,920	24,998,740	6,541,534	5,584,617	5,934,303	1,243,120	73,723,234
Value(a) £	3,176,085	2,519,031	576,883	646,749	758,909	169,035	7,846,672

(a) Exclusive of excise duty.

21. *Distilleries.*—Distilleries are located in all the States with the exception of Western Australia and Tasmania. Complete details, however, are not obtainable, as the particulars for New South Wales factories are not available. The materials used in all distilleries during 1928–29 comprised 922,868 cwt. of molasses, 119,597 bushels of malt, and 8,206,881 gallons of wine, while the output of distilled spirit amounted to 6,454,847 proof gallons.

22. *Tobacco, etc., Factories.*—(i) *Details for each State, 1928–29.* During the year 1928–29 there were twenty-three establishments in which the manufacture of tobacco, cigars, and cigarettes was carried on. There were no factories engaged in this industry in Queensland or Tasmania.

TOBACCO, CIGAR, AND CIGARETTE FACTORIES, 1928–29.

Items.	N.S.W.	Victoria.	S. Aust.	W. Aust.	Australia.
Number of factories	8	12	1	2	23
Number of employees	2,494	1,516	21	106	4,137
Actual horse-power of engines employed	1,199	714	..	33	1,946
Approx. value of land and buildings £	527,350	253,530	(a)	(a)	b 794,421
Approx. value of plant and machinery £	363,150	172,710	(a)	(a)	b 543,462
Total amount of wages paid during year £	466,904	322,836	(a)	(a)	b 808,865
Value of fuel used	14,031	9,401	(a)	(a)	b 24,115
Value of materials used	3,344,436	1,052,641	(a)	(a)	b 4,427,808
Total value of output	4,863,300	1,849,897	(a)	(a)	b 6,812,791
Value added in process of manufacture £	1,504,833	737,855	(a)	(a)	b 2,360,870

(a) Not available for publication. (b) Including South Australia and Western Australia.

(ii) *Development in Australia.* This industry was among the first to be established in Australia. In 1861 New South Wales had eleven factories, producing 177,744 lb. of manufactured tobacco; in the same year there was one factory in Victoria, but the quantity of tobacco manufactured is not available. The Australian market has

for many years been largely supplied with local manufactures. The imports into Australia during 1928-29 comprised—manufactured tobacco 1,070,251 lb., cigars 108,692 lb., and cigarettes 1,019,514 lb., while the quantities manufactured in Australian factories were respectively 15,667,900 lb., 338,873 lb., and 5,357,782 lb. The following tables show the development of the tobacco manufacturing industry in Australia during recent years:—

**TOBACCO, CIGAR, AND CIGARETTE FACTORIES.—AUSTRALIA,
1924-25 TO 1928-29.**

Items.	1924-25.	1925-26.	1926-27.	1927-28.	1928-29.
Number of factories	27	26	24	23	23
Number of employees	4,421	4,325	4,286	4,217	a 4,137
Actual horse-power of engines used	1,676	1,713	1,645	1,684	1,946
Approx. value of land and buildings	£ 620,694	640,239	675,689	783,895	794,421
Approx. value of plant and machinery	£ 781,471	806,615	812,300	818,985	808,865
Total amount of wages paid	£ 27,172	28,053	22,032	21,991	24,115
Value of fuel used	£ 4,613,357	4,589,301	4,523,086	4,492,363	4,427,806
Value of materials used	£ 6,927,087	6,892,332	6,800,026	6,817,391	6,812,791
Value added in process of manufacture	£ 2,286,558	2,274,978	2,254,908	2,303,037	2,360,870

LEAF USED AND PRODUCTION.

	1,000 lb.	18,073	18,661	18,610	18,620	19,136
Leaf used	1,000 lb.	18,073	18,661	18,610	18,620	19,136
Tobacco made	"	14,978	15,405	15,008	15,097	15,678
Cigars	"	470	456	410	390	339
Cigarettes	"	4,873	5,134	5,309	5,391	5,358

(a) See § 9.1.

