

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, 1923–24 to 1927–28.**—The following table gives the number of factories in each State for the years 1923–24 to 1927–28 :—

FACTORIES.—NUMBER IN EACH STATE, 1923–24 TO 1927–28.

Year (a)	N. S. W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tasmania.	Australia.
1923–24 ..	7,321	7,289	1,912	1,698	1,188	781	20,189
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

(a) See general note above.

3. **Classification of Factories, Australia, 1923–24 to 1927–28.**—The following table shows the number of factories in Australia for each year from 1923–24 to 1927–28 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, 1923–24 TO 1927–28.

Class of Industry.	1923–24.	1924–25.	1925–26.	1926–27.	1927–28.
	(a)	(a)	(a)	(a)	(a)
I. Treating raw material, product of agricultural and pastoral pursuits, etc.	No. 799	No. 780	No. 751	No. 710	No. 658
II. Treating oils and fats, animal, vegetable, etc.	99	98	98	98	95
III. Processes in stone, clay, glass, etc.	845	871	900	910	896
IV. Working in wood	2,497	2,507	2,552	2,500	2,429
V. Metal Works, machinery, etc.	2,575	2,600	2,656	2,650	2,677
VI. Connected with food and drink, etc.	2,702	2,756	2,840	2,809	3,023
VII. Clothing and textile fabrics, etc.	4,408	4,616	4,635	4,757	4,813
VIII. Books, paper, printing, and engraving	1,423	1,477	1,511	1,533	1,556
IX. Musical instruments, etc.	50	55	48	55	55
X. Arms and explosives	15	13	12	12	12
XI. Vehicles and fittings, saddlery and harness, etc.	2,189	2,338	2,499	2,626	2,707
XII. Ship and boat building and repairing	88	87	89	88	90
XIII. Furniture, bedding, and upholstery	1,160	1,192	1,223	1,273	1,303
XIV. Drugs, chemicals, and by-products	323	340	333	333	330
XV. Surgical and other scientific instruments	84	92	93	99	106
XVI. Jewellery, timepieces, and plated ware	258	262	270	269	264
XVII. Heat, light, and power	435	448	456	451	469
XVIII. Leatherware, n.e.l.	126	121	122	(b) 279	(b) 322
XIX. Other Industries, n.e.l.	113	142	174	67	70
Total	20,189	20,795	21,242	21,579	22,775

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

CLASSIFICATION OF FACTORIES ACCORDING TO NUMBER OF EMPLOYEES. 805

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. Almost 600 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, 1927-28.—The following table shows the number of factories in each State during 1927-28 classified according to the nature of the industry :—

FACTORIES.—CLASSIFICATION, STATES, 1927-28.

Class of Industry.	N.S.W.	Vic.	Q'land.	S. Aust.	W. Aust.	Tas.	Aust.
	No.	No.	No.	No.	No.	No.	No.
I. Treating raw material, product of agricultural and pastoral pursuits, etc.	183	232	37	83	43	80	658
II. Treating oils and fats animal, vegetable, etc.	39	28	11	11	5	1	95
III. Processes in stone, clay, glass, etc.	404	261	47	104	59	21	898
IV. Working in wood	906	650	335	153	159	226	2,429
V. Metal works, machinery, etc.	992	1,041	199	240	167	38	2,677
VI. Connected with food and drink, etc.	1,159	1,257	674	410	288	135	3,923
VII. Clothing and textile fabrics, etc.	1,816	2,108	278	320	212	84	4,813
VIII. Books, paper, printing, and engraving	605	581	142	112	94	22	1,556
IX. Musical instruments, etc.	27	18	1	6	3	..	55
X. Arms and explosives	3	8	..	1	..	..	12
XI. Vehicles and fittings, saddlery and harness, etc.	1,092	971	177	203	172	92	2,707
XII. Ship and boat building and repairing	48	12	9	8	8	5	90
XIII. Furniture, bedding and upholstery	471	499	107	102	80	44	1,303
XIV. Drugs, chemicals, and by-products	152	121	4	22	16	15	330
XV. Surgical and other scientific instruments	30	46	13	6	11	..	106
XVI. Jewellery, timepieces and plated ware	89	115	20	20	12	8	264
XVII. Heat, light, and power	197	130	47	35	47	13	469
XVIII. Rubber goods and leatherware, n.e.i.	115	144	15	22	18	8	322
XIX. Other Industries n.e.i.	34	23	7	2	4	..	70
Total	8,362	8,245	2,118	1,860	1,398	792	22,775

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

1. States, 1927-28.—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 1927-28 :—

FACTORIES.—CLASSIFICATION ACCORDING TO NUMBER OF EMPLOYEES, 1927-28.

No. of Persons Employed in each Factory.	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tasmania.	Australia.
NUMBER OF FACTORIES.							
Under 4	2,329	2,397	413	380	440	172	6,131
4	749	955	205	152	157	96	2,314
5 to 10	2,453	2,301	668	633	407	320	6,782
11 to 20	1,223	1,101	367	322	159	103	3,275
21 to 50	952	922	272	245	152	60	3,603
51 to 100	380	320 ^a	99	77	59	28	963
Over 100	276	249	94	51	24	13	707
Total	8,362	8,245	2,118	1,860	1,398	792	22,775

FACTORIES.—CLASSIFICATION ACCORDING TO NUMBER OF EMPLOYEES,
1927-28—continued.

No. of Persons Employed in each Factory.	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tasmania.	Australia.
AVERAGE NUMBER OF HANDS EMPLOYED.							
Under 4 ..	4,735	5,056	968	845	890	402	12,896
4 ..	2,996	3,820	820	608	628	384	9,256
5 to 10 ..	16,977	15,861	4,704	4,405	2,870	2,201	47,018
11 to 20 ..	17,776	16,160	5,316	4,609	2,379	1,520	47,760
21 to 50 ..	30,111	28,960	8,334	7,871	4,911	1,797	81,984
51 to 100 ..	26,305	22,433	6,962	5,237	4,051	1,929	66,917
Over 100 ..	83,760	68,067	20,377	16,470	5,579	4,112	198,365
Total ..	182,660	160,357	47,481	40,045	21,308	12,345	464,196

2. Australia, 1923-24 to 1927-28.—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 262 to 281 during the past four years :—

FACTORIES.—CLASSIFICATION ACCORDING TO NUMBER OF EMPLOYEES,
AUSTRALIA, 1923-24 TO 1927-28.

Year.(a)	Establishments Employing on the Average—							
	20 hands and under.		21 to 100 hands.		101 hands and upwards.		Total.	
	Es- tablish- ments.	Hands.	Es- tablish- ments.	Hands.	Es- tablish- ments.	Hands.	Es- tablish- ments.	Hands.
1923-24—								
Number ..	16,086	109,673	3,421	141,549	682	178,768	20,189	429,990
Average per establishment ..	6.82	6.82	41.38	41.38	262.12	262.12	21.80	21.80
Percentage on total ..	79.68	25.51	16.94	32.92	3.38	41.57	100.00	100.00
1924-25—								
Number ..	16,672	110,884	3,428	141,773	695	187,292	20,795	439,949
Average per establishment ..	6.65	6.65	41.36	41.36	269.48	269.48	21.16	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	6.55	41.48	41.48	270.09	270.09	21.23	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	733	204,363	21,579	467,247
Average per establishment ..	6.46	6.46	42.19	42.19	278.80	278.80	21.65	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	6.32	41.76	41.76	280.57	280.57	20.38	20.38
Percentage on total ..	81.24	25.19	15.66	32.08	3.10	42.73	100.00	100.00

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

§ 3. Power used in Factories.

1. States, 1927-28.—The following table shows the number of factories using steam, gas, oil, electricity, or water, and the horse-power of engines or motors during 1927-28 :—

FACTORIES.—HORSE-POWER OF ENGINES USED, 1927-28.

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.	Elec- tricity.	Water.	Total.
N.S.W. ..	7,477	885	8,362	382,011	14,545	12,495	223,190	1,190	633,431
Victoria ..	7,209	1,036	8,245	242,021	12,326	11,845	138,118	(a)	404,310
Queensland ..	1,721	397	2,118	112,206	13,718	7,822	31,194	8	164,948
S. Australia ..	1,607	253	1,860	97,242	6,157	7,008	42,019	1	152,427
W. Australia ..	1,195	203	1,398	39,231	5,279	2,698	20,456	..	67,664
Tasmania ..	717	75	792	6,371	326	1,265	52,186	73,381	133,529
Australia ..	19,926	2,849	22,775	879,082	52,351	43,133	507,163	74,580	1,556,309

(a) Statistics of Water Power not collected.

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 1927-28 using steam, gas, oil, electricity, or water was 19,926, or 87.49 per cent. of the total; while 2,849 establishments, representing 12.51 per cent., used no mechanical power. The total actual horse-power in use was 1,556,309, distributed in the following proportions :—Steam, 56.49 per cent.; gas, 3.36 per cent.; oil, 2.77 per cent.; electricity, 32.59 per cent.; and water, 4.79 per cent.

For the year 1927-28 the figures include bakeries, of which 766 used 4,475 horse-power, and 185 did not employ mechanical power.

2. Australia, 1923-24 to 1927-28.—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, 1923-24 TO 1927-28.

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.	Elec- tricity.	Water.	Total.
1923-24 ..	17,056	3,133	20,189	633,683	60,237	16,277	344,085	56,492	1,110,774
1924-25 ..	17,717	3,078	20,795	715,475	59,980	17,232	391,381	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	1,556,309

(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 507,163 horse-power, or one-third of the total installations in 1927-28. 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 111,384 horse-power has been added each year to the plant actually in use.

3. Classes of Industry, States, 1927-28.—The following table gives a classification of the actual horse-power of engines used in factories of different descriptions in each state during 1927-28 :—

FACTORIES.—HORSE-POWER OF ENGINES USED IN EACH CLASS, 1927-28.

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. . .	7,392	8,710	1,629	1,870	785	827	21,213
II. Treating oils and fats, animal, vegetable, etc. . .	2,318	1,522	818	501	365	22	5,546
III. Processes in stone, clay, glass, etc. . .	31,119	21,344	3,908	5,867	3,394	3,771	69,403
IV. Working in wood . . .	26,574	18,549	11,581	4,598	9,636	4,468	75,406
V. Metal works, machinery, etc. . .	104,585	32,877	10,080	10,562	5,444	37,948	201,496
VI. Connected with food and drink, etc. . .	50,611	49,388	58,291	13,940	8,411	5,451	186,092
VII. Clothing and textile fabrics, etc. . .	15,632	24,931	2,474	1,728	977	2,182	47,924
VIII. Books, paper, printing, and engraving . . .	15,488	11,659	2,544	1,892	1,393	372	33,348
IX. Musical instruments, etc. . .	1,652	641	3	131	2	..	2,429
X. Arms and explosives . . .	455	691	..	4	..	..	1,150
XI. Vehicles and fittings, saddlery and harness, etc. . .	5,780	5,154	1,064	4,431	622	351	17,402
XII. Ship and boat building and repairing . . .	11,290	1,480	108	498	37	64	13,477
XIII. Furniture, bedding, and upholstery . . .	6,782	5,150	1,689	2,335	992	495	17,443
XIV. Drugs, chemicals, and by-products . . .	5,624	5,853	185	5,501	1,238	249	18,650
XV. Surgical and other scientific instruments . . .	107	94	24	16	20	..	261
XVI. Jewellery, timepieces, and plated ware . . .	525	726	66	74	26	20	1,437
XVII. Heat, light, and power . .	339,520	206,517	69,975	98,387	34,172	77,284	825,855
XVIII. Rubber goods and leatherware, n.e.i. . .	7,745	8,829	348	89	106	25	17,142
XIX. Other Industries, n.e.i. . .	232	195	161	3	44	..	635
Total . . .	633,431	404,310	164,948	152,427	67,664	133,529	1,558,309

4. Classes of Industry, Australia, 1923-24 to 1927-28.—The following table shows a similar classification of the actual horse-power of engines used in manufacturing industries in Australia during the years 1923-24 to 1927-28 inclusive :—

FACTORIES.—HORSE-POWER OF ENGINES USED, AUSTRALIA, 1923-24 TO 1927-28.

Class of Industry.	1923-24. (a)	1924-25. (a)	1925-26. (a)	1926-27.	1927-28.
I. Treating raw material, product of agricultural and pastoral pursuits, etc. . .	24,319	23,225	23,319	22,168	21,213
II. Treating oils and fats, animal, vegetable, etc. . .	3,848	4,684	4,973	5,507	5,546
III. Processes in stone, clay, glass, etc. . .	48,614	55,132	59,897	66,528	69,403
IV. Working in wood . . .	68,234	72,935	77,233	75,079	75,406
V. Metal works, machinery, etc. . .	162,153	167,801	187,129	195,308	201,496
VI. Connected with food and drink, etc. . .	159,982	160,194	172,519	174,355	186,092
VII. Clothing and textile fabrics, etc. . .	35,295	36,638	40,469	45,758	47,924
VIII. Books, paper, printing, and engraving . . .	26,569	27,700	29,613	29,954	33,348
IX. Musical instruments, etc. . .	1,116	1,192	1,550	2,046	2,429
X. Arms and explosives . . .	1,236	1,339	1,219	1,218	1,150
XI. Vehicles and fittings, saddlery and harness, etc. . .	11,454	13,084	14,587	16,383	17,402
XII. Ship and boat building and repairing . . .	11,247	11,775	11,998	12,513	13,477
XIII. Furniture, bedding, and upholstery . . .	11,338	12,084	14,728	16,542	17,443
XIV. Drugs, chemicals, and by-products . . .	12,378	14,166	15,190	16,712	18,650
XV. Surgical and other scientific instruments . . .	218	290	278	259	261
XVI. Jewellery, timepieces, and plated ware . . .	1,120	1,251	1,339	1,264	1,437
XVII. Heat, light, and power . . .	522,621	646,605	666,676	779,886	825,855
XVIII. Leatherware, n.e.i. . .	760	805	561	(b)13,143	(b)17,142
XIX. Other Industries, n.e.i. . .	8,272	9,176	11,624	493	635
Total . . .	1,110,774	1,260,076	1,335,202	1,475,116	1,556,309

(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 every branch of industry except Class I. Treating raw material, and Class X. Arms and explosives. An apparent decrease is shown for Class XIX. Other Industries, n.e.i., but this is due to the removal of the rubber goods industry from this Class. 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 77.96 per cent. of the total power used in 1927-28, increased their horse-power from 844,756 to 1,213,443 during the four years under review, and are mainly responsible for the development of mechanical power in factories since 1923-24.

§ 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 following table shows, for each year from 1923-24 to 1927-28 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, 1923-24 TO 1927-28.

Year.(a)	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tas.	Australia.
AVERAGE NUMBER.							
1923-24 ..	159,674	156,162	44,948	37,275	19,712	12,219	429,990
1924-25 ..	165,760	154,158	48,922	38,353	21,758	10,998	439,949
1925-26 ..	174,101	152,959	50,496	40,051	22,142	11,171	450,920
1926-27 ..	183,193	161,639	48,133	42,164	20,424	11,694	467,247
1927-28 ..	182,660	160,357	47,481	40,045	21,308	12,345	464,196

PERCENTAGE ON AUSTRALIAN TOTAL.

	%	%	%	%	%	%	%
1923-24 ..	37.13	36.32	10.45	8.67	4.59	2.84	100.00
1924-25 ..	37.68	35.04	11.12	8.72	4.94	2.50	100.00
1925-26 ..	38.61	33.92	11.20	8.88	4.91	2.48	100.00
1926-27 ..	39.21	34.60	10.30	9.02	4.37	2.50	100.00
1927-28 ..	39.35	34.55	10.23	8.63	4.59	2.65	100.00

PER 10,000 OF POPULATION.

1923-24 ..	723	961	554	710	566	557	748
1924-25 ..	735	930	586	712	598	505	749
1925-26 ..	757	908	586	726	595	515	753
1926-27 ..	780	944	546	744	539	545	765
1927-28 ..	761	921	528	696	543	570	745

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

2. Rates of Increase, 1923-24 to 1927-28.—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 1923-24 to 1927-28.

FACTORY EMPLOYEES.—PERCENTAGE OF INCREASE, 1923-24 TO 1927-28.

Year.(a)	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tas.	Australia.
	%	%	%	%	%	%	%
1922-23—1923-24 ..	4.87	2.32	3.56	7.44	3.22	18.36	4.26
1923-24—1924-25 ..	3.81	-1.28	8.84	2.89	10.38	-10.00	2.32
1924-25—1925-26 ..	5.03	-0.78	3.22	4.43	1.76	1.57	2.49
1925-26—1926-27 ..	5.22	5.67	-4.68	5.28	-7.76	4.68	3.62
1926-27—1927-28 ..	-0.29	-0.79	-1.35	-5.03	4.33	5.57	-0.65

NOTE.—The minus sign indicates decrease.

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

3. Employees in Classes of Industry, Australia, 1923-24 to 1927-28.—The following table gives the average numbers of persons employed in factories under each group in Australia during the years 1923-24 to 1927-28 inclusive :—

FACTORY EMPLOYEES.—CLASSES, AUSTRALIA, 1923-24 TO 1927-28.

Class of Industry.	1923-24. (a)	1924-25. (a)	1925-26. (a)	1926-27.	1927-28.
I. Treating raw material, product of agricultural and pastoral pursuits, etc.	10,842	10,289	10,414	10,323	9,165
II. Treating oils and fats, animal, vegetable, etc.	3,424	3,342	3,350	3,243	3,034
III. Processes in stone, clay, glass, etc.	20,256	20,342	20,723	21,590	21,387
IV. Working in wood	36,319	36,252	35,812	33,050	30,108
V. Metal works, machinery, etc.	88,213	90,888	96,782	101,711	98,913
VI. Connected with food and drink, etc.	61,550	64,712	66,084	64,911	71,194
VII. Clothing and textile fabrics, etc.	100,850	100,830	103,501	111,540	109,780
VIII. Books, paper, printing, and engraving	32,659	33,043	33,123	33,863	34,008
IX. Musical instruments, etc.	1,357	1,441	1,647	1,892	1,768
X. Arms and explosives	803	819	870	936	892
XI. Vehicles and fittings, saddlery and harness, etc.	22,490	24,234	25,592	28,285	26,316
XII. Ship and boat building and repairing	5,794	6,230	6,107	6,298	6,753
XIII. Furniture, bedding, and upholstery	15,230	15,697	15,943	16,832	16,745
XIV. Drugs, chemicals, and by-products	7,215	7,511	7,747	8,196	8,195
XV. Surgical and other scientific instruments	608	690	697	726	773
XVI. Jewellery, timepieces, and plated ware	2,447	2,365	2,343	2,209	2,250
XVII. Heat, light, and power	12,967	13,735	11,534	11,956	12,099
XVIII. Leatherware, n.e.i.	2,576	2,506	2,780	(b)8,807	(b)9,851
XIX. Other Industries, n.e.i.	4,390	5,023	5,871	879	965
Total	429,990	439,949	450,920	467,247	464,196

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

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

Compared with the previous year, a decline of 3,051 occurred in the number of employees during 1927-28 despite the inclusion of 7,259 persons engaged in bakeries which, as already mentioned, were included for the first time. 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 8,551 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, 1927-28.**—The following table gives a classification of employees in manufacturing industries in each State during 1927-28 :—

FACTORY EMPLOYEES.—CLASSES, STATES, 1927-28.

