

CHAPTER XXII.

MANUFACTURING INDUSTRY.

[NOTE].—In the case of Queensland, Western Australia, and Tasmania the year ends on the 31st December, and in New South Wales, Victoria, and South Australia on the 30th June, six months later.

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, 1918-19 to 1922-23.—The following table gives the number of factories in each State for the years 1918-19 to 1922-23 :—

FACTORIES.—NUMBER IN EACH STATE, 1918-19 TO 1922-23.

Year.(a)	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tasmania.	Australia.
1918-19 ..	5,460	5,720	1,778	1,313	764	553	15,588
1919-20 ..	5,662	6,038	1,754	1,368	817	652	16,291
1920-21 ..	5,837	6,532	1,795	1,438	895	616	17,113
1921-22 ..	6,356	6,753	1,810	1,432	986	686	18,023
1922-23 ..	6,702	7,096	1,878	1,609	1,199	689	19,173

(a) See general note above.

3. Classification of Factories, Australia, 1918-19 to 1922-23.—The following table shows the number of factories in Australia for each year from 1918-19 to 1922-23, 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, 1918-19 TO 1922-23.

Class of Industry.	1918-19. (a)	1919-20. (a)	1920-21. (a)	1921-22. (a)	1922-23. (a)
I. Treating raw material, product of agricultural and pastoral pursuits, etc. ..	No. 789	No. 799	No. 772	No. 762	No. 810
II. Treating oils and fats, animal, vegetable, etc. ..	88	92	92	99	97
III. Processes in stone, clay, glass, etc. ..	643	670	707	786	782
IV. Working in wood ..	1,762	1,912	2,053	2,103	2,236
V. Metal Works, machinery, etc. ..	1,872	1,974	2,133	2,181	2,349
VI. Connected with food and drink, etc. ..	2,420	2,427	2,453	2,539	2,635
VII. Clothing and textile fabrics, etc. ..	8,155	8,311	8,499	8,893	9,225
VIII. Books, paper, printing and engraving ..	1,220	1,247	1,259	1,313	1,347
IX. Musical instruments, etc. ..	31	37	43	45	59
X. Arms and explosives ..	17	17	17	17	14
XI. Vehicles and fittings, saddlery and harness, etc. ..	1,449	1,514	1,634	1,778	1,913
XII. Ship and boat building and repairing ..	76	80	79	81	81
XIII. Furniture, bedding, and upholstery ..	743	817	916	927	1,010
XIV. Drugs, chemicals, and by-products ..	273	293	305	313	327
XV. Surgical and other scientific instruments ..	72	71	73	77	81
XVI. Jewellery, timepieces, and plated ware ..	194	215	233	247	254
XVII. Heat, light, and power ..	505	515	529	563	590
XVIII. Leatherware, n.e.i. ..	83	93	101	115	118
XIX. Minor wares, n.e.i. ..	196	207	215	234	245
Total ..	15,588	16,291	17,113	18,023	19,173

(a) See general note above.

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 number of factories has increased continuously since 1918-19, and the expansion has been particularly marked during the past three years, when an average of about 1,000 additional factories has been annually added to the total. As previously pointed out, 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, 1922-23.**—The following table shows the number of factories in each State during 1922-23, classified according to the nature of the industry :—

FACTORIES.—CLASSIFICATION, STATES, 1922-23.