Although the manufacturing side of the tobacco industry is so firmly established in Australia, the production of locally-grown leaf is comparatively small, and manufacturers are dependent on imported leaf for the supply of their raw material. In this connexion, however, see item "Tobacco" in Chapter XVII., *Agricultural Production*. The respective quantities of Australian and imported leaf used during 1928-29 were 978,030 and 18,157,689 lb.

23. *Woollen and Tweed Mills.*—(i) *Details for each State, 1928-29.* The manufacture of woollens and tweeds was established in Australia at an early period in its history, and was under Government control, the first record in New South Wales dating back to 1801, when a few blankets were made by the convicts; the first record in Victoria was in 1867. The following table, which gives particulars for 1928-29, shows that the industry is now well established:—

WOOLLEN AND TWEED MILLS, 1928-29.

Items.	N.S.W.	Victoria.	Q'land.	S. Aust.	W.A.	Tas.	Australia.
Number of factories	14	28	2	3	1	5	53
Number of employees	2,993	6,561	340	320	98	1,118	11,430
Actual horse-power of engines employed	6,704	14,455	739	897	300	1,653	24,748
Approx. value of land and buildings	£ 540,680	1,068,950	(a)	(a)	(a)	240,120	b 1,984,124
Approx. value of plant and machinery	£ 1,023,692	1,851,740	(a)	(a)	(a)	306,418	b 3,487,795
Total amount of wages paid during year	£ 469,019	1,053,127	(a)	(a)	(a)	139,340	b 1,766,320
Value of fuel used	£ 66,390	160,639	(a)	(a)	(a)	29,685	b 270,995
Value of materials used	£ 1,302,600	2,442,010	(a)	(a)	(a)	404,670	b 4,363,482
Total value of output	£ 2,144,234	4,308,677	(a)	(a)	(a)	648,474	b 7,477,295
Value added in process of manufacture	£ 775,244	1,706,028	(a)	(a)	(a)	214,119	b 2,842,818

(a) Information not available for publication.

(b) Including Queensland, South Australia, and Western Australia.

(ii) *Development in Australia, 1924-25 to 1928-29.* The progress of woollen and tweed milling in Australia during the last four years is shown in the following table :—

WOOLLEN AND TWEED MILLS.—AUSTRALIA, 1924-25 TO 1928-29.

Items.	1924-25.	1925-26.	1926-27.	1927-28.	1928-29.
Number of factories	49	50	53	57	53
Number of employees	7,941	8,735	11,068	11,638	11,430
Actual horse-power of engines used	16,310	18,426	22,441	23,158	24,748
Approx. value of land and buildings £	1,620,318	1,659,446	1,892,108	1,933,654	1,984,124
Approx. value of plant and machinery £	3,297,229	3,247,602	3,779,316	3,688,023	3,487,795
Total amount of wages paid	1,102,718	1,222,596	1,607,595	1,755,538	1,766,820
Value of fuel used	165,724	203,237	251,093	272,578	270,995
Value of materials used	3,197,778	3,400,316	3,681,164	4,172,120	4,363,482
Total value of output	5,071,124	5,758,267	6,986,296	7,601,435	7,477,295
Value added in process of manufacture £	1,707,622	2,154,714	3,054,039	3,156,737	2,842,818

(a) See § 9. 1.

(iii) *Quantity and Value of Production.* The production consists chiefly of tweed cloths, flannels, rugs, blankets and yarn, all of which have acquired a reputation for purity and durability. Detailed particulars for the several States are not available for publication. The total length of tweed and cloth manufactured in Australia during 1928-29 was 9,356,042 yards. In New South Wales 2,822,663 yards of tweed and cloth, and in Victoria, 5,979,625 yards were manufactured. The production of flannel amounted to 7,302,306 yards, while blankets, shawls, and rugs to the number of 1,072,459 were manufactured. The output of yarn reported was 6,213,342 lb., most of which was produced in Victoria.