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.	3,097	3,552	706	796	361	653	9,165
II. Treating oils and fats, animal, vegetable, etc.	1,410	870	235	309	169	41	3,034
III. Processes in stone, clay, glass, etc.	10,622	5,855	953	2,206	1,297	454	21,387
IV. Working in wood	9,623	8,265	5,243	2,044	3,104	1,829	30,108
V. Metal works, machinery, etc.	46,814	27,819	7,899	9,853	4,511	2,017	98,913
VI. Connected with food and drink, etc.	22,725	21,476	16,089	5,533	2,970	2,401	71,194
VII. Clothing and textile fabrics, etc.	37,392	53,857	6,944	5,610	3,479	2,498	109,780
VIII. Books, paper, printing and engraving	13,966	11,618	3,653	2,472	1,571	728	34,008
IX. Musical instruments, etc.	1,188	471	13	70	26	..	1,768
X. Arms and explosives	378	511	..	3	..	..	892
XI. Vehicles and fittings, saddlery, and harness, etc.	9,005	7,845	1,659	5,624	1,424	759	20,316
XII. Ship and boat building and repairing	5,883	395	104	295	43	33	6,753
XIII. Furniture, bedding, and upholstery	6,824	5,199	1,644	1,575	1,076	427	16,745
XIV. Drugs, chemicals, and by-products	3,490	2,839	67	1,140	576	83	8,195
XV. Surgical and other scientific instruments	307	269	93	59	45	..	773
XVI. Jewellery, timepieces, and plated ware	773	1,100	141	140	65	31	2,250
XVII. Heat, light, and power	4,734	3,029	1,522	2,060	416	338	12,099
XVIII. Rubber goods and leatherware, n.e.l.	3,915	5,080	435	248	120	53	9,851
XIX. Other Industries, n.e.i.	514	307	81	8	55	..	965
Total	182,660	160,357	47,481	40,045	21,308	12,345	464,196

The largest number employed in any particular class in Australia during 1927-28 was in Class VII., in which there were 109,780 employees, or 23.65 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 773 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 1927-28 are classified according to the nature of their employment :—

FACTORY EMPLOYEES.—NATURE OF EMPLOYMENT, 1927-28.

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	6,955	6,777	10,019	3,092	153,437	2,380	182,660
Victoria	7,755	5,889	6,677	1,945	135,807	2,284	160,357
Queensland	1,767	1,875	2,684	2,080	35,505	3,570	47,481
South Australia	1,517	1,461	2,659	500	32,989	919	40,045
Western Australia	1,023	855	1,211	411	17,073	735	21,308
Tasmania	597	583	856	315	9,723	271	12,345
Australia	19,614	17,440	24,106	8,343	384,534	10,159	464,196

(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 1923-24 to 1927-28 inclusive:—

FACTORIES.—OUTWORKERS(a), 1923-24 TO 1927-28.

Year.(b)	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tasmania.	Australia.
1923-1924.. ..	470	870	38	35	9	41	1,463
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

(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. In common also with commercial establishments, a considerable number of factories employ women as clerks and typists.

(ii) *Average Number of Males and Females Employed, 1923-24 to 1927-28.* The following table shows the average number of male and female employees in factories in each State from 1923-24 to 1927-28 :—

FACTORIES.—MALES AND FEMALES EMPLOYED, 1923-24 TO 1927-28.

State.	1923-24.(a)	1924-25.(a)	1925-26.(a)	1926-27.	1927-28.
MALES.					
New South Wales ..	121,845	126,496	132,239	138,309	137,936
Victoria ..	107,578	105,984	104,512	108,969	108,068
Queensland ..	36,788	40,895	42,525	40,493	39,697
South Australia ..	30,261	31,238	33,117	34,980	33,040
Western Australia ..	16,439	18,316	18,634	16,799	17,437
Tasmania ..	10,046	9,016	9,055	9,485	9,700
Australia ..	322,957	331,945	340,082	349,035	345,878
FEMALES.					
New South Wales ..	37,829	39,264	41,862	44,884	44,724
Victoria ..	48,584	48,174	48,447	52,670	52,289
Queensland ..	8,160	8,027	7,971	7,640	7,784
South Australia ..	7,014	7,115	6,934	7,184	7,005
Western Australia ..	3,273	3,442	3,508	3,625	3,871
Tasmania ..	2,173	1,982	2,116	2,209	2,645
Australia ..	107,033	108,004	110,838	118,212	118,318

(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 22,921, or an annual average of 5,730, whilst the number of female employees increased by 11,285, or an annual average of 2,821.

(iii) *Average Number of Males and Females Employed per 10,000 of Population, 1923-24 to 1927-28.* 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 1923-24 to 1927-28 :—

MALE AND FEMALE FACTORY EMPLOYEES PER 10,000 OF MALE AND FEMALE POPULATION RESPECTIVELY, 1923-24 TO 1927-28.

State.	1923-24.(a)	1924-25.(a)	1925-26.(a)	1926-27.	1927-28.
MALES.					
New South Wales ..	1,081	1,099	1,129	1,156	1,127
Victoria ..	1,333	1,286	1,246	1,279	1,246
Queensland ..	868	929	935	870	835
South Australia ..	1,140	1,141	1,171	1,194	1,108
Western Australia ..	883	938	934	827	824
Tasmania ..	917	830	838	892	906
Australia ..	1,105	1,108	1,111	1,118	1,084

(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.	1923-24.(a)	1924-25.(a)	1925-26.(a)	1926-27.	1927-28.
FEMALES.					
New South Wales	350	356	371	390	380
Victoria	593	578	573	613	598
Queensland	215	203	196	183	184
South Australia	274	269	258	263	252
Western Australia	202	204	203	207	214
Tasmania	198	181	194	204	243
. Australia	380	375	378	396	389

(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 1923-24 to 1927-28 in the average number of males and females employed in factories are shown below :—

PERCENTAGES OF ANNUAL INCREASE, MALE AND FEMALE FACTORY
EMPLOYEES, 1923-24 TO 1927-28.

State.	1922-23— 1923-24.(a)	1923-24— 1924-25.(a)	1924-25— 1925-26.(a)	1925-26— 1926-27.(a)	1926-27— 1927-28.
MALES.					
New South Wales	5.91	3.82	4.54	4.59	-0.27
Victoria	4.35	-1.48	-1.39	4.26	-0.83
Queensland	3.54	11.16	3.99	-4.78	-0.20
South Australia	8.12	3.23	6.01	5.63	-5.55
Western Australia	3.71	11.42	1.74	-9.85	3.66
Tasmania	18.84	-10.26	0.43	4.75	2.27
Total	5.58	2.78	2.45	2.63	0.91
FEMALES.					
New South Wales	1.43	3.79	6.62	7.22	-0.36
Victoria	-1.92	-0.84	0.57	8.72	-0.72
Queensland	3.62	-1.63	-0.70	-4.15	-0.19
South Australia	4.58	1.43	-2.54	3.61	-2.49
Western Australia	0.83	5.16	1.92	3.34	6.79
Tasmania	16.14	-8.79	6.76	4.40	2.27
Total	0.47	0.91	2.62	6.65	0.09

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 1927-28.

Industry.	New South Wales.			Victoria.			Other States.		
	Males.	Females.	Femi- ninity. (a)	Males.	Females.	Femi- ninity. (a)	Males.	Females.	Femi- ninity. (a)
Woolen and tweed mills ..	1,085	1,854	26.17	2,967	3,785	12.11	782	1,165	19.67
Knitting factories ..	770	2,872	57.72	1,107	4,774	62.35	51	306	71.42
Cotton mills ..	228	400	27.38	107	264	42.31	54	..	..
Boots and shoes ..	2,850	2,169	-13.57	6,210	5,281	-8.08	1,334	939	-17.38
Boot repairing includ- ing bespoke work ..	1,188	61	-90.23	538	8	-97.07	401	40	-81.86
Clothing (tailoring and slop) ..	2,508	9,109	56.82	1,980	6,733	54.55	1,658	5,413	53.10
Clothing (waterproof and oilskin) ..	25	126	66.89	76	238	51.59	..	..	..
Dressmaking and mil- linery ..	130	3,332	92.49	512	8,250	88.31	56	2,739	95.99
Dyeworks and cleaning	299	214	-16.57	178	166	3.49	135	186	15.89
Furriers ..	227	335	19.22	256	411	22.89	74	151	34.22
Hats and caps ..	633	1,275	33.65	543	1,101	33.94	62	104	25.30
Shirts, ties, and scarves	419	4,313	82.29	589	6,539	83.47	142	2,117	87.43
Rope and cordage ..	219	104	-35.60	493	333	-19.37	104	4	-92.59
Tents and tarpaulins	145	136	-3.20	135	109	-10.66	118	105	-5.83
Bags and sacks ..	178	188	2.73	91	83	-4.60	137	154	5.84
Total, Class VII. ..	10,904	26,488	41.68	15,782	38,075	41.39	5,108	13,423	44.87

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, 1923-24 to 1927-28.**—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 1923-24 to 1927-28 :—

CHILDREN EMPLOYED IN FACTORIES, 1923-24 TO 1927-28.

State.	1923-24.(a)	1924-25.(a)	1925-26.(a)	1926-27.	1927-28.
MALES.					
New South Wales ..	4,128	3,968	4,527	4,594	4,016
Victoria ..	4,057	4,027	3,980	4,567	4,231
Queensland ..	1,236	1,507	1,566	1,281	1,272
South Australia ..	1,199	1,080	1,095	1,215	1,073
Western Australia ..	530	552	682	614	677
Tasmania ..	360	238	214	311	343
Australia ..	11,510	11,372	12,064	12,582	11,612
FEMALES.					
New South Wales ..	4,038	4,256	4,688	5,001	4,747
Victoria ..	3,422	3,223	3,489	4,041	3,992
Queensland ..	972	979	1,003	927	850
South Australia ..	773	839	783	856	763
Western Australia ..	200	254	248	242	297
Tasmania ..	294	190	191	254	304
Australia ..	9,699	9,741	10,402	11,321	10,953
TOTAL.					
New South Wales ..	8,166	8,224	9,215	9,595	8,763
Victoria ..	7,479	7,250	7,469	8,608	8,223
Queensland ..	2,208	2,486	2,569	2,208	2,122
South Australia ..	1,972	1,919	1,878	2,071	1,836
Western Australia ..	730	806	930	856	974
Tasmania ..	654	428	405	565	647
Australia ..	21,209	21,113	22,466	23,903	22,565

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

3. Percentage of Children on Total Number of Employees.—The foregoing table shows a general increase in the number of children employed in factories during the past four years. This increase is greater among the females than is the case with the males, the respective gains being 102 and 1,254. Examined in conjunction with the total number of persons employed, the percentage of children has varied little since 1923-24.

PERCENTAGE OF CHILDREN ON TOTAL NUMBER OF FACTORY EMPLOYEES,
1923-24 TO 1927-28.

State.	1923-24.(a)	1924-25.(a)	1925-26.(a)	1926-27.	1927-28.
	%	%	%	%	%
New South Wales	5.11	4.96	5.29	5.24	4.80
Victoria	4.79	4.70	4.88	5.33	5.13
Queensland	4.91	5.08	5.09	4.59	4.47
South Australia	5.29	5.00	4.69	4.91	4.58
Western Australia	3.70	3.70	4.20	4.19	4.57
Tasmania	5.35	3.89	3.63	4.83	5.24
Australia	4.93	4.80	4.98	5.12	4.86

(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 1927-28 in the several industries indicated.

CHILDREN EMPLOYED.—VARIOUS INDUSTRIES, 1927-28.

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 ..	42	38	35	19	4	..	13	9	17	..	1	1	112	67
III.	Bricks, tiles, pottery, and earthenware ..	180	4	73	11	32	..	28	1	24	6	5	..	342	22
IV.	Joinery, boxes, cases, etc.	69	2	102	2	30	3	35	2	17	..	7	..	260	9
V.	Saw mills	34	1	12	..	69	1	12	..	31	..	21	..	179	2
"	Agricultural imple- ments	22	1	107	4	4	..	59	2	2	2	..	..	194	9
"	Engineering, ironworks, and foundries ..	348	6	359	18	61	2	92	1	30	..	6	..	896	27
"	Galvanized ironwork- ing and tinsmithing	139	36	190	41	27	1	34	..	20	..	1	..	411	78
"	Railway carriage, rail- way and tramway workshops ..	71	..	68	..	6	..	42	..	6	..	2	..	195	..
"	Wire working ..	97	4	32	1	2	..	9	..	12	1	..	..	152	7
"	Electric apparatus ..	129	12	91	15	2	..	15	..	6	1	..	..	243	28
VI.	Meat and fish preserving	..	..	5	..	107	2	..	..	..	..	..	..	113	2
"	Biscuits	181	207	124	61	54	18	12	19	48	36	..	..	419	341
"	Confectionery ..	80	300	46	66	32	62	4	24	3	5	51	53	216	510
"	Jams, pickles, sauces, etc.	13	5	24	8	10	14	18	28	2	1	23	..	90	56
"	Condiments, coffee, spices, etc. ..	23	75	32	31	..	..	45	7	13	3	..	1	113	117
"	Tobacco, cigars, etc. ..	31	139	34	11	..	..	2	1	4	8	..	..	71	159
VII.	Woolen and tweed mills	141	195	313	406	3	20	12	11	7	6	40	111	516	749
"	Knitting factories ..	37	293	63	457	1	4	1	9	4	10	..	19	106	792
"	Boots and shoes ..	153	262	335	403	28	56	22	23	30	16	8	5	576	765
"	Clothing (tailoring and slop)	103	814	70	333	49	227	23	134	10	35	6	43	261	1,586
"	Dressmaking and mil- linery	10	469	27	779	1	105	..	195	3	74	..	8	41	1,630
"	Shirts, ties, scarves, etc.	29	624	46	573	7	163	3	71	2	34	1	17	88	1,482
"	Hats and caps ..	45	148	16	69	1	11	2	2	..	..	..	..	64	230
"	Rope and cordage ..	12	18	65	23	11	..	12	..	..	..	..	..	100	41
VIII.	Printing and binding	353	235	435	178	211	64	81	54	85	25	24	8	1,189	564
"	Paper making, paper boxes, etc. ..	85	234	33	77	3	19	18	56	1	8	..	..	140	394
XI.	Coach and wagon building ..	25	..	57	..	10	1	6	1	13	..	12	..	123	2
"	Cycles and motors ..	250	10	215	2	50	3	144	11	70	2	14	..	743	28
XIII.	Billiard tables, cabinet making and furniture	104	2	169	1	65	7	85	1	31	..	30	..	484	11
"	Bedding, flock, and upholstery ..	35	25	38	25	6	3	12	6	3	1	5	1	99	61
XIV.	Chemicals, drugs, and medicines ..	57	106	16	16	1	5	2	28	4	..	..	1	80	156
XVIII.	Leather belting, etc. ..	67	58	38	29	10	6	4	26	5	4	..	..	124	123
"	Rubber goods ..	61	48	52	28	8	12	2	..	7	..	7	..	137	88

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 1927–28 was £416,994,009, of which amount the sum of £235,617,260 represents the value of the raw materials used, and £13,973,977 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., £167,402,772, 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 1927–28 was £91,365,319. As mentioned previously, the following tables include bakeries in Class VI., and comparisons with the results for previous years must give due weight to this fact. Fuller details of the bakery industry will be found in § 9–14 hereinafter.

2. **Salaries and Wages Paid.**—(i) *Total Amount, 1927–28.* The total amount of salaries and wages paid during the year 1927–28 in various classes of factories in Australia is shown in the following table:—

SALARIES AND WAGES PAID IN FACTORIES, 1927–28.

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.	692,332	767,230	115,488	143,706	55,604	43,846	1,818,156
II. Treating oils and fats, animal, vegetable, etc.	301,709	186,349	48,341	61,325	23,239	9,497	630,460
III. Processes in stone, clay, glass, etc.	2,525,391	1,339,304	206,765	485,693	273,559	78,793	4,909,505
IV. Working in wood	2,023,057	1,755,127	975,365	423,174	676,947	251,787	6,105,457
V. Metal works, machinery, etc.	11,446,079	6,354,598	1,764,159	2,353,822	998,194	508,873	23,425,725
VI. Connected with food and drink, etc.	4,565,893	4,502,081	3,304,055	1,074,094	631,231	383,505	14,460,859
VII. Clothing and textile fabrics, etc.	5,154,455	7,375,767	831,670	670,346	412,936	272,307	14,717,481
VIII. Books, paper, printing, and engraving	2,969,851	2,371,577	779,719	501,831	354,962	158,720	7,136,660
IX. Musical instruments, etc.	281,848	100,105	2,394	12,020	5,948	..	402,315
X. Arms and explosives	103,878	111,874	..	199	..	..	215,951
XI. Vehicles and fittings, saddlery and harness, etc.	1,699,870	1,521,261	297,112	1,216,198	282,179	125,230	5,141,850
XII. Ship and boat building and repairing	1,541,031	96,863	18,175	77,778	9,824	5,223	1,748,894
XIII. Furniture, bedding, and upholstery	1,346,759	884,096	298,394	262,610	197,510	59,893	3,048,762
XIV. Drugs, chemicals, and by-products	743,476	602,025	11,094	254,457	131,822	14,669	1,757,543
XV. Surgical and other scientific instruments	61,068	47,680	14,162	11,396	7,539	..	141,845
XVI. Jewellery, timepieces, and plated ware	153,088	191,099	22,730	25,792	11,973	4,331	409,013
XVII. Heat, light & power	1,324,633	770,049	383,715	561,260	111,060	78,574	3,229,291
XVIII. Rubber goods and leatherware, n.e.l.	807,883	1,006,089	58,289	27,669	17,737	6,942	1,924,609
XIX. Other industries, n.e.l.	75,840	47,178	8,646	868	8,411	..	140,943
Total	37,818,141	30,030,352	9,140,223	8,164,238	4,210,675	2,001,690	91,365,319

The maximum amount of salaries and wages paid in any particular class during 1927-28 was in Class V., the amount being £23,425,725, or 25.64 per cent. on the total amount; the minimum amount was in Class XIX., £140,943, or 0.15 per cent. on the total. The State in which the largest amount was paid was New South Wales.