In addition to the woollen and tweed factories, there were 254 hosiery and knitting mills operating throughout Australia during 1928-29. These establishments provided employment for 11,583 persons, of whom 9,146 were females, and the value of their output amounted to £6,511,541.

Cotton ginning has been carried on intermittently in the Northern States, and the recent development in cotton growing has led to the establishment of modern ginning plants at convenient centres in Queensland. In New South Wales during 1923-24 the first up-to-date mill for the manufacture of cotton goods was erected. There were twenty-two establishments treating cotton in Australia during 1928-29, and these employed 944 hands, while the value of the output was £729,132.

24. *Boot Factories.*—(i) *Boot and Shoe Factories, 1928-29.* Among the manufactures of Australia the boot and shoe industry holds an important place in regard to employment afforded and extent of output. In certain items the operations of these factories have been rather obscured in recent years by the inclusion in the returns of a large number of repair establishments, but this difficulty has been avoided by the collection of separate statistics for each industry, and in the following table the details relate to boot and shoe factories as distinct from those devoted to repairing and bespoke work :—

BOOT AND SHOE FACTORIES, 1928-29.

Items.	N.S.W.	Vic.	Q'land.	S. Aust.	W. Aust.	Tas.	Australia.
Number of factories	106	198	17	17	9	7	354
Number of employees	5,290	11,507	1,067	515	378	197	18,954
Actual horse-power of engines employed	1,944	3,626	294	276	214	78	6,432
Approx. value of land and buildings	555,394	920,590	66,584	80,449	53,596	14,430	1,691,043
Approx. value of plant and machinery	267,622	601,740	41,362	26,656	34,392	7,179	978,951
Total amount of wages paid during year	906,084	1,926,426	155,866	78,535	56,025	28,067	3,151,003
Value of fuel used	15,629	41,736	2,482	1,660	1,210	674	63,391
Value of materials used	1,434,476	3,268,297	224,190	119,671	127,221	54,172	5,228,027
Total value of output	2,703,498	6,196,085	457,397	211,326	210,542	95,753	9,874,541
Value added in process of manufacture	1,253,333	2,886,052	230,725	89,995	82,111	40,907	4,583,123

(ii) *Boot Repairing, including Bespoke Work.* The introduction of small power plants in repairing shops has brought this class of establishment within the meaning of a factory for statistical purposes. These shops have spread rapidly throughout the Commonwealth, and during 1928-29 the number recorded amounted to 1,064, in which 2,136 hands were employed. The sum of £222,140 was distributed in salaries and wages, and the total output value was £950,450.

(iii) *Quantity and Value of Production.* The number and value of boots, shoes, and slippers made at factories in each State are shown in the following table :—

BOOT AND SHOE FACTORIES.—OUTPUT, 1928-29.

Particulars.		N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tas.	Australia.
QUANTITY (,000 OMITTED).								
Boots and shoes..	pairs	3,817	7,857	641	375	356	139	13,185
Slippers ..	"	1,292	2,493	11	21	101	..	3,918
Uppers (a) ..	"	62	69	2	9	.2	3	145
VALUE.								
Boots and shoes..	£	2,437,699	5,301,747	452,729	198,552	197,072	95,225	8,683,024
Slippers ..	£	189,324	385,019	3,961	6,510	15,139	..	599,958
Uppers (a) ..	£	19,155	21,473	973	3,481	99	845	46,026

(a) Made for other than factory use.

25. Clothing (Tailoring and Slop) Factories.—(i) *Details for each State, 1928-29.* The importance of this industry in the several States is shown in the following table :—

CLOTHING (TAILORING AND SLOP) FACTORIES, 1928-29.