(ii) *Totals and Averages, 1923-24 to 1927-28.* 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 1923-24 to 1927-28. 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, 1923-24 TO 1927-28.

Year. (a)	Particulars.	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tas.	Australia.
		£	£	£	£	£	£	£
1923-24	Total amount paid . .	29,772,994	27,472,084	7,764,929	6,727,398	3,640,959	1,899,901	72,278,265
	Average per employee . .	194.08	184.80	179.21	188.17	190.22	163.60	187.61
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 . .	198.21	186.81	193.96	193.54	196.03	179.34	192.78
1925-26	Total amount paid . .	33,566,546	27,657,753	9,544,115	7,787,912	6,288,036	1,880,321	86,724,683
	Average per employee . .	201.04	189.82	194.37	201.84	219.92	176.57	195.77
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 . .	210.55	193.70	198.91	206.37	200.29	178.19	201.91
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 . .	215.24	196.78	199.94	211.94	207.58	170.39	205.51

(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 1927-28 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, the salaries and wages paid in factories have advanced considerably during recent years. During the past four years the average was increased by £17.90 or 9.54 per cent., while the additional outlay for wage increases amounted in the aggregate to more than £7,958,000.

(iii) *Earnings of Males and Females, 1927-28.* 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 1927-28 :—

SALARIES AND WAGES.—MALE AND FEMALE FACTORY EMPLOYEES, 1927-28.

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. . .	679,383	761,344	114,237	143,032	54,310	43,647	1,795,953
II. Treating oils and fats, animal, vegetable, etc. . .	259,426	167,239	44,837	56,000	22,667	8,810	558,979
III. Processes in stone, clay, glass, etc. . .	2,501,409	1,320,694	205,197	482,835	268,951	78,360	4,857,446
IV. Working in wood . .	1,995,817	1,741,181	962,750	416,745	674,585	247,223	6,038,301
V. Metal works, machinery, etc. . .	11,267,368	6,247,589	1,749,569	2,331,106	991,003	504,169	23,090,804

SALARIES AND WAGES.—MALE AND FEMALE FACTORY EMPLOYEES,
1927-28—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. . .	3,847,104	3,888,721	3,203,855	985,533	585,700	332,720	12,843,633
VII. Clothing and textile fabrics, etc. . .	2,279,798	3,224,161	365,236	261,840	155,411	145,779	6,432,225
VIII. Books, paper, printing, and engraving	2,523,087	1,998,584	688,788	432,766	309,253	143,746	6,096,224
IX. Musical instruments, etc. . .	249,575	97,039	2,244	11,738	5,789	..	366,385
X. Arms and explosives	102,686	85,512	..	199	..	..	188,397
XI. Vehicles and fittings, saddlery and harness, etc. . .	1,660,167	1,503,545	282,453	1,175,893	271,398	120,892	5,014,348
XII. Ship and boat building and repairing	1,533,154	96,544	18,103	77,778	9,824	5,223	1,740,626
XIII. Furniture, bedding, and upholstery . .	1,234,534	810,748	284,963	250,304	188,967	57,156	2,826,672
XIV. Drugs, chemicals, and by-products	620,318	510,030	7,760	242,529	126,833	13,733	1,521,203
XV. Surgical and other scientific instruments . .	56,654	44,368	12,365	10,275	6,877	..	130,539
XVI. Jewellery, timepieces, and plated ware	143,684	177,845	21,051	24,953	11,382	4,331	383,246
XVII. Heat, light, & power	1,312,131	719,764	376,411	545,111	110,647	77,805	3,141,869
XVIII. Rubber Goods and Leatherware, n.e.l.	610,440	843,115	40,414	22,128	15,811	6,558	1,538,466
XIX. Other industries, n.e.l.	52,924	30,897	7,925	816	5,500	..	98,062
Total ..	32,929,659	24,268,920	8,388,158	7,471,581	3,814,908	1,790,152	78,663,378
FEMALES.							
I. Treating raw material product of agricultural and pastoral pursuits, etc. . .	12,949	5,886	1,201	674	1,294	199	22,203
II. Treating oils and fats, animal, vegetable, etc. . .	42,283	19,110	3,504	5,325	572	687	71,481
III. Processes in stone, clay, glass, etc. . .	23,982	18,610	1,568	2,858	4,608	433	52,059
IV. Working in wood . .	27,240	13,946	12,615	6,429	2,362	4,564	67,156
V. Metal works, machinery, etc. . .	178,711	107,009	14,590	22,716	7,191	4,704	334,921
VI. Connected with food and drink, etc. . .	718,789	613,360	100,200	88,561	45,531	50,785	1,617,226
VII. Clothing and textile fabrics, etc. . .	2,874,657	4,151,606	466,434	408,506	257,525	126,528	8,285,256
VIII. Books, paper, printing, and engraving	446,764	372,993	90,931	69,065	45,709	14,974	1,040,436
IX. Musical instruments, etc. . .	32,273	3,066	150	282	159	..	35,930
X. Arms and explosives	1,192	26,362	..	..	..	..	27,554
XI. Vehicles and fittings, saddlery and harness, etc. . .	39,703	17,716	14,659	40,305	10,781	4,338	127,502
XII. Ship and boat building and repairing	7,877	319	72	..	..	..	8,268
XIII. Furniture, bedding, and upholstery . .	112,225	73,348	13,431	12,306	8,543	2,237	222,090
XIV. Drugs, chemicals, and by-products	123,158	91,995	3,334	11,928	4,989	936	236,340
XV. Surgical and other scientific instruments . .	4,414	3,312	1,797	1,121	662	..	11,306
XVI. Jewellery, timepieces, and plated ware	9,404	13,254	1,679	839	591	..	25,767
XVII. Heat, light, & power	12,502	50,285	7,304	16,149	413	769	87,422
XVIII. Rubber Goods and Leatherware, n.e.l.	197,443	162,974	17,875	5,541	1,926	384	386,143
XIX. Other industries, n.e.l.	22,916	16,281	721	52	2,911	..	42,881
Total ..	4,888,482	5,761,432	752,065	692,657	395,767	211,538	12,701,941

(iv) *Total and Average Earnings of Males and Females, 1923-24 to 1927-28.*
 Similar information for the last five years is given in the table hereunder:—

**SALARIES AND WAGES.—MALE AND FEMALE FACTORY EMPLOYEES,
 1923-24 TO 1927-28.**

Particulars.	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tas.	Australia.
MALES.							
1923-24. Amount paid .. £	26,166,890	22,581,677	7,058,106	6,115,958	3,345,430	1,739,153	67,007,304
Per cent. on total ..	87.89	82.20	80.90	90.91	91.88	91.54	86.71
Average per employee .. £	225.71	224.08	200.39	212.48	210.39	183.75	218.93
1924-25. Amount paid .. £	27,670,943	22,515,561	8,508,263	6,504,470	3,817,930	1,726,638	70,743,800
Per cent. on total ..	87.78	82.04	82.20	90.96	92.49	91.45	86.95
Average per employee .. £	270.29	220.49	214.83	217.70	216.26	201.69	224.41
1925-26. Amount paid .. £	29,370,062	22,544,903	8,797,552	7,139,556	5,796,981	1,708,209	75,357,263
Per cent. on total ..	87.50	81.51	82.15	91.67	92.19	90.85	86.89
Average per employee .. £	293.97	230.26	213.66	225.25	2216.92	199.93	227.55
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	81.73	91.78	90.77	90.56	86.23
Average per employee .. £	245.40	236.53	217.86	229.71	222.50	201.14	235.53
1927-28. Amount paid .. £	32,929,659	24,268,920	8,388,158	7,471,581	3,814,908	1,790,152	78,663,378
Per cent. on total ..	87.07	80.81	81.77	91.52	90.60	89.43	86.10
Average per employee .. £	250.69	240.15	220.57	236.58	231.73	196.27	240.11
FEMALES.							
1923-24. Amount paid .. £	3,606,104	4,890,407	706,733	611,440	295,529	160,748	10,270,961
Per cent. on total ..	12.11	17.80	9.10	9.09	8.12	8.46	13.29
Average per employee .. £	96.22	102.12	87.20	87.75	91.21	74.83	97.05
1924-25. 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 .. £	100.20	103.74	90.30	91.42	91.07	82.08	99.41
1925-26. 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 .. £	101.30	106.97	94.17	94.13	99.29	81.76	102.21
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 .. £	107.32	109.44	101.22	96.69	101.10	85.11	106.61
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 .. £	110.23	111.78	97.86	99.72	103.55	80.52	108.59

(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, 1927-28.**

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.	£ 229,198	£ 12,810	£ 1,566,755	£ 9,393	£ 1,795,953	£ 22,208	£ 1,818,156
II. Treating oils and fats, animal, vegetable, etc.	131,880	24,193	427,099	47,288	558,979	71,481	630,460
III. Processes in stone, clay, glass, etc.	527,948	30,589	4,329,498	21,470	4,857,446	52,059	4,909,505
IV. Working in wood	708,922	57,870	5,329,379	9,286	6,038,301	67,156	6,105,457
V. Metal works, machinery, etc.	2,498,764	175,243	20,592,040	159,678	23,090,804	334,921	23,425,725
VI. Connected with food and drink, etc.	2,344,068	298,251	10,499,565	1,318,975	12,843,633	1,617,226	14,460,859
VII. Clothing and textile fabrics, etc.	1,173,460	465,873	5,258,765	7,819,383	6,432,225	8,285,256	14,717,481
VIII. Books, paper, printing and engraving	1,049,832	217,818	5,046,392	822,618	6,096,224	1,040,436	7,136,660
IX. Musical instruments, etc.	47,439	14,262	318,946	21,668	366,385	35,930	402,315
X. Arms and explosives	30,589	2,303	157,808	25,251	188,397	27,554	215,951

SALARIES AND WAGES.—MANAGERS, OVERSEERS, AND OTHER
FACTORY EMPLOYEES, AUSTRALIA, 1927-28—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. Vehicles and fittings, saddlery and harness, etc.	659,454	88,720	4,354,894	38,782	5,014,348	127,502	5,141,850
XII. Ship and boat building and repairing.	176,641	6,688	1,563,985	1,580	1,740,626	8,268	1,748,894
XIII. Furniture, bedding, and upholstery.	247,884	41,810	2,578,788	180,280	2,826,672	222,090	3,048,762
XIV. Drugs, chemicals, and by-products.	343,044	56,988	1,178,159	179,352	1,521,203	236,340	1,757,543
XV. Surgical and other scientific instruments.	23,786	5,786	106,753	5,520	130,539	11,306	141,845
XVI. Jewellery, timepieces, and plated ware.	36,488	10,751	346,758	15,016	383,246	25,767	409,013
XVII. Heat, light, and power.	576,514	31,063	2,565,355	56,359	3,141,869	87,422	3,229,291
XVIII. Rubber Goods and Leatherware, n.e.i.	218,524	35,994	1,319,942	350,149	1,538,466	386,143	1,924,609
XIX. Other industries, n.e.i.	17,659	3,448	80,403	39,433	98,062	42,881	140,943
Total	11,042,094	1,580,460	67,621,284	11,121,481	78,663,378	12,701,941	91,365,319
Average paid per employee	359. 51	145. 91	227. 76	104. 78	240. 11	108. 59	205. 51

3. Value of Fuel and Light Used.—(i) *Total Amount, 1927-28.* The expenditure in factories on fuel and light is of considerable importance; in 1927-28 it amounted to £13,973,977. The classes of industry in which fuel was most extensively used were Class V., Metal Works, Machinery, etc., £3,560,073; Class XVII., Heat, Light, Power, etc., £3,458,800, of which amount £2,843,149 was expended on generating electric light and power; Class VI., Connected with Food, Drink, etc., £2,522,953; and Class III., Stone, Clay, Glass, etc., £1,848,023. As previously mentioned, bakeries are now included in Class VI. The following table shows the value of fuel and light used in the different classes of industry during 1927-28 :—

VALUE OF FUEL AND LIGHT USED IN FACTORIES, 1927-28.

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.	123,971	122,167	17,275	21,197	6,425	3,455	294,490
II. Treating oils and fats, animal, vegetable, etc.	61,254	53,691	6,807	10,400	7,123	1,529	140,804
III. Processes in stone, clay, glass, etc.	858,824	551,385	83,455	207,392	90,630	56,337	1,848,023
IV. Working in wood	90,860	66,041	38,715	18,229	19,324	18,816	251,985
V. Metal works, machinery, etc.	2,272,728	416,328	83,942	467,692	56,964	262,419	3,560,073
VI. Connected with food and drink, etc.	820,528	802,638	516,452	216,018	98,836	68,481	2,522,953
VII. Clothing and textile fabrics, etc.	186,609	340,429	22,290	22,410	13,466	34,772	619,976
VIII. Books, paper, printing, and engraving	165,568	137,757	31,694	16,540	12,271	5,264	369,094
IX. Musical instruments, etc.	15,400	3,108	32	282	92	..	18,914
X. Arms and explosives.	3,568	16,620	..	16	..	..	20,204
XI. Vehicles and fittings, saddlery and harness, etc.	78,308	66,536	10,310	46,037	10,390	3,924	215,505
XII. Ship and boat building and repairing	68,715	6,405	258	2,575	371	49	78,373
XIII. Furniture, bedding and upholstery	36,858	31,738	10,219	10,951	4,621	2,056	96,443
XIV. Drugs, chemicals, and by-products	80,957	85,709	1,778	36,217	16,273	1,151	222,085
XV. Surgical and other scientific instruments	1,790	1,677	689	445	393	..	4,994
XVI. Jewellery, timepieces, and plated ware	5,014	8,217	1,033	1,612	433	190	16,499
XVII. Heat, light, and power	1,843,677	854,250	202,104	286,737	247,398	24,634	3,458,800
XVIII. Rubber Goods and Leatherware, n.e.i.	73,844	147,227	3,830	2,682	1,489	608	229,080
XIX. Other industries, n.e.i.	2,812	963	1,420	21	466	..	5,682
Total	6,791,285	8,712,886	1,032,303	1,366,853	586,965	483,685	13,973,977

(ii) *Total Amount, 1923-24 to 1927-28.* The following table gives the sums expended on fuel and light during the past five years :—

VALUE OF FUEL AND LIGHT USED IN FACTORIES, 1923-24 TO 1927-28.

Year.(a)	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tas.	Australia.
	£	£	£	£	£	£	£
1923-24	5,129,848	2,803,239	708,888	1,008,557	380,499	265,409	10,296,440
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

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

4. *Value of Raw Materials Used.*—(i) *Total Amount, 1927-28.* The value of raw materials worked up (i.e., exclusive of fuel, lubricants, etc.) in factories in Australia during 1927-28 was £235,617,260, which represents 56.50 per cent. of the total value of the final output. (See next sub-section.) The figures for Class VI. now include bakeries. The following table shows the value of the raw materials worked up in various classes of industry in each State :—

VALUE OF RAW MATERIALS USED IN FACTORIES, 1927-28.

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. . . .	5,738,835	4,266,415	1,941,455	754,929	252,953	37,223	12,991,810
II. Treating oils and fats, animal, vegetable, etc. . . .	1,655,325	931,505	155,208	231,030	153,900	26,899	3,153,867
III. Processes in stone, clay, glass, etc. . . .	2,312,157	1,129,662	188,814	358,605	199,279	44,837	4,233,354
IV. Working in wood . . .	5,067,605	2,068,527	1,712,971	1,409,277	1,014,035	297,937	11,570,352
V. Metal works, machinery, etc. . . .	25,545,522	7,676,842	1,560,128	5,596,283	837,302	1,207,645	42,423,722
VI. Connected with food and drink, etc. . . .	37,401,307	28,369,890	19,954,294	7,515,883	3,566,832	1,551,910	98,360,116
VII. Clothing and textile fabrics, etc. . . .	9,140,980	14,478,801	1,587,382	1,124,935	806,167	513,889	27,652,154
VIII. Books, paper, printing, and engraving . . .	3,801,049	2,846,354	573,246	525,591	299,406	93,889	8,139,535
IX. Musical instruments, etc. . . .	468,045	121,114	3,857	9,079	1,032	..	603,127
X. Arms and explosives . . .	22,501	241,363	..	680	..	..	264,544
XI. Vehicles and fittings, saddlery and harness, etc. . . .	1,397,129	810,021	161,325	1,298,264	205,769	59,563	3,932,071
XII. Ship and boat building and repairing . . .	883,856	32,794	12,805	40,572	6,736	2,120	978,883
XIII. Furniture, bedding, upholstery . . .	2,270,859	1,482,257	361,271	395,204	275,496	48,637	4,833,724
XIV. Drugs, chemicals, and by-products . . .	2,684,204	2,117,410	27,115	874,725	803,133	125,248	6,631,835
XV. Surgical and other scientific instruments . . .	50,507	52,029	11,493	8,684	5,522	..	128,235
XVI. Jewellery, timepieces, and plated ware . . .	142,243	224,926	14,746	21,263	10,976	1,014	415,168
XVII. Heat, light, and power . . .	2,272,016	1,644,878	202,200	339,803	77,057	64,053	4,600,007
XVIII. Rubber goods and leatherware, n.e.i. . . .	1,722,050	2,363,551	79,699	66,227	26,541	8,973	4,267,041
XIX. Other industries, n.e.i. . . .	231,097	95,827	72,655	616	37,520	..	437,715
Total	102,807,287	70,954,166	28,620,664	20,571,650	8,579,656	4,083,837	235,617,260

The largest value of raw materials used was in Class VI., "Connected with Food and Drink, etc." the total being £98,360,116. The next in order of importance was Class V., "Metal Works, Machinery, etc.", in which raw materials valued at £42,423,722 were used. The minimum value appears in Class XV., "Surgical and other Scientific Instruments," the total being only £128,235.

(ii) *Total Amount, 1923-24 to 1927-28.* 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, 1923-24 TO 1927-28.