Items.	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tas.	Australia.
Number of factories ..	533	516	131	132	90	38	1,440
Number of employees ..	11,571	8,598	2,916	2,059	1,307	502	26,953
Actual horse-power of engines employed ..	882	574	147	99	74	26	1,802
Approximate value of land and buildings ..	£ 2,161,898	1,194,600	299,866	381,464	270,600	81,045	4,389,473
Approximate value of plant and machinery ..	£ 141,690	113,850	32,960	24,929	18,673	4,955	337,057
Total amount of wages paid during year ..	£ 1,583,146	1,141,763	319,166	246,587	174,462	59,870	3,524,994
Value of fuel used ..	£ 24,196	24,741	6,976	6,032	3,095	60	65,100
Value of materials used ..	£ 2,040,650	1,934,280	452,634	339,522	270,472	55,181	5,092,739
Total value of output ..	£ 4,444,557	3,652,907	1,073,338	733,865	556,496	141,661	10,602,874
Value added in process of manufacture ..	£ 2,379,711	1,693,886	613,778	388,311	282,929	86,420	5,445,035

(ii) *Development in Australia, 1924-25 to 1928-29.* The tailoring and slop branch of the clothing industry has made little progress during the past four years. The number of factories and persons employed have declined, while the value of raw material used and output have remained practically constant. Details for the past five years are as follow :—

CLOTHING (TAILORING AND SLOP) FACTORIES.—AUSTRALIA, 1924-25 TO 1928-29.

Items.	1924-25.	1925-26.	1926-27.	1927-28.	1928-29.
Number of factories ..	1,472	1,481	1,465	1,422	1,440
Number of employees ..	28,600	28,294	28,409	27,401	a 26,953
Actual horse-power of engines used ..	1,823	1,787	1,833	1,954	1,802
Approx. value of land and buildings ..	£ 4,291,681	4,403,707	4,368,772	4,364,779	4,389,473
Approx. value of plant and machinery ..	£ 374,079	376,509	387,923	370,757	337,057
Total amount of wages paid ..	£ 3,482,436	3,634,760	3,664,940	3,616,157	3,524,994
Value of fuel used ..	£ 58,943	65,838	64,742	65,946	65,100
Value of materials used ..	£ 5,407,676	5,582,354	5,456,983	5,121,106	5,092,739
Total value of output ..	£ 10,881,684	11,274,588	11,118,283	10,827,374	10,602,874
Value added in process of manufacture ..	£ 5,415,065	5,626,596	5,596,578	5,640,322	5,445,035

(a) See § 9. 1.

26. Dressmaking and Millinery Establishments.—(i) *Details for each State, 1928–29.* Particulars of dressmaking and millinery establishments are given in the following table:—

DRESSMAKING AND MILLINERY ESTABLISHMENTS, 1928–29.

Items.	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tas.	Australia.
Number of factories	225	512	39	57	50	14	897
Number of employees	3,384	8,859	678	965	769	123	14,778
Actual horse-power of engines employed	183	633	182	63	66	5	1,182
Approximate value of land and buildings	£ 875,280	£ 1,370,740	£ 54,925	£ 153,946	£ 193,610	£ 12,462	£ 2,570,963
Approximate value of plant and machinery	£ 31,032	£ 116,290	£ 5,558	£ 11,211	£ 9,857	£ 1,203	£ 175,151
Total amount of wages paid during year	£ 335,867	£ 968,352	£ 63,374	£ 85,048	£ 70,572	£ 9,021	£ 1,532,734
Value of fuel used	£ 4,085	£ 16,387	£ 577	£ 1,864	£ 938	£ 205	£ 24,056
Value of materials used	£ 523,622	£ 1,873,637	£ 86,738	£ 107,351	£ 123,540	£ 10,086	£ 2,724,974
Total value of output	£ 1,129,054	£ 3,406,295	£ 194,776	£ 234,857	£ 237,771	£ 24,867	£ 5,227,620
Value added in process of manufacture	£ 601,347	£ 1,516,271	£ 107,461	£ 125,642	£ 113,293	£ 14,576	£ 2,478,590

(ii) *Development in Australia, 1924–25 to 1928–29.* The development of dressmaking and millinery establishments in Australia during the past four years is shown in the following table:—

**DRESSMAKING AND MILLINERY ESTABLISHMENTS.—AUSTRALIA,
1924–25 TO 1928–29.**

Items.	1924–25.	1925–26.	1926–27.	1927–28.	1928–29.
Number of factories	922	898	912	916	897
Number of employees	14,823	14,703	15,051	15,019	a 14,778
Actual horse-power of engines used	699	854	906	898	1,182
Approximate value of land and buildings	£ 2,270,977	£ 2,308,405	£ 2,498,532	£ 2,596,384	£ 2,570,963
Approximate value of plant and machinery	£ 166,102	£ 173,368	£ 171,235	£ 170,653	£ 175,151
Total amount of wages paid	£ 1,383,138	£ 1,462,410	£ 1,507,373	£ 1,525,947	£ 1,532,734
Value of fuel used	£ 19,042	£ 21,344	£ 22,171	£ 25,054	£ 24,056
Value of materials used	£ 2,648,815	£ 2,805,082	£ 2,840,827	£ 2,590,753	£ 2,724,974
Value of final output	£ 4,920,650	£ 5,243,483	£ 5,294,399	£ 5,034,713	£ 5,227,620
Value added in process of manufacture	£ 2,252,793	£ 2,417,077	£ 2,431,401	£ 2,418,906	£ 2,478,590

(a) See § 9.1.

27. Electrotyping, Stereotyping, Printing, and Binding Works.—(i) *Details for each State, 1928–29.* Printing ranks high in importance among the industries of Australia. It affords employment for about 27,000 employees, and pays more than £6,000,000 in salaries and wages. During 1928–29 the total value of the output amounted to £16,419,674.

The following table gives particulars of these industries in each State for the year 1928–29:—

**ELECTROTYPING, STEREOTYPING, PRINTING, AND BINDING ESTABLISHMENTS,
1928–29.**

Items.	N.S.W.	Vic.	Q'land.	S. Aust.	W. Aust.	Tas.	Australia.
Number of factories	501	483	132	97	91	21	1,325
Number of employees	10,392	9,136	3,372	1,844	1,541	682	26,967
Actual horse-power of engines employed	9,563	7,881	2,553	1,736	1,456	361	23,550
Approximate value of land and buildings	£ 3,100,328	£ 2,449,670	£ 821,969	£ 664,100	£ 436,090	£ 111,304	£ 7,583,461
Approximate value of plant and machinery	£ 3,132,777	£ 2,111,050	£ 590,336	£ 571,345	£ 375,071	£ 125,944	£ 6,906,523
Total amount of wages paid during year	£ 2,446,228	£ 1,959,773	£ 721,975	£ 410,431	£ 359,403	£ 161,493	£ 6,059,303
Value of fuel used	£ 80,501	£ 65,061	£ 32,390	£ 14,088	£ 12,868	£ 5,177	£ 210,085
Value of materials used	£ 2,847,691	£ 2,200,604	£ 515,610	£ 389,585	£ 300,730	£ 97,810	£ 6,152,030
Total value of output	£ 6,863,261	£ 5,548,169	£ 1,724,562	£ 1,078,313	£ 877,718	£ 327,661	£ 16,419,674
Value added in process of manufacture	£ 4,135,069	£ 3,282,504	£ 1,176,552	£ 674,640	£ 564,120	£ 224,674	£ 10,057,559

(ii) *Development in Australia, 1924-25 to 1928-29.* The development of electrotyping, stereotyping, printing, and binding in Australia since 1924-25 is shown in the following table:—