Year.(a)	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tasmania.	Australia.
	£	£	£	£	£	£	£
1923-24 ..	85,568,596	62,217,874	22,110,052	17,463,156	5,897,549	3,781,499	197,038,726
1924-25 ..	94,681,328	66,290,693	30,726,434	19,409,892	6,993,731	3,891,900	221,993,978
1925-26 ..	98,868,051	68,788,141	27,885,361	21,430,294	11,137,678	3,725,443	231,834,908
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

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

5. *Total Value of Output.*—(i) *Total, 1927-28.* The value of the output of new goods manufactured and of repairs effected in factories of various classes in each State during 1927-28 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. Bakeries were included in the returns for the first time in 1927-28.

TOTAL VALUE OF OUTPUT OF FACTORIES, 1927-28.

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. ..	7,068,036	5,853,112	1,720,784	1,015,754	376,512	110,377	16,144,575
II. Treating oils and fats, animal, vegetable, etc. ..	2,566,537	1,525,970	291,654	368,508	230,859	48,739	5,032,267
III. Processes in stone, clay, glass, etc. ..	7,735,345	4,020,577	694,362	1,383,963	774,420	254,079	14,862,746
IV. Working in wood ..	8,437,395	4,791,960	3,257,717	2,099,682	2,193,095	696,156	21,476,005
V. Metal works, machinery, etc. ..	45,505,587	17,404,404	4,029,221	9,438,240	2,295,716	2,359,168	81,032,331
VI. Connected with food and drink, etc. ..	51,597,711	40,012,822	28,210,459	10,087,845	5,283,578	2,402,299	137,594,712
VII. Clothing and textile fabrics, etc. ..	18,150,210	26,836,013	2,927,496	2,177,695	1,530,668	1,037,276	52,659,358
VIII. Books, paper, printing, and engraving ..	9,221,427	7,084,595	1,822,031	1,419,798	943,987	318,533	20,810,371
IX. Musical instruments, etc. ..	997,435	279,566	9,600	24,820	8,122	..	1,319,543
X. Arms and explosives ..	162,905	449,500	..	1,200	..	..	613,605
XI. Vehicles and fittings, saddlery and harness, etc. ..	3,938,680	3,057,509	823,184	3,024,398	708,563	249,978	11,802,312
XII. Ship and boat building and repairing ..	2,733,917	169,627	39,909	149,978	21,531	11,133	3,126,095
XIII. Furniture, bedding, and upholstery ..	4,421,963	3,052,308	823,747	804,805	576,437	146,205	9,825,465
XIV. Drugs, chemicals, and by-products ..	5,328,939	3,523,637	52,118	1,448,276	1,208,835	170,088	11,726,893
XV. Surgical and other scientific instruments ..	148,558	137,829	38,085	38,068	18,811	..	381,351
XVI. Jewellery, timepieces, and plated ware ..	413,830	552,309	55,108	65,840	32,783	7,491	1,127,361
XVII. Heat, light, and power ..	9,342,854	4,771,689	1,376,719	1,752,858	679,543	404,741	18,328,404
XVIII. Rubber goods and leather-ware, n.e.i. ..	3,246,985	4,766,129	192,230	122,213	66,318	22,152	8,416,027
XIX. Other industries, n.e.i. ..	384,770	175,761	98,416	2,233	53,408	..	714,588
Total ..	181,403,084	128,465,317	46,462,840	35,426,174	16,998,184	3,238,410	416,994,009

New South Wales far exceeds the other States in respect of the total value of output, the value being £181,403,084, or 43.50 per cent. on the total for all States. Next in order of value is Victoria, which produced 30.81 per cent.; the value of the output of Queensland was 11.14 per cent.; of South Australia 8.50 per cent.; of Western Australia 4.08 per cent.; and of Tasmania 1.97 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, 1923-24 to 1927-28.* 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 1927-28:—

TOTAL VALUE OF OUTPUT OF FACTORIES, 1923-24 TO 1927-28.

Year.(a)	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tasmania.	Australia.
TOTAL.							
	£	£	£	£	£	£	£
1923-24 ..	146,359,260	113,921,927	38,867,603	29,650,995	11,976,310	7,801,488	348,577,583
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

PER EMPLOYEE.

	£	£	£	£	£	£	£
1923-24 ..	917	730	865	795	608	638	811
1924-25 ..	963	767	1,005	838	640	713	866
1925-26 ..	976	784	909	885	b 646	680	872
1926-27 ..	979	788	859	875	767	693	875
1927-28 ..	993	801	979	885	798	667	898

PER HEAD OF POPULATION.

	£	£	£	£	£	£	£
1923-24 ..	66.24	70.09	48.42	56.51	34.39	35.61	60.76
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

(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, 1927-28.* 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 1927-28 in each State for the various classes of factories, bakeries now being included in the list of establishments from which returns are obtained:—

VALUE ADDED IN PROCESS OF MANUFACTURE, 1927-28.

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.	1,205,230	1,464,530	-237,946	239,628	117,134	69,699	2,858,275
II. Treating oils and fats, animal, vegetable, etc.	849,958	540,774	129,639	127,078	69,836	20,311	1,737,596
III. Processes, in stone, clay, glass, &c.	4,564,364	2,339,530	422,093	817,966	484,511	152,905	8,781,369
IV. Working in wood	3,278,930	2,657,392	1,506,031	672,176	1,159,736	379,403	9,653,668
V. Metal works, machinery, etc.	17,687,337	9,311,234	2,385,151	3,374,265	1,401,450	889,099	35,048,536
VI. Connected with food and drink, etc.	13,375,876	10,840,294	7,739,713	2,355,944	1,617,908	781,908	36,711,643
VII. Clothing and textile fabrics, etc.	8,822,621	12,016,783	1,317,824	1,030,350	711,035	488,615	24,387,228
VIII. Books, paper, printing and engraving	5,254,810	4,100,484	1,217,091	877,667	632,310	219,380	12,301,742
IX. Musical instruments, etc.	513,990	155,344	5,711	15,459	6,998	..	697,502
X. Arms and explosives	136,836	191,517	..	504	..	..	328,857
XI. Vehicles and fittings, saddlery and harness, etc.	2,463,243	2,180,952	651,549	1,680,097	492,404	186,491	7,654,736
XII. Ship and boat building and repairing	1,781,346	130,428	26,846	106,831	14,424	8,964	2,068,839
XIII. Furniture, bedding, and upholstery	2,114,246	1,538,313	452,257	398,650	296,320	95,512	4,895,298
XIV. Drugs, chemicals, and by-products	2,563,778	1,320,518	23,225	537,334	384,429	43,689	4,872,973
XV. Surgical & other scientific instruments	96,261	84,123	25,903	28,939	12,896	..	248,122
XVI. Jewellery, timepieces, and plated ware	266,573	319,166	39,329	42,965	21,374	6,287	695,694
XVII. Heat, light and power	5,227,181	2,272,561	972,415	1,126,318	355,088	316,054	10,269,597
XVIII. Rubber goods and leatherware, n.e.i.	1,451,091	2,255,351	108,701	53,904	38,288	12,571	3,919,906
XIX. Other industries, n.e.i.	150,861	78,971	24,341	1,596	15,422	..	271,191
Total	71,804,512	53,798,265	16,809,873	13,487,671	7,831,563	3,670,888	167,402,772

(ii) *Totals and Averages, 1923-24 to 1927-28.* 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., IV. and XVII., 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 1923-24 to 1927-28 :-

FACTORIES.—VALUE ADDED IN PROCESS OF MANUFACTURE,
1923-24 TO 1927-28.

Year.(a)	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tasmania.	Australia.
VALUE.							
1923-24	£ 55,660,816	£ 48,900,814	£ 16,048,663	£ 11,179,282	£ 5,698,262	£ 3,754,580	£ 141,242,417
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	7,831,563	3,670,888	167,402,772

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

FACTORIES—VALUE ADDED IN PROCESS OF MANUFACTURE, 1923-24 TO 1927-28—*continued.*

Year (a)	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tasmania.	Australia.
PER EMPLOYEE.							
	£	£	£	£	£	£	£
1923-24 ..	349	313	357	300	289	307	328
1924-25 ..	356	317	360	302	301	311	334
1925-26 ..	372	314	334	316	b 289	302	338
1926-27 ..	381	327	317	324	346	307	347
1927-28 ..	393	335	354	337	368	297	361
PER HEAD OF POPULATION.							
	£	£	£	£	£	£	£
1923-24 ..	25.19	30.09	19.99	21.30	16.36	17.14	24.62
1924-25 ..	26.19	29.52	21.12	21.50	17.97	15.68	25.05
1925-26 ..	28.21	28.53	21.99	22.98	b 17.22	15.56	25.40
1926-27 ..	29.75	30.90	17.31	24.11	18.63	16.73	26.56
1927-28 ..	29.92	30.89	18.69	23.43	19.96	17.01	26.85

(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 1927-28 was estimated at £416,994,009, there remained, after payment of £235,617,260, the value of the raw materials used, of £91,365,319 for salaries and wages and of £13,973,977 for fuel, the sum of £76,037,453 to provide for all other expenditure and profits. Bakeries are now included in the returns. The following table gives corresponding particulars for each State expressed absolutely, and as percentages on the total value of the output for the year 1927-28 :—

FACTORIES.—VALUE OF OUTPUT AND COST OF PRODUCTION, 1927-28.

State.	Raw 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 ..	102,807,287	6,791,285	37,818,141	33,986,371	181,403,084
Victoria ..	70,954,166	3,712,886	30,030,352	23,767,913	128,465,317
Queensland ..	28,620,664	1,032,303	9,140,223	7,669,650	46,462,840
South Australia ..	20,571,650	1,366,853	8,164,238	5,323,433	35,426,174
Western Australia ..	8,579,656	586,965	4,210,675	3,620,888	16,998,184
Tasmania ..	4,083,837	483,685	2,001,690	1,669,198	8,238,410
Australia ..	235,617,260	13,973,977	91,365,319	76,037,453	416,994,009

PERCENTAGE OF COSTS, ETC., ON TOTAL VALUE.

	%	%	%	%	%
New South Wales ..	56.67	3.74	20.85	18.74	100.00
Victoria ..	55.23	2.89	23.38	18.50	100.00
Queensland ..	61.60	2.22	19.67	16.51	100.00
South Australia ..	58.07	3.86	23.05	15.02	100.00
Western Australia ..	50.47	3.45	24.77	21.31	100.00
Tasmania ..	49.57	5.87	24.30	20.26	100.00
Australia ..	56.50	3.35	21.91	18.24	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 1923–24 to 1927–28 by £49,139,608, i.e., from £182,114,600 to £231,254,208, or at the rate of £12,284,902 per annum. Bakeries were included in the returns for the first time in 1927–28.

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 1927–28 :—

VALUE OF LAND, BUILDINGS, PLANT, AND MACHINERY, 1927–28.

Value of—	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tasmania.	Australia.
	£	£	£	£	£	£	£
Land and buildings	49,414,310	34,761,340	9,123,821	8,786,280	5,381,864	2,558,778	110,026,393
Plant and machinery	50,489,675	32,745,680	16,592,358	9,421,202	5,553,295	6,425,605	121,227,815
Total ..	99,903,985	67,507,020	25,716,179	18,207,482	10,935,159	8,984,383	231,254,208

The total capital invested in land, buildings, plant and machinery in manufacturing industries in Australia during the year 1927–28 was approximately £231,254,208 (or £37 ls. 10d. per head of population); of that sum, £110,026,393 was invested in land and buildings occupied as manufactories, the remaining £121,227,815 being the value of the plant and machinery used in connexion therewith.

2. Value of Land and Buildings.—(i) *Total, Australia, 1923–24 to 1927–28.* 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 1923–24 to 1927–28 inclusive :—

VALUE OF LAND AND BUILDINGS.—AUSTRALIA, 1923–24 TO 1927–28.

Class of Industry.	1923–24.(a)	1924–25.(a)	1925–26.(a)	1926–27.	1927–28.
	£	£	£	£	£
I. Treating raw material, product of agricultural and pastoral pursuits, etc.	2,085,336	2,249,180	2,273,275	2,257,921	2,108,813
II. Treating oils and fats, animal, vegetable, etc.	952,566	1,024,779	1,022,445	982,573	1,097,949
III. Processes in stone, clay, glass, etc.	3,592,378	4,247,108	4,368,411	4,687,979	4,916,868
IV. Working in wood	4,101,394	4,322,532	4,620,929	4,325,257	4,438,903
V. Metal works, machinery, etc.	12,999,237	14,389,282	15,382,362	16,649,605	17,399,778
VI. Connected with food and drink, etc.	18,277,106	19,568,157	20,802,518	21,892,282	24,708,527
VII. Clothing and textile fabrics, etc.	13,247,060	14,841,895	15,289,607	16,464,556	17,222,358
VIII. Books, paper, printing, and engraving	6,747,855	7,376,113	8,022,096	8,544,071	9,310,538
IX. Musical instruments, etc.	254,266	325,792	358,935	427,333	450,506
X. Arms and explosives	298,217	417,831	573,136	597,519	587,493
XI. Vehicles and fittings, saddlery and harness, etc.	5,166,587	6,175,406	7,130,967	8,546,494	8,515,210
XII. Ship and boat building and repairing	1,789,464	1,822,238	1,852,896	1,717,756	1,718,777
XIII. Furniture, bedding, and upholstery	2,498,679	2,693,412	2,947,986	3,155,723	3,231,962
XIV. Drugs, chemicals, and by-products	2,351,728	2,453,897	2,565,553	2,815,161	3,199,653
XV. Surgical and other scientific instruments	221,256	274,283	259,766	296,435	282,113
XVI. Jewellery, timepieces, and plated ware	620,686	629,775	679,828	666,618	682,038
XVII. Heat, light, and power	6,102,870	7,170,768	7,107,993	7,600,312	7,805,082
XVIII. Leatherware, n.e.i.	394,402	401,588	409,110	61,516,040	62,065,878
XIX. Other industries, n.e.i.	860,074	857,571	869,819	201,543	283,947
Total ..	82,562,061	91,241,907	96,535,632	103,345,178	110,026,393

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

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

As shown in the above table, the total net increase during the four years was £27,464,332, or an annual average of £6,866,083. The largest increases were in Classes VI., V., VII., VIII., XI. and XVII., and amounted to £6,431,421; £4,400,541; £3,974,398; £3,348,623; £2,562,683 and £1,702,212 respectively.

(ii) *Value in each State, 1927-28.* The following table gives similar information for each State for the past year :—

VALUE OF LAND AND BUILDINGS.—STATES, 1927-28.

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.	858,249	929,800	101,934	124,344	83,199	11,287	2,108,813
II. Treating oils and fats, animal, vegetable, etc.	553,092	316,360	86,573	105,320	28,326	7,678	1,097,949
III. Processes in stone, clay, glass, etc.	2,568,187	1,270,820	186,601	394,187	236,014	261,059	4,916,868
IV. Working in wood	2,008,420	1,137,400	482,563	297,538	386,885	126,097	4,438,903
V. Metal works, machinery, etc.	8,849,302	4,678,140	1,033,226	1,552,868	880,825	405,417	17,399,778
VI. Connected with food and drink, etc.	9,182,109	6,982,550	4,191,323	2,248,755	1,368,388	735,402	24,708,527
VII. Clothing and textile fabrics, etc.	7,269,266	7,346,410	709,689	908,981	574,989	413,023	17,222,358
VIII. Books, paper, printing, and engraving	4,174,856	3,034,750	834,760	705,749	450,750	109,673	9,310,538
IX. Musical instruments, etc.	240,598	182,470	850	22,053	4,535	..	450,506
X. Arms and explosives	155,483	427,010	..	5,000	..	..	587,493
XI. Vehicles and fittings, saddlery and harness, etc.	3,712,562	2,417,590	556,213	1,127,398	483,961	217,486	8,515,210
XII. Ship and boat building and repairing	1,477,875	186,840	9,208	34,597	6,290	3,967	1,718,777
XIII. Furniture, bedding, and upholstery	1,454,620	1,075,450	242,655	238,514	166,599	54,124	3,231,962
XIV. Drugs, chemicals, and by-products	1,534,353	889,380	29,256	339,505	335,737	71,422	3,199,653
XV. Surgical and other scientific instruments	125,064	89,980	20,644	21,145	25,280	..	282,113
XVI. Jewellery, timepieces, and plated ware	292,216	275,460	26,080	46,872	27,885	13,525	682,038
XVII. Heat, light, and power	3,986,553	2,378,660	523,504	537,876	261,566	116,923	7,805,082
XVIII. Rubber goods and leatherware, n.e.l.	801,010	1,075,760	54,655	73,053	49,705	11,695	2,065,878
XIX. Other industries, n.e.l.	169,895	66,510	34,087	2,525	10,930	..	283,947
Total	49,414,310	34,761,340	9,123,821	8,786,280	5,381,864	2,558,778	110,026,393

The maximum value for Australia of land and buildings in any particular class was in Class VI., amounting to £24,708,527, or 22.46 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 £17,399,778; £17,222,358; £9,310,538; £8,515,210 and £7,805,082 respectively. The sum of the values for the six classes mentioned amounted to £84,961,493, or 77.22 per cent. on the total value for all classes.

(iii) *Value in each State, 1923-24 to 1927-28.* The total value of factory land and buildings at the end of each year from 1923-24 to 1927-28 is given hereunder.

VALUE OF LAND AND BUILDINGS, 1923-24 TO 1927-28.

Year.(a)	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tasmania.	Australia.
	£	£	£	£	£	£	£
1923-24	37,979,192	24,972,560	7,284,212	6,312,553	4,206,874	1,806,670	82,562,061
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

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

Since 1923-24 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 £2,858,780, £2,447,195, and £618,432 respectively.

3. Value of Plant and Machinery.—(i) *Total, Australia, 1923-24 to 1927-28.* The following table shows for Australia as a whole the approximate value of plant and machinery used in factories during each year from 1923-24 to 1927-28 inclusive:—

VALUE OF PLANT AND MACHINERY.—AUSTRALIA, 1923-24 TO 1927-28.