**ELECTROTYPING, STEREOTYPING, PRINTING AND BINDING ESTABLISHMENTS.—
AUSTRALIA, 1924-25 TO 1928-29.**

Items.	1924-25.	1925-26.	1926-27.	1927-28.	1928-29.
Number of establishments	1,238	1,254	1,307	1,322	1,325
Number of employees	25,279	25,213	27,059	27,049	a 26,907
Actual horse-power of engines used	13,203	19,048	20,581	23,042	23,550
Approximate value of land and buildings £	5,709,421	6,258,485	7,012,899	7,421,430	7,583,461
Approximate value of plant and machinery £	5,624,487	5,961,076	6,562,612	6,507,575	6,906,523
Total amount of wages paid	£ 5,232,040	5,526,081	5,934,778	5,960,513	6,059,303
Value of fuel used	£ 165,046	185,513	197,048	209,647	210,085
Value of materials used	£ 4,904,536	5,277,369	5,969,691	6,079,643	6,152,030
Total value of output	£ 13,621,903	14,493,764	16,000,311	16,307,832	16,419,674
Value added in process of manufacture £	8,552,321	9,030,882	9,833,472	10,118,542	10,057,559

(a) See § 9.1.

The figures shown in the above table for some years were considerably augmented by the inclusion of all details in respect of the newspaper industry, but from 1924-25 onwards only the cost of printing and publishing the papers has been taken into account in computing factory returns.

28. *Motor Vehicles and Accessories.*—The industries catering for the motor trade comprise the principal branches of manufacture in Class XI. The statistical classification has been amended and does not now permit the separation of the assembling and repairing of motors from the body building section. The number of bodies manufactured during 1928-29 was 72,193, valued at £4,357,841. The returns for the combined industries during the year 1928-29 are as follow:—

MOTOR VEHICLES AND ACCESSORIES, 1928-29.

Items.	N.S.W.	Vic.	Q'land.	S. Aust.	W. Aust.	Tas.	Australia.
Number of factories	945	759	128	146	156	65	2,199
Number of employees	8,457	6,181	1,286	5,495	1,259	493	23,171
Actual horse-power of engines employed	5,134	4,530	719	4,159	612	233	15,387
Approximate value of land and buildings	£ 3,179,009	2,026,910	502,535	987,777	468,630	172,822	7,337,683
Approximate value of plant and machinery	£ 591,454	811,750	93,531	719,972	97,722	24,476	2,338,905
Total amount of wages paid during year	£ 1,619,600	1,280,290	232,453	1,138,164	262,032	72,110	4,604,739
Value of fuel used	£ 68,871	55,247	9,999	44,209	8,766	3,264	190,356
Value of materials used	£ 1,300,131	727,373	105,605	1,279,432	134,959	33,369	3,580,869
Total value of output	£ 3,672,553	2,688,382	681,993	3,159,007	580,657	146,970	10,929,562
Value added in process of manufacture	£ 2,303,551	1,905,762	566,389	1,835,363	436,932	110,337	7,158,337

29. Furniture and Cabinet Making and Billiard Table Making Factories.—These industries constitute the principal manufactures in Class XIII. The following table gives particulars for each State :—

FURNITURE AND CABINET MAKING AND BILLIARD TABLE MAKING FACTORIES, 1928-29.

Items.	N.S.W.	Vic.	Q'land. (b)	S. Aust.	W. Aust. (a)	Tas.	Australia.
Number of factories	271	318	81	56	62	33	821
Number of employees	4,001	2,960	1,240	839	816	337	10,213
Actual horse-power of engines employed	4,927	3,625	1,484	1,819	975	460	13,290
Approximate value of land and buildings £	847,090	664,390	186,648	123,150	137,505	41,278	2,000,061
Approximate value of plant and machinery £	263,923	184,300	76,293	79,588	46,582	19,584	670,270
Total amount of wages paid during year £	854,033	508,513	246,211	149,256	154,394	49,915	1,982,322
Value of fuel used £	23,830	20,498	8,445	6,709	4,027	1,790	65,299
Value of materials used £	1,269,403	690,200	307,598	182,074	199,882	36,341	2,655,498
Total value of output £	2,536,669	1,561,278	667,757	394,661	439,170	115,191	5,714,726
Value added in process of manufacture £	1,243,436	850,580	351,714	205,878	235,261	77,060	2,963,929

(a) Excluding Billiard Tables.