Class of Industry.	1923-24.(a)	1924-25.(a)	1925-26.(a)	1926-27.	1927-28.
	£	£	£	£	£
I. Treating raw material, product of agricultural and pastoral pursuits, etc.	2,170,405	2,065,838	2,130,333	2,043,422	1,804,612
II. Treating oils and fats, animal, vegetable, etc.	1,147,029	1,166,482	1,322,592	1,207,096	1,015,775
III. Processes in stone, clay, glass, etc.	5,462,976	5,781,144	5,928,978	6,509,183	6,422,300
IV. Working in wood	5,291,155	5,405,755	5,562,722	5,171,047	4,827,638
V. Metal works, machinery, etc.	18,410,074	19,723,951	21,015,046	21,836,505	21,194,939
VI. Connected with food and drink, etc.	20,948,905	22,845,337	25,368,336	26,283,623	27,401,095
VII. Clothing and textile fabrics, etc.	6,722,006	7,164,675	7,251,468	8,235,014	8,191,144
VIII. Books, paper, printing, and engraving	6,706,697	7,282,913	7,736,172	8,114,407	8,187,155
IX. Musical instruments, etc.	94,453	111,238	140,000	195,203	197,703
X. Arms and explosives	252,658	309,017	328,458	337,291	368,961
XI. Vehicles and fittings, saddlery and harness, etc.	1,277,937	1,524,491	1,896,950	2,157,518	2,630,624
XII. Ship and boat building and repairing	2,045,117	1,888,127	1,949,848	2,093,447	2,081,791
XIII. Furniture, bedding, and upholstery	673,810	743,217	891,450	957,976	961,486
XIV. Drugs, chemicals, and by-products	2,094,340	2,289,112	2,460,230	2,800,020	3,171,262
XV. Surgical and other scientific instruments	45,919	55,094	58,143	60,411	61,329
XVI. Jewellery, timepieces, and plated ware	146,907	144,983	159,058	139,185	147,984
XVII. Heat, light, and power	25,030,504	29,538,177	26,752,765	27,175,926	30,636,949
XVIII. Leatherware, n.e.i.	106,574	99,684	93,340	1,357,774	61,847,052
XIX. Other industries, n.e.i.	925,073	1,103,665	1,232,261	72,137	78,016
Total	99,552,539	109,242,900	112,278,150	116,747,185	121,227,815

(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 £21,675,276, or an annual average of £5,418,819. All classes of industry but four participated, the largest increase being in Class VI., "Connected with Food and Drink, etc." where it amounted to £6,452,190, while the next in order were Class XVII., "Heat, Light, and Power," £5,606,445, and Class V., "Metal Works, Machinery, etc.," £2,784,865.

(ii) *Value in each State, 1923-24 to 1927-28.* 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., £9,347,785; while Victoria comes next with £4,521,765.

VALUE OF PLANT AND MACHINERY.—STATES, 1923-24 TO 1927-28.

Year.(a)	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tasmania.	Total.
	£	£	£	£	£	£	£
1923-24	41,141,890	28,223,915	12,321,440	6,929,821	4,496,082	6,439,391	99,552,539
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

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

(iii) *Value according to Industry, 1927-28.* The following table shows the value of plant and machinery used in factories in each State during 1927-28, classified according to the nature of the industry in which used :—

VALUE OF PLANT AND MACHINERY.—INDUSTRIES, 1927-28.

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.	671,757	748,690	138,619	101,146	76,940	67,460	1,804,612
II. Treating oils and fats, animal, vegetable, etc.	450,972	319,070	88,228	119,058	35,522	2,925	1,015,775
III. Processes in stone, clay, glass, etc.	3,548,713	1,354,420	317,323	532,375	294,349	375,120	6,422,300
IV. Working in wood	1,368,687	1,126,890	794,808	200,454	1,109,797	227,002	4,827,638
V. Metal works, machinery, etc.	12,082,911	4,016,260	1,057,730	1,964,102	714,594	1,359,342	21,194,939
VI. Connected with food and drink, etc.	8,524,657	6,205,530	9,074,540	1,816,833	1,325,339	454,196	27,401,095
VII. Clothing and textile fabrics, etc.	2,783,833	4,298,270	259,439	259,176	201,116	389,310	8,191,144
VIII. Books, paper, printing, and engraving	3,879,294	2,831,640	621,851	411,748	310,208	132,414	8,187,155
IX. Musical instruments, etc.	142,687	47,370	100	6,786	760	..	197,703
X. Arms and explosives	62,271	306,300	..	390	..	..	368,961
XI. Vehicles and fittings, saddlery and harness, etc.	696,029	875,300	116,760	815,806	91,573	35,156	2,630,624
XII. Ship and boat building and repairing	1,882,997	105,636	27,381	62,187	1,941	1,655	2,081,791
XIII. Furniture, bedding and upholstery	407,329	276,640	90,566	112,043	52,594	22,314	961,486
XIV. Drugs, chemicals, and by-products	995,442	1,024,500	25,490	619,265	454,801	51,764	3,171,262
XV. Surgical and other scientific instruments	23,834	23,250	6,793	4,226	3,226	..	61,329
XVI. Jewellery, timepieces, and plated ware	53,533	71,510	7,589	9,803	3,523	2,026	147,984
XVII. Heat, light and power	12,075,473	8,103,100	3,925,924	2,374,161	856,940	3,361,351	30,636,949
XVIII. Rubber Goods and Leatherware, n.e.i.	798,373	994,170	25,000	11,063	14,876	3,570	1,847,052
XIX. Other industries, n.e.i.	40,883	17,140	14,217	580	5,196	..	78,016
Total	50,489,675	32,745,680	16,592,358	9,421,202	5,553,295	6,425,605	121,227,815

The greatest value for any particular class of industry is for class XVII., "Heat, Light and Power," and amounts to £30,636,949, or 25.27 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 £27,401,095, or 22.60 per cent. on the total, followed by Class V., "Metal Works, Machinery, etc.," which amounts to £21,194,939 or 17.48 per cent. on the total value. The total for these three classes amounts to £79,232,983, or 65.36 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.

2. Tanneries.—(i) *Details for each State, 1927–28.* 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, 1927–28.

Items.	N.S.W.	Vic.	Q'land.	S. Aust.	W.A.	Tas.	Aus- tralia.
Number of factories	71	42	14	7	7	1	142
Number of employees	1,132	1,899	247	153	113	63	3,607
Actual horse-power of engines employed	2,760	3,948	448	348	355	182	8,041
Approx. value of land and buildings £	248,872	486,370	28,477	21,720	41,377	8,560	835,376
Approx. value of plant and machinery £	171,323	399,160	38,823	20,497	33,654	6,118	669,575
Total amount of wages paid during year £	260,194	442,971	52,568	32,916	23,618	13,574	825,841
Value of fuel used £	26,864	48,585	4,877	4,225	2,316	881	87,748
Value of raw material worked up .. £	1,541,861	1,743,898	295,431	112,278	112,685	29,259	3,835,412
Total value of output £	2,042,082	2,623,798	379,174	167,838	175,220	47,698	5,435,810
Value added in process of manufacture £	473,357	831,315	78,866	51,335	60,219	17,558	1,512,650

(ii) *Development in Australia, 1923–24 to 1927–28.* The development of the tanning industry during the period 1923–24 to 1927–28 is shown in the following table :—

TANNERIES.—AUSTRALIA, 1923–24 TO 1927–28.

Items.	1923–24.	1924–25.	1925–26.	1926–27.	1927–28.
Number of factories	166	155	156	152	142
Number of employees	4,485	4,189	4,347	4,206	3,607
Actual horse-power of engines used	3,182	3,149	3,672	3,392	3,041
Approx. value of land and buildings £	318,212	379,185	922,089	917,997	835,376
Approx. value of plant and machinery £	684,329	694,903	729,546	730,557	669,575
Total amount of wages paid £	964,563	906,492	959,553	945,598	825,841
Value of fuel used £	80,117	80,858	84,041	81,274	87,748
Value of raw material worked up .. £	3,630,198	3,507,778	3,908,737	3,701,352	3,835,412
Value of final output £	5,475,956	5,171,005	5,564,646	5,443,354	5,435,810
Value added in process of manufacture £	1,765,641	1,582,369	1,571,868	1,660,728	1,512,650

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 1923–24 to 1927–28 being as follows :— 1923–24, 51,957,999 lb.; 1924–25, 48,911,506 lb.; 1925–26, 55,078,267 lb.; 1926–27, 53,885,830 lb.; and 1927–28, 45,353,368 lb.

(iii) *Raw Material Used and Production, 1927–28.* 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, 1927–28.

Particulars.	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tas.	Australia.
Hides and calf skins No.	898,154	1,010,164	178,968	42,295	48,513	19,072	2,197,166
Sheep pelts	3,075,150	948,432	100,879	99,574	..	..	4,224,035
Other skins	327,654	327,411	178,594	2,489	10,549	..	844,697
Bark tons	9,010	9,792	1,902	825	783	300	22,612
Leather made lb.	18,435,774	20,530,620	3,142,279	951,908	1,842,787	450,000	45,353,368
Basils produced	2,845,508	880,705	101,596	8,298	..	..	3,836,107

3. **Fellmongering and Wool-scouring Works.**—(i) *Details for each State, 1927–28.* 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, 1927–28.

Items.	N.S.W.	Vic.	Q'land.	S. Aust.	W.A.	Tas.	Aus- tralia.
Number of factories	32	33	14	5	6	..	90
Number of employees	816	538	356	120	71	..	1,901
Actual horse-power of engines used ..	1,843	1,694	870	231	160	..	4,798
Approx. value of land and buildings £	166,588	205,000	57,027	23,048	33,858	..	485,521
Approx. value of plant and machinery £	156,397	182,190	72,145	30,098	27,224	..	468,054
Total amount of wages paid	£ 190,665	£ 117,045	£ 42,862	£ 21,828	£ 15,296	..	£ 387,696
Value of fuel used	£ 35,602	£ 31,279	£ 9,604	£ 3,800	£ 2,463	..	£ 82,748
Value of raw material worked up ..	£ 3,040,829	£ 2,104,557	£ 1,530,213	£ 208,835	£ 105,074	..	£ 6,989,508
Value of final output	£ 3,380,319	£ 2,453,638	£ 1,160,031	£ 237,703	£ 131,521	..	£ 7,363,212
Value added in process of manufacture £	£ 303,888	£ 317,802	£ -379,786	£ 25,068	£ 23,984	..	£ 290,956

(ii) *Development in Australia, 1923–24 to 1927–28.* The following return furnishes particulars of fellmongering and wool-scouring establishments in Australia for the last five years :—

**FELLMONGERING AND WOOL-SCOURING WORKS.—AUSTRALIA,
1923–24 TO 1927–28.**

Items.	1923–24.	1924–25.	1925–26.	1926–27.	1927–28.
Number of factories	102	94	93	93	90
Number of employees	2,161	1,997	2,195	2,175	1,901
Actual horse-power of engines used ..	6,250	5,458	5,734	4,993	4,798
Approx. value of land and buildings £	£ 594,547	£ 570,258	£ 537,540	£ 527,306	£ 485,521
Approx. value of plant and machinery £	£ 766,689	£ 668,960	£ 704,789	£ 595,632	£ 468,054
Total amount of wages paid	£ 422,788	£ 356,938	£ 398,278	£ 463,313	£ 387,696
Value of fuel used	£ 84,445	£ 75,706	£ 85,308	£ 94,866	£ 82,748
Value of raw material worked up ..	£ 8,158,925	£ 7,813,400	£ 6,324,429	£ 7,224,472	£ 6,989,508
Value of final output	£ 8,977,412	£ 8,343,973	£ 7,130,008	£ 8,631,769	£ 7,363,212
Value added in process of manufacture £	£ 734,042	£ 454,867	£ 720,271	£ 712,431	£ 290,956

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 1927–28 only 86,952,570 lb. of greasy wool and 4,249,704 skins were treated for an output of 54,264,414 lb. of scoured wool.

4. **Soap and Candle Factories.**—(i) *Details for each State, 1927–28.* 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 1927–28 :—

SOAP AND CANDLE FACTORIES, 1927-28.

Items.	N.S.W.	Vic.	Q'land.	S. Aust.	W. A.	Tas.	Australia.
Number of factories	27	17	10	6	5	1	66
Number of employees	1,047	666	182	257	169	41	2,362
Actual horse-power of engines employed	1,303	824	191	379	a	a	63,084
Approx. value of land and buildings £	342,071	236,800	37,925	91,023	a	a	6743,823
Approx. value of plant and machinery £	286,157	231,700	32,545	100,869	a	a	6689,718
Total amount of wages paid during year £	214,010	137,138	36,801	52,865	a	a	6473,550
Value of fuel used	39,361	38,127	3,228	9,377	a	a	698,745
Value of raw material worked up	839,378	664,719	111,443	191,759	a	a	61,988,098
Total value of output	1,497,554	1,140,394	222,216	313,150	a	a	63,452,912
Value added in process of manufacture £	618,815	437,548	107,545	112,014	a	a	61,366,069

(a) Particulars not available for publication.

(b) Including Western Australia and Tasmania.

(ii) *Development in Australia, 1923-24 to 1927-28.* The following table gives similar particulars for the last five years as regards Australia as a whole :-

SOAP AND CANDLE FACTORIES.—AUSTRALIA, 1923-24 TO 1927-28.

Items.	1923-24.a	1924-25.a	1925-26.a	1926-27.a	1927-28.a
Number of factories	70	67	66	66	66
Number of employees	2,556	2,425	2,487	2,507	2,362
Actual horse-power and engines used	2,622	2,744	2,962	2,933	3,084
Approx. value of land and buildings £	650,163	637,819	638,013	636,116	743,823
Approx. value of plant and machinery	834,678	775,027	893,712	843,399	689,718
Total amount of wages paid	438,748	454,149	492,789	493,505	473,550
Value of fuel used	77,976	83,138	104,897	112,885	98,745
Value of raw material worked up	1,729,946	2,087,505	2,145,157	1,949,717	1,988,098
Value of final output	2,915,030	3,365,010	3,592,832	3,421,879	3,452,912
Value added in process of manufacture	1,107,108	1,244,367	1,342,778	1,359,277	1,366,069

(a) Including other small establishments in Western Australia.

(iii) *Raw Material Used and Production, 1923-24 to 1927-28.* 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 1923-24 to 1927-28 :-

SOAP AND CANDLE FACTORIES.—RAW MATERIAL USED, AND PRODUCTION, AUSTRALIA, 1923-24 TO 1927-28.

Particulars.	1923-24.a	1924-25.a	1925-26.a	1926-27.a	1927-28.a
Tallow used cwt.	434,622	483,756	470,101	473,787	502,903
Alkali used "	140,923	168,587	162,887	188,785	204,003
Coconut oil used gal.	739,377	796,400	763,910	800,140	807,941
Soap made cwt.	883,944	997,902	955,893	1,001,378	1,020,192
Candles made "	86,684	80,771	80,043	75,444	66,091

(a) Exclusive of Western Australia.

The total output for the year 1927-28 comprised the following quantities of the various kinds of soap manufactured :- Household, 814,735 cwt. ; toilet, 107,092 cwt. ; sand, 78,879 cwt. ; soft, 10,656 cwt. ; and other 8,830 cwt.

5. Saw-mills, etc.—(i) *Details for States, 1927–28.* 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., 1927–28.

Items.	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tas.	Australia.
Number of factories ..	797	552	313	143	152	211	2,168
Number of employees ..	8,688	7,270	4,910	1,900	3,087	1,544	27,399
Actual horse-power of engines employed ..	24,559	16,788	10,889	4,447	9,592	3,637	69,912
Approximate value of land and buildings ..	1,744,718	935,160	444,559	277,445	384,995	91,951	3,878,828
Approximate value of plant and machinery ..	1,228,241	997,810	706,977	193,294	1,108,009	194,618	4,428,949
Total amount of wages paid during year ..	£ 1,839,745	£ 1,533,381	£ 911,739	£ 391,064	£ 676,107	£ 219,126	£ 5,571,162
Value of fuel used ..	£ 81,097	£ 56,269	£ 34,055	£ 16,954	£ 19,191	£ 18,542	£ 221,108
Value of raw material worked up ..	£ 4,737,550	£ 1,832,750	£ 1,602,844	£ 1,307,731	£ 1,012,675	£ 257,509	£ 10,751,059
Total value of output ..	£ 7,747,532	£ 4,200,519	£ 3,024,545	£ 1,943,374	£ 2,188,846	£ 600,341	£ 19,705,157
Value added in process of manufacture ..	£ 2,928,885	£ 2,311,500	£ 1,387,646	£ 618,689	£ 1,156,980	£ 329,290	£ 8,732,990

(ii) *Development in Australia, 1923–24 to 1927–28.* The development of forest and other saw-mills, etc., since 1923–24 is shown in the following table :—

**SAW-MILLS, FOREST AND OTHER ; JOINERY, ETC.—AUSTRALIA,
1923–24 TO 1927–28.**

Items.	1923–24.	1924–25.	1925–26.	1926–27.	1927–28.
Number of establishments ..	2,315	2,312	2,340	2,244	2,168
Number of employees ..	34,092	34,041	33,309	30,217	27,399
Actual horse-power of engines used ..	64,580	69,099	72,924	69,813	69,912
Approx. value of land and buildings ..	£ 3,693,174	£ 3,870,005	£ 4,119,714	£ 3,757,056	£ 3,878,828
Approx. value of plant and machinery ..	£ 4,955,110	£ 5,081,439	£ 5,195,973	£ 4,760,400	£ 4,428,949
Total amount of wages paid ..	£ 6,576,474	£ 6,754,128	£ 7,401,907	£ 6,074,006	£ 5,571,162
Value of fuel used ..	£ 140,152	£ 173,840	£ 221,458	£ 214,842	£ 221,108
Value of raw material worked up ..	£ 10,344,024	£ 10,758,499	£ 11,355,751	£ 11,097,006	£ 10,751,059
Value of final output ..	£ 20,755,852	£ 21,228,966	£ 22,223,017	£ 20,712,673	£ 19,705,157
Value added in process of manufacture ..	£ 10,271,676	£ 10,296,627	£ 10,645,808	£ 9,400,825	£ 8,732,990

The effect of the depression in the saw-milling industry is reflected in the decreases recorded in the manufacturing returns during the past two seasons. The saw-mill output of native timber declined from 670,023,000 super. feet in 1923–24 to 570,521,000 super. feet in 1927–28.

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, 1927-28.* The following table gives particulars of the agricultural implement works in each State for the year 1927-28 :—

AGRICULTURAL IMPLEMENT WORKS, 1927-28.

Items.	N.S.W.	Vic.	Q'land.	S. Aust.	W. Aust.	Tas.	Australia.
Number of factories	29	77	5	40	6	..	157
Number of employees	664	3,353	250	1,220	242	..	5,729
Actual horse-power of engines employed	491	4,127	90	1,425	222	..	6,355
Approx. value of land and buildings	161,342	364,350	43,768	170,634	49,872	..	789,966
Approx. value of plant and machinery	67,055	362,290	20,236	206,409	26,280	..	682,270
Total amount of wages paid during year	155,444	790,183	42,516	245,815	57,372	..	1,291,330
Value of fuel used	£ 5,188	62,185	3,202	15,286	2,135	..	87,996
Value of raw material worked up	£ 176,849	814,354	32,053	282,544	30,186	..	1,335,986
Total value of output	£ 391,263	2,003,855	123,058	654,714	130,667	..	3,303,557
Value added in process of manufacture	£ 209,226	1,127,316	87,803	356,884	98,346	..	1,879,575

(iii) *Development in Australia, 1923-24 to 1927-28.* 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, 1923-24 TO 1927-28.

Items.	1923-24.	1924-25.	1925-26.	1926-27.	1927-28.
Number of factories	160	153	148	155	157
Number of employees	5,584	5,535	5,691	6,636	5,729
Actual horse-power of engines used	3,807	4,439	5,344	6,002	6,355
Approx. value of land and buildings	£ 590,066	625,767	695,214	767,817	789,966
Approx. value of plant and machinery	£ 595,151	559,413	622,165	686,821	682,270
Total amount of wages paid	£ 1,126,002	1,181,572	1,270,555	1,501,725	1,291,330
Value of fuel used	£ 63,096	70,680	71,137	82,651	87,996
Value of raw material worked up	£ 1,442,679	1,569,456	1,385,089	1,574,492	1,335,986
Value of final output	£ 3,132,305	3,283,008	3,228,502	3,819,449	3,303,557
Value added in process of manufacture	£ 1,626,530	1,642,872	1,772,276	2,162,306	1,879,575

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 in 1926-27 an effort was made to obtain these particulars, and with one or two duplications of minor importance the following figures are representative of the engineering industry :—

ENGINEERING WORKS, 1927-28.

Items.	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tas.	Australia.
Number of factories	297	304	43	53	64	15	776
Number of employees	7,580	6,329	1,465	1,345	819	252	17,790
Actual horse-power of engines employed	9,244	7,934	2,974	1,593	1,175	323	23,243
Approximate value of land and buildings	£ 1,516,364	1,108,150	200,201	118,052	184,691	38,717	3,166,175
Approximate value of plant and machinery	£ 1,282,188	1,075,850	263,010	179,869	165,716	39,864	3,006,497
Total amount of wages paid during year	£ 1,777,286	1,495,972	315,132	295,718	174,801	54,271	4,113,160
Value of fuel used	£ 80,306	85,444	22,932	19,540	14,016	3,960	226,198
Value of raw material worked up	£ 2,164,242	1,881,239	249,980	341,647	157,033	30,889	4,825,030
Total value of output	£ 4,890,444	4,237,969	766,142	767,891	424,283	107,379	11,194,108
Value added in process of manufacture	£ 2,645,896	2,271,286	493,230	406,704	253,234	72,530	6,142,880

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 1927-28 are as follows :—

IRONWORKS AND FOUNDRIES, 1927-28.

Items.	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tas.	Australia.
Number of factories	162	159	16	32	15	..	384
Number of employees	7,706	4,238	711	1,215	370	..	14,240
Actual horse-power of engines employed	36,062	7,248	1,523	1,386	399	..	46,618
Approximate value of land and buildings	£ 1,440,619	588,270	58,859	149,579	38,507	..	2,275,834
Approximate value of plant and machinery	£ 3,110,363	684,740	124,521	111,390	44,792	..	4,075,806
Total amount of wages paid during year	£ 1,993,611	963,872	152,255	260,274	86,562	..	3,456,574
Value of fuel used	£ 371,591	118,334	15,515	20,559	5,651	..	531,650
Value of raw material worked up	£ 8,107,502	1,145,903	194,923	324,084	95,344	..	9,867,761
Total value of output	£ 11,416,364	2,754,037	426,171	688,973	221,072	..	15,506,617
Value added in process of manufacture	£ 2,937,271	1,489,800	215,728	344,330	120,077	..	5,107,206

9. Railway and Tramway Workshops.—(i) *Details for each State, 1927-28.* 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, 1927-28.

Items.	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tas.	Australia.
Number of factories	44	21	14	17	20	6	122
Number of employees	14,515	6,872	3,991	3,216	2,360	361	31,315
Actual horse-power of engines employed	13,577	7,554	4,184	3,179	2,930	395	31,819
Approximate value of land and buildings	£ 2,463,274	1,154,560	495,136	754,470	409,073	9,450	5,345,963
Approximate value of plant and machinery	£ 2,722,973	1,037,680	444,680	631,615	408,864	92,398	5,338,210
Total amount of wages paid during year	£ 3,785,287	1,719,663	993,225	838,261	544,890	86,189	7,967,515
Value of fuel used	£ 110,641	79,671	33,288	36,579	28,356	6,378	294,913
Value of raw material worked up	£ 2,780,694	1,723,498	682,418	756,138	355,127	21,567	6,319,442
Total value of output	£ 7,541,825	3,876,511	1,844,033	1,873,015	1,080,941	122,258	16,338,583
Value added in process of manufacture	£ 4,650,490	2,073,342	1,128,327	1,080,298	697,458	94,313	9,724,228

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, 1923-24 to 1927-28.* The following table shows the development of railway and tramway workshops in Australia since 1923-24 :—

RAILWAY AND TRAMWAY WORKSHOPS.—AUSTRALIA, 1923-24 TO 1927-28.

Items.	1923-24.	1924-25.	1925-26.	1926-27.	1927-28.
Number of factories	122	123	121	125	122
Number of employees	25,130	26,345	28,558	30,715	31,315
Actual horse-power of engines used	17,830	20,965	26,168	28,938	31,819
Approx. value of land and buildings £	3,887,082	4,174,175	4,491,396	5,062,626	5,345,963
Approx. value of plant and machinery £	3,867,175	4,204,254	5,076,776	5,722,784	5,338,210
Total amount of wages paid £	5,799,183	6,140,676	7,192,869	7,815,202	7,967,515
Value of fuel used	159,651	175,760	250,632	278,508	294,913
Value of raw material worked up	4,596,829	4,919,728	6,008,231	6,043,377	6,319,442
Value of final output	11,652,306	12,384,177	14,885,994	15,589,846	16,338,583
Value added in process of manufacture £	6,895,826	7,288,689	8,627,131	9,267,961	9,724,228

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 6,000, and the output has grown from £11,652,306 to £16,338,583.

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, 1927-28.

Items.	N.S.W.	Vic.	Q'land.	S. Aust.	W.A. (a)	Tas.	Australia.
Number of factories	20	9	6	2	..	3	40
Number of employees	2,938	57	60	1,472	..	1,263	5,790
Actual horse-power of engines employed	28,478	81	394	b	..	b	c 68,256
Approx. value of land and buildings £	600,694	17,310	25,172	b	..	b	c 1,117,439
Approx. value of plant and machinery £	2,758,801	8,510	33,985	b	..	b	c 4,701,119
Total amount of wages paid during year £	905,510	11,736	13,535	b	..	b	c 1,734,444
Value of fuel used	1,474,650	2,464	1,783	b	..	b	c 2,094,724
Value of raw material worked up	5,947,191	107,323	38,269	b	..	b	c 10,690,985
Total value of output	10,011,114	141,466	55,676	b	..	b	c 16,872,015
Value added in process of manufacture £	2,589,273	31,679	15,624	b	..	b	c 4,086,308

(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, 1927–28.*—The following table gives particulars of factories engaged in bacon-curing in each State during the past year :—

BACON-CURING FACTORIES, 1927–28.

Items.	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tas.	Australia.
Number of factories	24	21	8	8	6	6	73
Number of employees	357	539	565	180	54	39	1,734
Actual horse-power of engines employed	1,119	1,825	1,272	420	143	184	4,963
Approximate value of land and buildings £	153,974	216,060	173,754	66,803	25,647	10,697	646,935
Approximate value of plant and machinery £	72,272	124,760	126,806	30,366	9,690	7,123	371,017
Total amount of salaries and wages paid £	97,464	137,363	139,423	45,904	13,046	7,135	440,340
Value of fuel used £	16,051	25,161	17,079	5,046	2,243	3,141	69,321
Value of raw material worked up £	937,317	1,102,740	883,686	339,490	150,551	61,406	3,475,190
Total value of output £	1,357,986	1,426,533	1,326,935	441,600	190,857	78,811	4,822,722
Value added in process of manufacture £	404,618	298,632	425,570	97,064	38,063	14,264	1,278,211

(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 1927–28 :—

BACON-CURING FACTORIES.—PIGS KILLED, AND PRODUCTION, 1927–28.

Particulars.	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tasmania.	Australia.
PIGS KILLED.							
Number	261,231	210,457	238,468	54,293	23,041	15,438	802,978
PRODUCTS.							
Bacon and ham lb.	24,523,873	19,628,277	17,986,523	4,656,943	2,591,975	1,329,563	70,717,154
Lard "	582,531	965,236	839,959	283,899	109,416	75,284	2,856,325
VALUE.							
Bacon and ham £	1,213,130	1,137,034	845,805	314,088	170,922	69,601	3,750,580
Lard £	19,994	37,281	28,563	11,533	4,310	3,414	105,095
Other products £	124,146	252,218	452,567	115,979	14,954	5,796	965,660

(a) In Western Australia, a portion of the bacon and ham treated in factories is imported and subsequently smoked in that State.

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, 1927-28.* The subjoined table gives particulars of butter, cheese and condensed milk factories in each State during the year 1927-28 :—

BUTTER, CHEESE, AND CONDENSED MILK FACTORIES, 1927-28.

Items.	N.S.W.	Victoria.	Q'land.	S. Aust.	W.A.	Tas.	Aus- tralia.
Number of factories	160	179	123	55	12	34	563
Number of employees	1,379	2,426	1,125	343	105	142	5,520
Actual horse-power of engines employed	7,728	6,943	6,234	962	402	309	22,668
Approximate value of land and buildings	£ 720,224	1,002,210	379,433	203,360	45,341	41,657	2,392,225
Approximate value of plant and machinery	£ 802,557	1,019,120	578,681	119,011	46,366	38,283	2,604,018
Total amount of wages paid	£ 361,819	565,984	257,790	63,823	25,776	23,348	1,298,540
Value of fuel used	£ 98,302	164,214	50,689	15,159	4,627	9,413	342,404
Value of raw material worked up	£ 7,208,617	6,982,281	5,003,991	778,993	274,995	280,363	20,529,240
Total value of output	£ 8,136,150	8,681,454	6,326,148	940,705	336,152	367,639	24,788,248
Value added in process of manufacture	£ 829,231	1,534,959	1,271,468	146,553	56,530	77,863	3,916,604

(ii) *Development in Australia, 1923-24 to 1927-28.* The following table shows the progress of the factories in this industry during the past five years :—

BUTTER, CHEESE, AND CONDENSED MILK FACTORIES.—AUSTRALIA, 1923-24 TO 1927-28.

Items.	1923-24.	1924-25.	1925-26.	1926-27.	1927-28
Number of factories	583	600	585	579	563
Number of employees	5,233	5,826	5,490	5,419	5,520
Actual horse-power of engines used	14,836	15,934	17,989	20,148	22,668
Approx. value of land and buildings	£ 1,770,157	1,863,439	1,964,887	2,297,656	2,392,225
Approx. value of plant and machinery	£ 2,155,682	2,385,027	2,522,367	2,649,044	2,604,018
Total amount of wages paid	£ 1,112,425	1,287,689	1,244,470	1,242,813	1,298,540
Value of fuel used	£ 249,988	311,685	314,186	315,004	342,404
Value of raw material worked up	£ 16,542,862	19,080,739	19,248,172	17,907,326	20,529,240
Value of final output	£ 19,526,119	22,726,214	22,971,416	21,737,110	24,788,248
Value added in process of manufacture	£ 2,733,269	3,333,760	3,409,058	3,514,780	3,916,604

(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, 1927-28.

Particulars.	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tasmania.	Aus- tralia.
MILK USED (,000 OMITTED).							
Butter factories gals.	203,530	178,629	145,597	17,400	5,419	10,545	561,120
Cheese	7,494	5,321	14,224	3,262	(a)	716	31,017
Condensed milk factories	(a)	11,110	(a)	..	..	..	(b) 11,110

(a) Information not available for publication.

(b) Excluding New South Wales and Queensland.

BUTTER, CHEESE, AND CONDENSED MILK FACTORIES.—PRODUCTION,
1927-28—continued.

Particulars.	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tas.	Australia.
PRODUCTS (,000 OMITTED).							
Butter lb.	96,707	80,679	69,464	8,742	2,848	4,455	262,895
Cheese "	7,081	5,404	14,121	3,465	..	722	30,793
Condensed and concentrated milk lb.	(a)	42,179	(a)	..	..	..	(b)42,179
Powdered milk "	(a)	11,698	..	..	..	..	(c)11,698
VALUE (,000 OMITTED).							
Butter £	7,273	6,391	5,451	789	236	337	20,477
Cheese £	304	235	637	127	..	27	1,330
Condensed and concentrated milk £	(a)	1,264	(a)	..	..	..	(b)1,264
Powdered milk £	(a)	568	..	..	..	..	(c)568

(a) Information not available for publication.

(b) Excluding New South Wales and Queensland.

(c) Excluding New South Wales.

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 a number of steamship companies trading between Australia and other parts of the world.

MEAT AND FISH PRESERVING WORKS, 1927-28.

Items.	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tas.	Australia.
Number of factories	3	11	12	1	3	2	32
Number of employees	188	667	3,281	8	166	19	4,329
Actual horse-power of engines employed	(a)	3,757	9,697	(a)	622	(a)	514,242
Approximate value of land and buildings £	(a)	586,210	1,450,765	(a)	303,245	(a)	52,386,458
Approximate value of plant and machinery £	(a)	315,830	904,590	(a)	403,160	(a)	51,647,672
Total amount of wages paid during year £	(a)	180,178	642,331	(a)	79,144	(a)	5647,921
Value of fuel used £	(a)	27,189	103,765	(a)	8,753	(a)	5148,685
Value of raw material worked up £	(a)	1,180,829	3,141,287	(a)	143,657	(a)	54,599,648
Total value of output £	(a)	1,491,333	4,106,819	(a)	310,541	(a)	56,149,053
Value added in process of manufacture £	(a)	283,315	861,767	(a)	158,131	(a)	51,400,720

(a) Not available for publication.

(b) Including New South Wales, South Australia, 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 1927-28. Particulars of this industry were collected during this year and are published for the first time.

BAKERIES (INCLUDING CAKES AND PASTRY), 1927-28.

Items.	N.S.W.	Victoria.	Q'land. (b)	S. Aust.	W. Aust.	Tas. (a)	Australia.
Number of factories	286	519	210	86	60	..	1,161
Number of employees	2,823	3,367	1,857	778	291	..	9,116
Actual horse-power of engines employed	1,908	1,774	592	570	223	..	5,067
Approximate value of land and buildings	£ 1,271,497	1,025,220	338,199	225,474	103,101	..	2,963,491
Approximate value of plant and machinery	£ 381,657	344,970	145,883	78,507	35,031	..	986,048
Total amount of wages paid during year	£ 639,215	631,410	329,544	156,935	50,761	..	1,807,865
Value of fuel used	£ 80,858	91,193	28,138	19,368	7,266	..	226,823
Value of raw material worked up	£ 2,121,911	2,232,928	691,390	564,299	208,667	..	5,819,195
Total value of output	£ 3,556,497	3,575,645	1,459,958	885,748	355,306	..	9,833,154
Value added in process of manufacture	£ 1,353,728	1,251,524	740,430	302,081	139,373	..	3,787,136

(a) Included with Confectionery.

(b) Includes Biscuits.

15. Jam and Fruit Preserving, Pickles, Sauces, and Vinegar Factories.—(i) *Details for each State, 1927-28.* The subjoined table gives particulars of factories at which these industries were carried on in each State during the year 1927-28.

JAM AND FRUIT PRESERVING, PICKLES, ETC., FACTORIES, 1927-28.

Items.	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tas.	Australia.
Number of factories	45	60	14	16	12	20	167
Number of employees	1,962	2,727	353	621	85	879	6,627
Actual horse-power of engines employed	850	2,274	264	320	78	1,429	5,215
Approximate value of land and buildings	£ 373,912	507,850	48,594	104,324	21,947	121,336	1,177,963
Approximate value of plant and machinery	£ 213,509	377,180	36,329	67,238	8,861	45,771	748,888
Total amount of wages paid during year	£ 233,567	535,050	53,008	96,270	8,157	123,084	1,049,136
Value of fuel used	£ 21,062	43,919	3,672	7,847	447	15,426	92,373
Value of raw material worked up	£ 888,021	1,686,317	269,905	322,020	87,479	449,419	3,703,161
Total value of output	£ 1,429,021	2,829,177	382,947	506,769	110,141	709,821	5,967,876
Value added in process of manufacture	£ 519,938	1,098,941	109,370	176,902	22,215	244,976	2,172,342

(ii) *Development in Australia, 1923-24 to 1927-28.* 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, 1923-24 TO 1927-28.

Items.	1923-24.	1924-25.	1925-26.	1926-27.	1927-28.
Number of factories	175	164	165	164	167
Number of employees	6,600	6,278	6,189	6,119	6,627
Actual horse-power of engines employed	3,941	3,989	4,520	4,528	5,215
Approx. value of land and buildings	£ 981,354	937,288	1,038,819	1,084,835	1,177,963
Approx. value of plant and machinery	£ 599,857	616,675	615,452	634,771	748,888
Total amount of wages paid	£ 885,104	881,317	902,859	974,224	1,049,136
Value of fuel used	£ 63,406	69,152	70,549	79,311	92,373
Value of raw material worked up	£ 2,939,187	3,127,593	3,135,573	3,511,388	3,703,161
Total value of output	£ 4,722,383	4,995,671	5,002,487	5,480,065	5,967,876
Value added in process of manufacture	£ 1,719,790	1,798,926	1,796,365	1,889,366	2,172,342

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, but a noticeable improvement was recorded in 1927-28, when 84,922,496 lb. were manufactured, compared with 67,388,784 lb. during 1925-26. The output of preserved fruit has grown to considerable proportions, and during 1927-28, 88,303,055 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 1927-28 :—

JAMS, PRESERVED FRUIT, PICKLES AND SAUCES.—OUTPUT, 1927-28.