(b) Includes Furnishing Drapery.

30. Electric Light and Power Works.—The increased demand for electrical energy has been responsible for considerable development in the electric light and power works of Australia during recent years. Since 1924-25 the production of electric light and power has increased from 1,536,853,348 to 2,286,130,154 British units, or by more than 48 per cent. Particulars for the year 1928-29 are as follow :—

ELECTRIC LIGHT AND POWER WORKS, 1928-29.

Items.	N.S.W.	Vic.	Q'land.	S. Aust.	W. Aust.	Tas.	Australia.
Number of factories	126	87	31	29	47	6	326
Number of employees	2,196	1,153	793	1,343	313	95	5,898
Actual horse-power of engines employed	334,294	235,589	104,601	98,718	50,936	77,440	901,578
Approximate value of land and buildings £	2,938,924	1,395,460	295,414	532,399	261,916	28,270	5,952,383
Approximate value of plant and machinery £	8,354,176	6,079,300	2,179,684	1,838,358	850,580	3,042,063	22,345,161
Total amount of wages paid during year £	676,195	321,163	199,992	353,657	83,658	25,091	1,660,356
Value of fuel used £	1,475,223	609,205	163,103	263,247	251,015	1,818	2,763,611
Total value of output £	4,956,461	1,618,076	605,143	1,091,220	578,146	258,878	9,165,924

31. Gas and Coke Works.—(i) *Details for each State, 1928-29.* Gas works are in operation in nearly all the chief towns in Australia. In New South Wales there are nine and in Queensland one coke factories which are worked as separate industries. The subjoined table gives particulars of gas and coke works in each State for the year 1928-29 :—

GAS AND COKE WORKS, 1928-29.

Items.	N.S.W.	Vic.	Q'land.	S. Aust.	W. Aust.	Tas.	Australia.
Number of factories	58	36	17	6	5	2	124
Number of employees	2,461	1,075	716	769	112	101	5,234
Actual horse-power of engines employed	7,681	3,638	841	2,357	237	156	14,910
Approximate value of land and buildings £	1,156,541	582,150	245,901	40,882	81,446	49,235	2,156,155
Approximate value of plant and machinery £	4,014,187	2,039,050	1,414,797	1,205,057	163,617	167,610	9,054,318
Total amount of wages paid during year £	639,452	300,999	181,488	211,790	29,143	25,995	1,379,227
Value of fuel used £	332,380	191,829	18,016	43,785	11,575	4,704	602,239
Value of materials used £	2,307,003	1,353,127	171,255	274,452	61,709	33,864	4,201,410
Total value of output £	4,684,771	2,576,832	619,948	728,612	163,255	91,356	8,864,774
Value added in process of manufacture £	2,045,388	1,031,876	430,677	410,425	89,971	52,788	4,061,125

(ii) *Coal Used and Production, 1928-29.* The following table shows the quantity and value of the production of gas and coke works in each State during the year 1928-29 :—

GAS AND COKE WORKS.—COAL USED AND PRODUCTION, 1928-29.

Particulars.	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tas.	Australia.
COAL USED.							
Coal tons	1,531,135	437,651	a 98,863	106,184	20,283	13,953	2,208,069
PRODUCTS.							
Gas .. 1,000 cubic feet	10,683,530	6,424,614	1,388,737	1,562,431	361,561	198,042	20,618,915
Coke tons	1,003,626	279,887	55,937	63,101	11,396	5,554	1,419,501
VALUE.							
Gas £	2,139,694	1,444,204	560,277	547,259	137,179	72,726	4,901,339
Coke £	1,441,321	438,288	41,863	113,304	17,745	14,749	2,067,270

(a) Relates to Gas Works only.

In order to cope with the general industrial expansion, the production of gas increased from 18,377,039 cubic feet in 1924-25 to 20,618,915 cubic feet in 1928-29, while the output of coke decreased from 1,462,021 to 1,419,501 tons during the same period.