Particulars.	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tas.	Aus- tralia.
QUANTITY (,000 OMITTED).							
Jams lb.	19,120	38,175	6,444	7,284	(a)	13,900	84,923
Pulp "	4,313	13,559	1,269	3,965	(a)	11,630	34,736
Fruit, preserved "	13,847	53,752	7,212	5,945	(a)	7,547	88,303
Pickles pints	2,719	1,488	(a)	938	(b)	(b)	(c)5,397
Sauces "	6,977	7,312	935	6,675	(b)	(b)	(c)22,316

VALUE.

Jams £	539,616	936,901	160,668	160,620	(a)	373,811	2,180,616
Pulp £	30,516	77,948	9,535	20,430	(a)	149,150	287,579
Fruit, preserved £	238,870	1,016,709	162,258	103,060	(a)	137,725	1,653,622
Pickles £	83,729	48,134	12,169	29,740	(b)	(b)	c180,933
Sauces £	376,991	240,990	20,870	166,370	(b)	(b)	c816,219

(a) Particulars not available. (b) Particulars not available for publication.
(c) Including Western Australia and Tasmania.

16. Confectionery Factories.—(i) *Details for each State, 1927-28.* 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 1927-28 are given hereunder :—

CONFECTIONERY FACTORIES, 1927-28.

Items.	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tas. (a)	Australia.
Number of factories	78	136	10	23	13	33	293
Number of employees	3,163	3,309	552	424	285	883	8,616
Actual horse-power of engines employed	3,761	7,457	559	660	260	1,544	14,241
Approximate value of land and buildings £	1,038,794	524,790	67,748	86,696	58,849	297,167	2,074,044
Approximate value of plant and machinery £	1,066,859	950,720	46,840	88,267	65,485	114,308	2,332,479
Total amount of wages paid during year £	510,077	553,644	67,932	58,522	44,190	130,876	1,365,241
Value of fuel used £	56,390	89,153	4,729	11,461	4,562	20,028	186,323
Value of raw material worked up £	1,646,902	1,636,579	95,970	171,689	141,882	311,179	4,054,201
Total value of output £	3,094,656	2,827,996	285,364	302,180	216,727	573,506	7,300,429
Value added in process of manufacture £	1,391,364	1,052,264	184,665	119,030	70,283	242,299	3,059,905

(a) Including Biscuits and Bakeries.

(ii) *Development in Australia, 1923-24 to 1927-28.* The growth of the confectionery industry during the past four years is exhibited in the following table :—

CONFECTIONERY FACTORIES.—AUSTRALIA, 1923-24 TO 1927-28.

Items.	1923-24.	1924-25. (a)	1925-26. (a)	1926-27. (a)	1927-28. (a)
Number of factories	258	276	267	286	293
Number of employees	8,724	8,818	8,849	9,048	8,616
Actual horse-power of engines employed	11,668	15,725	13,047	14,166	14,241
Approx. value of land and buildings £	1,773,340	2,021,439	2,014,563	2,084,233	2,074,074
Approx. value of plant and machinery £	1,951,422	2,104,208	2,199,860	2,311,513	2,332,479
Total amount of wages paid during year £	1,262,099	1,349,717	1,391,114	1,426,779	1,365,241
Value of fuel used £	126,547	155,050	166,845	185,181	186,323
Value of raw material worked up £	3,313,428	3,619,005	3,884,045	3,918,090	4,054,201
Total value of output £	6,162,631	6,623,828	6,993,566	7,097,911	7,300,429
Value added in process of manufacture £	2,717,656	2,849,773	2,942,675	3,014,640	3,059,905

(a) Including Biscuits in Tasmania.

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 8,616 persons in 1927-28, and the value of the output amounted to £7,300,429, or more than 18 per cent. greater than the value of the production in 1923-24. 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, 1927-28.* The following table shows the position of the flour-milling industry in each State in 1927-28 :—

FLOUR MILLS, 1927-28.

Items.	N.S.W.	Victoria.	Q'land.	S. Aust. (a)	W. Aust.	Tas. (a)	Australia.
Number of factories ..	57	42	10	36	19	10	174
Number of employees ..	1,116	971	286	513	438	119	3,443
Actual horse-power of engines employed ..	7,578	5,934	1,286	3,299	2,864	534	21,495
Approximate value of land and buildings .. £	797,589	466,400	129,928	202,403	222,130	60,255	1,878,705
Approximate value of plant and machinery .. £	910,691	652,300	146,842	295,146	254,812	51,599	2,311,390
Total amount of wages paid during year .. £	291,265	257,257	67,042	102,174	102,656	23,713	844,107
Value of fuel used .. £	70,809	59,348	10,501	27,000	20,064	3,583	191,305
Value of raw material worked up .. £	5,331,970	4,884,165	820,550	1,653,964	1,640,723	343,657	14, 75,029
Total value of output .. £	6,126,088	5,665,103	998,562	1,885,934	1,975,002	401,600	17,052,289
Value added in process of manufacture .. £	723,309	721,590	167,511	204,970	314,215	54,360	2,185,955

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

(ii) *Production of Flour and By-products, 1923-24 to 1927-28.* The production of flour by the mills in each State for the years 1923-24 to 1927-28 was as follows :—

FLOUR MILLS.—PRODUCTION OF FLOUR, 1923-24 TO 1927-28.

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
1923-24 ..	409,645	382,204	54,244	113,436	107,990	25,337	1,092,856
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	53,858	122,107	127,246	21,675	1,092,632

(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., 1,092,632 tons, was valued at £13,504,843. In addition, 448,850 tons of bran and pollard, valued at £3,236,199 were made. The total quantity of wheat ground was 52,200,516 bushels.

18. Sugar Mills.—(i) *Details for 1927-28.* The following table shows the position of the cane-crushing branch of the sugar-making industry in Queensland and New South Wales in 1927-28. 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, 1927-28.

Items.	N.S.W.	Queensland.	Australia.
Number of factories	3	35	38
Number of employees	413	6,005	6,418
Actual horse-power of engines employed	2,120	30,625	32,745
Approximate value of land and buildings	£ 133,870	884,041	1,017,911
Approximate value of plant and machinery	£ 535,491	6,111,261	6,646,752
Total amount of wages paid during year ..	£ 91,373	1,378,015	1,469,388
Value of fuel used	£ 12,566	203,746	216,312
Value of raw material worked up	£ 361,782	7,576,102	7,937,884
Total value of output	£ 537,112	10,675,863	11,212,975
Value added in process of manufacture ..	£ 162,764	2,896,015	3,058,779

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, and part is used for manuring land, but a considerable quantity is allowed to run to waste.

(ii) *Progress of Industry.* (a) *New South Wales.* The following table shows the progress of this industry in New South Wales since 1923-24 :—

SUGAR MILLS.—NEW SOUTH WALES, 1923-24 TO 1927-28.

Items.	1923-24.	1924-25.	1925-26.	1926-27.	1927-28.
Number of factories ..	3	3	3	3	3
Number of employees ..	445	445	487	447	413
Cane crushed .. tons	132,084	228,978	297,335	230,254	208,612
Sugar produced .. tons	16,829	26,682	32,385	26,604	23,349
Molasses produced gals.	752,650	1,313,400	1,820,000	1,371,700	1,196,700

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 1927-28.

Items.	1911.	1924-25.	1925-26.	1926-27.	1927-28.
Number of factories ..	49	37	40	39	35
Number of employees ..	4,295	6,250	7,322	6,949	6,005
Cane crushed .. tons	1,534,451	3,175,377	3,653,860	2,930,860	3,570,743
Sugar produced .. tons	173,296	400,645	479,023	457,914	479,803
Molasses—					
Sold to distillers and others .. gals.	2,393,669	5,367,352	3,749,788	3,301,557	4,823,728
Used as fodder .. gals.	789,564	2,236,788	2,176,649	2,828,118	2,523,390
Used as manure .. gals.	223,000	196,080	1,287,400	89,600	473,260
Run to waste or burnt .. gals.	1,847,333	5,921,246	9,360,367	7,295,155	6,700,060
In Stock .. gals.	1,197,626	1,398,837	1,590,212	1,172,003	1,335,366
Total Molasses .. gals.	6,451,192	15,120,303	18,164,416	14,686,433	15,855,804

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 1927–28 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 330,784 tons, for a yield of 323,343 tons of refined sugar, valued at £11,463,832.

20. **Breweries.**—(i) *Details for each State, 1927–28.* The following table gives particulars concerning breweries in each State :—

BREWERIES, 1927–28.

Items.	N.S.W.	Vic.	Q'land.	S. Aust.	W. Aust. (a).	Tas.	Australia.
Number of breweries	8	9	10	6	10	3	46
Number of employees	1,255	1,169	448	385	458	166	3,881
Actual horse-power of engines employed	3,733	5,683	1,962	1,263	1,258	789	14,688
Approximate value of land and buildings	£ 836,311	£ 641,590	£ 302,320	£ 198,848	£ 253,667	£ 115,115	£ 2,347,851
Approximate value of plant and machinery	£ 1,074,881	£ 858,800	£ 312,586	£ 204,313	£ 248,190	£ 154,853	£ 2,853,623
Total amount of wages paid during year	£ 375,434	£ 393,470	£ 128,555	£ 123,851	£ 143,594	£ 43,187	£ 1,208,091
Value of fuel used	£ 98,543	£ 84,416	£ 30,304	£ 29,648	£ 20,047	£ 9,193	£ 272,151
Value of raw material worked up	£ 1,215,793	£ 1,100,697	£ 227,821	£ 344,074	£ 357,935	£ 72,201	£ 3,318,521
Total value of output	£ 3,110,838	£ 2,534,815	£ 641,490	£ 723,828	£ 786,519	£ 167,136	£ 7,964,626
Value added in process of manufacture	£ 1,796,502	£ 1,349,702	£ 383,365	£ 350,106	£ 408,537	£ 85,742	£ 4,373,954

(a) Includes malting.

(ii) *Development in Australia, 1923–24 to 1927–28.* The following table shows the progress of this industry during the past four years :—

BREWERIES.—AUSTRALIA, 1923–24 TO 1927–28.

Items.	1923–24.	1924–25.	1925–26.	1926–27.	1927–28.
Number of breweries	57	56	52	48	46
Number of employees	3,854	3,965	3,812	3,844	3,881
Actual horse-power of engines used	12,761	13,403	13,246	13,143	14,688
Approx. value of land and buildings	£ 1,778,442	£ 1,996,644	£ 2,141,886	£ 2,205,779	£ 2,347,851
Approx. value of plant and machinery	£ 2,247,811	£ 2,506,284	£ 2,595,955	£ 2,710,319	£ 2,853,623
Total amount of wages paid	£ 1,063,250	£ 1,093,323	£ 1,194,424	£ 1,173,086	£ 1,208,091
Value of fuel used	£ 197,596	£ 241,918	£ 283,300	£ 248,780	£ 272,151
Value of raw material worked up	£ 2,787,891	£ 3,019,592	£ 3,577,212	£ 3,315,441	£ 3,318,521
Value of final output	£ 6,887,462	£ 7,117,029	£ 7,842,180	£ 7,941,978	£ 7,964,626
Value added in process of manufacture	£ 3,901,975	£ 3,855,519	£ 3,981,668	£ 4,377,757	£ 4,373,954

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 £6,887,462 in 1923–24 to £7,964,626 in 1927–28, and the quantity of ale and stout brewed rose from 66,641,251 to 74,035,403 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 1927–28 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 1927-28.

BREWERIES.—MATERIALS USED AND PRODUCTION, 1927-28.

Particulars.	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tasmania.	Australia.
RAW MATERIAL USED.							
Malt .. bushels	952,344	815,882	206,637	216,519	196,926	50,322	2,438,630
Hops .. lb.	910,240	814,812	185,376	231,449	199,824	76,333	2,418,034
Sugar .. cwt.	106,540	116,890	23,811	27,802	31,083	4,940	311,066

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

Malt .. bushels	33.86	31.54	32.48	33.65	32.76	40.91	32.94
Hops .. lb.	32.36	31.50	29.14	35.97	33.25	62.05	32.66
Sugar .. cwt.	3.79	4.52	3.74	4.32	5.17	4.02	4.20

ALE AND STOUT BREWED.

Quantity	gallons	28,130,066	25,869,650	6,361,144	6,433,816	6,010,532	1,230,195	74,035,403
Value (a)	£	3,083,499	2,528,363	641,490	718,115	762,185	167,136	7,900,788

(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 1927-28 comprised 893,187 cwt. of molasses, 113,404 bushels of malt, and 8,672,523 gallons of wine, while the output of distilled spirit amounted to 6,307,529 proof gallons.

22. *Tobacco, etc., Factories.*—(i) *Details for each State, 1927-28.* During the year 1927-28 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, 1927-28.

Items.	N.S.W.	Victoria.	S. Aust.	W. Aust.	Australia.
Number of factories	8	12	1	2	23
Number of employees	2,476	1,625	21	95	4,217
Actual horse-power of engines employed ..	1,035	616	..	33	1,684
Approx. value of land and buildings .. £	498,424	271,930	(a)	(a)	b 783,895
Approx. value of plant and machinery .. £	332,444	170,140	(a)	(a)	b 510,651
Total amount of wages paid during year .. £	457,296	345,577	(a)	(a)	b 818,985
Value of fuel used	11,662	9,466	(a)	(a)	b 21,991
Value of raw material worked up £	3,345,388	1,121,512	(a)	(a)	b 4,492,363
Total value of output	4,799,033	1,941,689	(a)	(a)	b 6,817,391
Value added in process of manufacture .. £	1,441,983	810,711	(a)	(a)	b 2,303,037

(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 1927-28 comprised—manufactured tobacco 1,187,202 lb., cigars 128,713 lb., and cigarettes 946,350 lb., while the quantities manufactured in Australian factories were respectively 15,096,949 lb., 390,336 lb., and 5,391,271 lb. The following tables show the development of the tobacco manufacturing industry in Australia during recent years :—

**TOBACCO, CIGAR, AND CIGARETTE FACTORIES.—AUSTRALIA,
1923-24 TO 1927-28.**

Items.	1923-24.	1924-25.	1925-26.	1926-27.	1927-28.
Number of factories	28	27	26	24	23
Number of employees	4,312	4,421	4,325	4,286	4,217
Actual horse-power of engines used	1,609	1,676	1,713	1,645	1,684
Approx. value of land and buildings £	531,273	620,694	640,239	675,689	783,895
Approx. value of plant and machinery £	478,477	497,034	508,100	512,441	510,651
Total amount of wages paid £	742,697	781,471	800,615	812,300	818,985
Value of fuel used	£ 18,954	27,172	28,053	22,032	21,991
Value of raw material worked up £	4,500,304	4,613,357	4,589,301	4,523,086	4,492,363
Value of final output	£ 6,645,451	6,927,087	6,892,332	6,800,026	6,817,391
Value added in process of manufacture £	2,126,193	2,286,558	2,274,978	2,254,908	2,303,037

LEAF USED AND PRODUCTION.

Leaf used	1,000 lb.	17,104	18,073	18,661	18,610	18,620
Tobacco made	"	14,145	14,978	15,405	15,008	15,097
Cigars	"	431	470	456	410	390
Cigarettes	"	4,794	4,873	5,134	5,309	5,391

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 1927-28 were 1,007,089 and 17,613,104 lb.

23. **Woollen and Tweed Mills.**—(i) *Details for each State, 1927-28.* 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 1927-28, shows that the industry is now well established :—

WOOLLEN AND TWEED MILLS, 1927-28.

Items.	N.S.W.	Victoria.	Q'land.	S. Aust.	W.A.	Tas.	Australia.
Number of factories	16	29	2	3	1	6	57
Number of employees	2,939	6,752	333	296	124	1,194	11,638
Actual horse-power of engines employed	6,246	13,335	739	645	300	1,893	23,158
Approx. value of land and buildings £	519,618	1,045,440	(a)	(a)	(a)	265,661	b 1,933,654
Approx. value of plant and machinery £	1,116,131	1,969,880	(a)	(a)	(a)	343,883	b 3,688,023
Total amount of wages paid during year	£ 443,221	1,073,182	(a)	(a)	(a)	136,365	b 1,755,538
Value of fuel used	£ 66,172	161,452	(a)	(a)	(a)	30,024	b 272,578
Value of raw material worked up £	1,082,728	2,518,416	(a)	(a)	(a)	333,955	b 4,172,120
Total value of output	£ 1,881,237	4,680,704	(a)	(a)	(a)	647,825	b 7,901,435
Value added in process of manufacture	£ 732,337	2,000,836	(a)	(a)	(a)	283,846	b 3,156,737

(a) Information not available for publication.

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

(ii) *Development in Australia, 1923-24 to 1927-28.* 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, 1923-24 TO 1927-28.

Items.	1923-24.	1924-25.	1925-26.	1926-27.	1927-28.
Number of factories	47	49	50	53	57
Number of employees	7,532	7,941	8,735	11,068	11,638
Actual horse-power of engines used	15,406	16,310	18,426	22,441	23,158
Approx. value of land and buildings	£ 1,426,493	1,620,318	1,659,446	1,892,108	1,933,654
Approx. value of plant and machinery	£ 3,043,586	3,297,229	3,247,602	3,779,316	3,688,023
Total amount of wages paid	£ 1,043,298	1,102,718	1,222,596	1,607,595	1,755,538
Value of fuel used	£ 128,487	165,724	203,237	251,093	272,578
Value of raw material worked up	£ 2,824,176	3,197,778	3,400,316	3,681,164	4,172,120
Total value of output	£ 4,863,657	5,071,124	5,758,267	6,986,296	7,601,435
Value added in process of manufacture	£ 1,910,994	1,707,622	2,154,714	3,054,039	3,156,737

(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 1927-28 was 9,625,983 yards. In New South Wales 2,686,341 yards of tweed and cloth, and in Victoria, 6,236,623 yards were manufactured. The production of flannel amounted to 10,174,774 yards, while blankets, shawls, and rugs to the number of 1,369,341 were manufactured. The output of yarn reported was 4,807,142 lb., most of which was produced in Victoria.

In addition to the woollen and tweed factories, there were 242 hosiery and knitting mills operating throughout Australia during 1927-28. These establishments provided employment for 9,880 persons, of whom 7,952 were females, and the value of their output amounted to £5,186,351.

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-three establishments treating cotton in Australia during 1927-28, and these employed 1,053 hands, while the value of the output was £805,974.

24. Boot Factories.—(i) *Boot and Shoe Factories, 1927-28.* Among the manufacturing industries 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, 1927-28.

Items.	N.S.W.	Vic.	Q'land.	S. Aust.	W. Aust.	Tas.	Australia.
Number of factories	104	201	18	18	9	6	356
Number of employees	5,019	11,491	1,131	562	380	200	18,783
Actual horse-power of engines employed	1,681	3,254	292	274	212	67	5,780
Approx. value of land and buildings	£ 521,545	920,010	63,261	74,561	40,209	13,760	1,633,346
Approx. value of plant and machinery	£ 239,752	574,740	34,879	31,415	33,502	7,599	921,887
Total amount of wages paid	£ 868,645	1,885,999	185,749	84,418	58,098	31,643	3,114,552
Value of fuel used	£ 14,029	41,939	2,646	1,526	1,147	742	62,029
Value of raw material worked up	£ 1,303,419	3,134,107	271,670	123,990	124,595	48,759	5,006,540
Total value of output	£ 2,565,004	5,976,116	497,073	227,425	227,988	93,222	9,586,828
Value added in process of manufacture	£ 1,247,556	2,800,070	222,757	101,909	102,246	43,721	4,518,259

(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 1927-28 the number recorded amounted to 1,001, in which 2,236 hands were employed. The sum of £230,000 was distributed in salaries and wages, and the total output value was £972,495.

(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, 1927-28.

Particulars.	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tas.	Australia.
QUANTITY (,000 OMITTED).							
Boots and shoes .. pairs	3,807	7,793	712	377	360	146	13,195
Slippers	976	2,189	10	30	131	..	3,336
Uppers (a)	33	18	2	8	2	2	65
VALUE.							
Boots and shoes .. £	2,416,535	5,248,115	493,432	204,192	209,881	92,392	8,664,547
Slippers £	109,560	361,937	3,402	15,347	19,645	..	509,891
Uppers (a) £	10,926	9,581	933	2,993	1,370	816	26,619

(a) Made for other than factory use.

25. Clothing (Tailoring and Slop) Factories.—(i) *Details for each State, 1927-28.* The importance of this industry in the several States is shown in the following table:—

CLOTHING (TAILORING AND SLOP) FACTORIES, 1927-28.

Items.	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tas.	Australia.
Number of factories	519	511	139	136	80	37	1,422
Number of employees	11,617	8,713	2,970	2,272	1,268	561	27,401
Actual horse-power of engines employed	889	583	270	115	71	26	1,954
Approximate value of land and buildings £	2,089,883	1,222,160	331,826	401,080	243,855	75,975	4,364,779
Approximate value of plant and machinery £	154,050	113,510	54,515	24,687	18,823	5,172	370,757
Total amount of wages paid during year £	1,603,838	1,171,672	337,427	271,773	169,002	62,445	3,616,157
Value of fuel used £	24,632	23,817	7,121	6,158	3,182	1,036	65,946
Value of raw material worked up £	2,088,133	1,861,365	471,403	372,153	269,968	58,084	5,121,106
Total value of output £	4,640,612	3,561,770	1,131,631	798,134	544,301	150,920	10,827,374
Value added in process of manufacture £	2,527,847	1,678,594	653,107	419,823	271,151	91,800	5,640,322

(ii) *Development in Australia, 1923-24 to 1927-28.* 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. It is of interest to note that employment in this industry is approximately 2,000 less than the highest pre-war figure. Details for the past five years are as follow:—

CLOTHING (TAILORING AND SLOP) FACTORIES.—AUSTRALIA, 1923-24 TO 1927-28.

Items.	1923-24.	1924-25.	1925-26.	1926-27.	1927-28.
Number of factories	1,440	1,472	1,481	1,465	1,422
Number of employees	28,148	28,600	28,294	28,409	27,401
Actual horse-power of engines used	1,655	1,823	1,787	1,833	1,954
Approx. value of land and buildings £	3,890,477	4,291,681	4,403,707	4,368,772	4,364,779
Approx. value of plant and machinery £	358,603	374,079	376,509	367,923	370,757
Total amount of wages paid £	3,402,069	3,482,436	3,634,760	3,664,940	3,616,157
Value of fuel used £	56,492	58,943	65,038	64,742	65,946
Value of raw material worked up £	5,257,702	5,407,676	5,582,354	5,456,963	5,121,106
Total value of output £	10,527,577	10,881,684	11,274,588	11,118,283	10,827,374
Value added in process of manufacture £	5,213,383	5,415,065	5,626,596	5,596,578	5,640,322

26. Dressmaking and Millinery Establishments.—(i) *Details for each State, 1927–28.* Particulars of dressmaking and millinery establishments are given in the following table :—

DRESSMAKING AND MILLINERY ESTABLISHMENTS, 1927–28.

Items.	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tas.	Australia.
Number of factories	237	511	42	60	51	15	916
Number of employees	3,462	8,762	659	1,156	820	160	15,019
Actual horse-power of engines employed	117	672	16	41	47	5	898
Approximate value of land and buildings	931,954	1,381,720	60,763	127,380	82,695	11,872	2,596,384
Approximate value of plant and machinery	£ 34,139	110,300	5,426	9,193	10,238	1,357	170,653
Total amount of wages paid during year	£ 335,839	940,148	61,265	101,237	76,688	10,770	1,525,947
Value of fuel used	£ 3,724	17,483	652	1,879	1,136	180	25,054
Value of raw material worked up	£ 497,150	1,713,914	86,319	134,029	144,664	14,677	2,590,753
Total value of output	£ 1,100,177	3,157,539	187,962	297,070	261,834	30,131	5,034,713
Value added in process of manufacture	£ 599,303	1,426,142	100,991	161,162	116,034	15,274	2,418,906

(ii) *Development in Australia, 1923–24 to 1927–28.* 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, 1923–24 TO 1927–28.

Items.	1923–24.	1924–25.	1925–26.	1926–27.	1927–28.
Number of factories	926	922	898	912	916
Number of employees	15,623	14,823	14,703	15,051	15,019
Actual horse-power of engines used	701	699	854	906	898
Approximate value of land and buildings	£ 2,047,288	2,270,977	2,308,405	2,498,532	2,596,384
Approximate value of plant and machinery	£ 155,011	166,102	173,368	171,235	170,653
Total amount of wages paid	£ 1,448,046	1,383,138	1,462,410	1,507,373	1,525,947
Value of fuel used	£ 18,680	19,042	21,344	22,171	25,054
Value of raw material worked up	£ 2,653,051	2,648,815	2,805,062	2,840,827	2,590,753
Value of final output	£ 4,999,412	4,920,650	5,243,483	5,294,399	5,034,713
Value added in process of manufacture	£ 2,322,681	2,252,793	2,417,077	2,431,401	2,418,906

27. Electrotyping, Stereotyping, Printing, and Binding Works.—(i) *Details for each State, 1927–28.* Printing ranks high in importance among the industries of Australia. It affords employment for more than 27,000 employees, and pays nearly £6,000,000 in salaries and wages. During 1927–28 the total value of the output amounted to £16,299,610.

The following table gives particulars of these industries in each State for the year 1927–28 :—

ELECTROTYPING, STEREOTYPING, PRINTING, AND BINDING ESTABLISHMENTS, 1927–28.

Items.	N.S.W.	Vic.	Q'land.	S. Aust.	W. Aust.	Tas.	Australia.
Number of factories	499	489	131	96	85	22	1,322
Number of employees	10,345	9,265	3,408	1,887	1,416	728	27,049
Actual horse-power of engines employed	10,476	6,883	2,456	1,509	1,346	372	23,042
Approximate value of land and buildings	£ 3,166,741	2,364,080	770,252	574,373	423,465	109,673	7,413,584
Approximate value of plant and machinery	£ 3,005,416	2,146,470	596,931	324,729	299,320	132,414	6,505,280
Total amount of wages paid during year	£ 2,373,581	1,967,447	736,154	408,251	333,826	158,720	5,977,979
Value of fuel used	£ 83,366	65,235	30,218	13,706	11,688	5,204	209,477
Value of raw material worked up	£ 2,572,398	2,210,701	511,740	406,259	280,766	93,889	6,075,753
Total value of output	£ 6,677,741	5,604,549	1,695,088	1,124,856	878,843	318,533	16,299,610
Value added in process of manufacture	£ 4,021,977	3,328,613	1,153,130	704,891	586,389	219,380	10,014,380

(a) Relates to Printing and Binding only.

(ii) *Development in Australia, 1923-24 to 1927-28.* The development of electrotyping, stereotyping, printing, and binding in Australia since 1923-24 is shown in the following table :—

**ELECTROTYPING, STEREOTYPING, PRINTING AND BINDING ESTABLISHMENTS.—
AUSTRALIA, 1923-24 TO 1927-28.**

Items.	1923-24.	1924-25.	1925-26.	1926-27.	1927-28. (a)
Number of establishments	1,194	1,238	1,254	1,307	1,322
Number of employees	25,162	25,279	25,213	27,059	27,049
Actual horse-power of engines used	17,225	18,203	19,048	20,581	23,042
Approximate value of land and buildings £	5,260,806	5,709,421	6,258,485	7,012,899	7,413,584
Approximate value of plant and machinery £	5,132,411	5,624,487	5,961,076	6,562,612	6,505,280
Total amount of wages paid	£ 5,253,593	£ 5,232,040	£ 5,526,681	£ 5,934,778	£ 5,977,979
Value of fuel used	£ 148,927	£ 165,046	£ 185,513	£ 197,648	£ 209,477
Value of raw material worked up	£ 4,879,459	£ 4,904,536	£ 5,277,369	£ 5,969,691	£ 6,075,753
Total value of output	£ 14,577,413	£ 13,621,903	£ 14,493,764	£ 16,000,811	£ 16,299,610
Value added in process of manufacture	£ 9,549,027	£ 8,552,321	£ 9,030,882	£ 9,833,472	£ 10,014,380

(a) See note (a) previous table.

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 and Cycle Works.*—(i) *Motors and Motor Cycle and Bicycle Building and Repairing.* The industries catering for the motor trade comprise the principal branches of manufacture in Class XI. They have made rapid progress, and the statistical classification now separates the assembling and repairing of motors from the body building section. The returns for the former industry during the year 1927-28 are as follow :—

**MOTORS AND MOTOR CYCLE, AND BICYCLE BUILDING AND REPAIRING,
1927-28.**

Items.	N.S.W.	Vic.	Q'land.	S. Aust.	W. Aust.	T'as.	Australia.
Number of factories	844	652	96	127	117	60	1,896
Number of employees	6,016	4,031	932	1,401	919	510	13,809
Actual horse-power of engines employed	3,390	2,270	523	763	380	229	7,555
Approximate value of land and buildings	£ 2,764,912	£ 1,195,600	£ 404,729	£ 571,028	£ 348,512	£ 163,409	£ 5,448,190
Approximate value of plant and machinery	£ 497,802	£ 316,910	£ 74,634	£ 113,932	£ 64,967	£ 25,503	£ 1,093,748
Total amount of wages paid during year	£ 1,108,479	£ 723,460	£ 180,948	£ 264,805	£ 189,260	£ 89,371	£ 2,556,323
Value of fuel used	£ 62,047	£ 39,004	£ 7,532	£ 10,670	£ 6,793	£ 2,617	£ 128,663
Value of raw material worked up	£ 763,878	£ 48,838	£ 31,595	£ 191,066	£ 87,543	£ 29,481	£ 1,152,401
Total value of output	£ 2,483,500	£ 1,177,826	£ 504,296	£ 571,429	£ 438,374	£ 164,933	£ 5,340,358
Value added in process of manufacture	£ 1,657,575	£ 1,089,984	£ 465,109	£ 369,693	£ 344,038	£ 132,835	£ 4,059,294

(ii) *Motor Body Building and Repairing.* Pending the manufacture of the complete motor car in Australia, special attention has been paid to the body building industry. This industry came into being during the war years, and assisted by a substantial tariff has grown apace with the development of motoring in this country. Approximately 60,000 bodies were manufactured during 1927-28, and the majority of cars now purchased is fitted with Australian bodies. Details of the factories engaging in this trade during 1927-28 are as follow :—

MOTOR BODY BUILDING AND REPAIRING, 1927-28.

Items.	N.S.W.	Vic.	Q'land.	S. Aust.	W. Aust.	Tas.	Australia.
Number of factories	53	70	15	10	10	..	158
Number of employees	1,850	1,720	328	3,772	172	..	7,842
Actual horse-power of engines employed	1,475	1,331	188	3,220	61	..	6,275
Approximate value of land and buildings	£ 614,370	£ 605,660	£ 64,111	£ 482,533	£ 39,800	..	£ 1,806,474
Approximate value of plant and machinery	£ 109,682	£ 388,630	£ 15,575	£ 675,234	£ 8,525	..	£ 1,197,646
Total amount of wages paid during year	£ 402,637	£ 402,839	£ 58,078	£ 878,642	£ 35,628	..	£ 1,777,824
Value of fuel used	£ 7,858	£ 11,142	£ 951	£ 30,270	£ 651	..	£ 50,872
Value of raw material worked up	£ 416,629	£ 393,463	£ 52,276	£ 1,006,872	£ 36,384	..	£ 1,905,624
Total value of output	£ 914,543	£ 883,375	£ 132,434	£ 2,227,868	£ 91,971	..	£ 4,250,191
Value added in process of manufacture	£ 490,056	£ 478,770	£ 79,207	£ 1,190,726	£ 54,936	..	£ 2,293,695

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, 1927-28.

Items.	N.S.W.	Vic.	Q'land.	S. Aust.	W. Aust.	Tas.	Australia.
Number of factories	283	343	76	59	56	32	849
Number of employees	4,133	3,295	1,234	1,032	749	326	10,769
Actual horse-power of engines employed	4,544	3,614	1,455	1,888	787	449	12,737
Approximate value of land and buildings	£ 801,993	£ 687,390	£ 190,767	£ 138,515	£ 127,487	£ 43,778	£ 1,989,930
Approximate value of plant and machinery	£ 229,950	£ 182,500	£ 75,940	£ 82,063	£ 40,960	£ 19,447	£ 630,860
Total amount of wages paid during year	£ 885,158	£ 567,637	£ 236,324	£ 181,108	£ 144,602	£ 47,140	£ 2,063,969
Value of fuel used	£ 20,967	£ 20,408	£ 8,208	£ 7,437	£ 3,378	£ 1,707	£ 62,105
Value of raw material used	£ 1,142,844	£ 755,232	£ 291,529	£ 211,901	£ 203,559	£ 30,181	£ 2,635,246
Total value of output	£ 2,502,984	£ 1,734,777	£ 650,507	£ 478,244	£ 429,121	£ 110,291	£ 5,905,924
Value added in process of manufacture	£ 1,339,173	£ 959,137	£ 350,770	£ 258,886	£ 222,204	£ 78,403	£ 3,208,573

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 1923-24 the production of electric light and power has increased from 1,375,145,748 to 2,194,486,414 British units, or by more than 60 per cent. Particulars for the year 1927-28 are as follow :—

ELECTRIC LIGHT AND POWER WORKS, 1927-28.

Items.	N.S.W.	Vic.	Q'land.	S. Aust.	W. Aust.	Tas.	Australia.
Number of factories	134	86	30	27	42	10	329
Number of employees	2,150	1,069	853	1,295	313	135	5,815
Actual horse-power of engines employed	329,865	198,914	69,240	97,520	33,932	74,235	803,706
Approximate value of land and buildings	£ 2,802,162	£ 1,515,090	£ 289,643	£ 507,905	£ 184,452	£ 32,920	£ 5,332,172
Approximate value of plant and machinery	£ 7,889,655	£ 5,513,630	£ 2,411,378	£ 1,658,750	£ 698,556	£ 3,055,695	£ 21,227,664
Total amount of wages paid during year	£ 639,725	£ 306,008	£ 210,794	£ 349,678	£ 84,072	£ 33,940	£ 1,624,217
Value of fuel used	£ 1,527,135	£ 645,298	£ 182,904	£ 244,963	£ 238,757	£ 4,092	£ 2,843,149
Total value of output	£ 4,859,084	£ 1,566,113	£ 808,354	£ 1,051,827	£ 525,002	£ 242,767	£ 9,053,147

31. Gas and Coke Works.—(i) *Details for each State, 1927-28.* Gas works are in operation in nearly all the chief towns in Australia. In New South Wales there are eleven and in Queensland two coke factories which are worked as separate industries. The subjoined table gives particulars of gas and coke works in each State for the year 1927-28 :—

GAS AND COKE WORKS, 1927-28.

Items.	N.S.W.	Vic.	Q'land.	S. Aust.	W. Aust.	Tas.	Australia.
Number of factories	60	35	17	8	5	2	127
Number of employees	2,367	1,149	669	765	103	94	5,147
Actual horse-power of engines employed	8,952	3,360	735	867	240	156	14,310
Approximate value of land and buildings	1,124,951	542,630	233,861	29,971	77,114	49,235	2,057,762
Approximate value of plant and machinery	£ 4,068,017	1,984,180	1,514,546	715,411	158,384	168,809	8,609,347
Total amount of wages paid during year	£ 641,260	324,675	172,921	211,582	26,988	24,394	1,401,820
Value of fuel used	£ 311,639	174,181	19,200	41,774	8,641	4,374	559,809
Value of raw material used	£ 2,058,656	1,271,995	180,498	273,542	55,184	32,908	3,872,783
Total value of output	£ 4,333,796	2,563,963	568,365	701,031	154,541	83,452	8,405,148
Value added in process of manufacture	£ 1,963,501	1,117,787	368,667	385,715	90,716	46,170	3,972,556

(ii) *Coal Used and Production, 1927-28.* The following table shows the quantity and value of the production of gas and coke works in each State during the year 1927-28 :—

GAS AND COKE WORKS.—COAL USED AND PRODUCTION, 1927-28.

Particulars.	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tas.	Australia.
COAL USED.							
Coal tons	1,534,523	437,947	a 103,935	105,763	18,231	14,164	2,214,563
PRODUCTS.							
Gas .. 1,000 cubic feet	10,700,870	6,326,887	1,378,003	1,538,416	330,240	203,351	20,477,767
Coke tons	429,654	291,077	57,247	63,779	9,693	5,555	857,005
VALUE.							
Gas £	2,208,011	1,441,994	562,127	515,484	134,058	66,566	4,928,240
Coke £	412,665	466,265	53,136	115,054	18,687	13,146	1,078,953

(a) Relates to Gas Works only.

In order to cope with the general industrial expansion, the production of gas increased from 17,622,101 cubic feet in 1923-24 to 20,477,767 cubic feet in 1927-28, while the output of coke rose from 1,301,858 to 1,443,813 tons during the same period.