Class of Industry.	N.S.W. 1922-23.	Vic. 1922-23.	Q'land. 1922.	S. Aust. 1922-23.	W. Aust. 1922.	Tas. 1922.	Aus.
I. Treating raw material, product of agricul. & pastoral pursuits, etc.	241	295	44	106	55	69	810
II. Treating oils and fats, animal, vegetable, etc.	39	30	11	11	4	2	97
III. Processes in stone, clay, glass, etc.	326	231	40	106	58	21	782
IV. Working in wood	838	613	340	103	179	163	2,236
V. Metal works, machinery, etc.	800	936	222	232	115	44	2,349
VI. Connected with food & drink, etc.	858	731	464	256	203	123	2,635
VII. Clothing and textile fabrics, etc.	1,391	1,959	264	310	202	99	4,225
VIII. Books, paper, printing & engraving	511	490	139	92	90	25	1,347
IX. Musical instruments, etc.	29	18	..	9	3	..	59
X. Arms and explosives	(c) 3	10	..	1	..	..	14
XI. Vehicles and fittings, saddlery and harness, etc.	646	750	149	179	123	66	1,913
XII. Ship and boat building & repairing	40	11	9	10	6	5	81
XIII. Furniture, bedding and upholstery	342	397	105	84	55	27	1,010
XIV. Drugs, chemicals and by-products	135	131	5	17	27	12	327
XV. Surgical and other scientific instruments	18	38	11	7	7	..	81
XVI. Jewellery, timepieces & plated ware	80	111	17	27	10	9	254
XVII. Heat, light, and power	253	209	34	30	41	18	590
XVIII. Leatherware, n.e.i.	40	64	8	5	(a)	1	118
XIX. Minor wares, n.e.i.	107	72	16	24	(b) 21	5	245
Total ..	6,702	7,096	1,878	1,609	1,199	689	19,173

(a) Included in Class XIX. (b) Includes Class XVIII. (c) Particulars of Commonwealth Small Arms Factory were not available in comparative form, and are omitted from the Manufacturing Returns.

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

1. **States, 1922-23.**—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 1922-23 :—

FACTORIES.—CLASSIFICATION ACCORDING TO NUMBER OF EMPLOYEES, 1922-23.

No. of Persons Employed in each Factory.	N.S.W. 1922-23.	Victoria. 1922-23.	Q'land. 1922.	S. Aust. 1922-23.	W. Aust. 1922.	Tasmania. 1922.	Australia.
NUMBER OF FACTORIES.							
Under 4 ..	1,439	1,547	339	237	337	142	4,041
4 ..	644	687	167	151	134	67	1,850
5 to 10 ..	2,051	2,237	603	604	365	276	6,136
11 to 20 ..	1,117	1,144	344	277	167	100	3,149
21 to 50 ..	906	912	250	209	117	65	2,459
51 to 100 ..	303	340	74	81	51	29	878
Over 100 ..	242	229	101	50	28	10	660
Total ..	6,702	7,096	1,878	1,609	1,199	689	19,173

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FACTORIES.—CLASSIFICATION ACCORDING TO NUMBER OF EMPLOYEES, 1922-23—continued.

No. of Persons Employed in each Factory.	N.S.W. 1922-23.	Victoria. 1922-23.	Q'land. 1922.	S. Aust. 1922-23.	W. Aust. 1922.	Tasmania. 1922.	Australia.
AVERAGE NUMBER OF HANDS EMPLOYED.							
Under 4 ..	3,079	3,418	749	578	707	311	8,842
4 ..	2,576	2,748	668	604	536	268	7,400
5 to 10 ..	14,338	15,394	4,223	4,246	2,456	1,893	42,550
11 to 20 ..	16,328	16,544	5,049	4,005	2,397	1,430	45,753
21 to 50 ..	28,352	28,718	7,799	6,687	3,677	2,065	77,298
51 to 100 ..	20,931	23,325	5,260	5,607	3,435	2,142	60,700
Over 100 ..	66,662	62,478	19,655	12,968	5,889	2,215	169,867
Total ..	152,266	152,625	43,403	34,695	19,097	10,324	412,410

2. Australia, 1918-19 to 1922-23.—For the period covered in the following table, and particularly during the last three years, the number of factories has increased at a faster rate than that of employees, consequently a reduction has occurred in the average number of employees per factory. The same reason may be assigned for the decrease in the proportionate number of hands employed in the larger establishments, which dropped from 43.36 per cent. of the total employment in 1919-20 to 41.19 per cent. in 1922-23.

FACTORIES.—CLASSIFICATION ACCORDING TO NUMBER OF EMPLOYEES AUSTRALIA, 1918-19 TO 1922-23.

Year.(a)	Establishments Employing on the Average—							
	20 hands and under.		21 to 100 hands.		101 hands and upwards.		Total.	
	Es- tablism- ments.	Hands.	Es- tablism- ments.	Hands.	Es- tablism- ments.	Hands.	Es- tablism- ments.	Hands.
1918-19—								
Number ..	12,324	87,604	2,695	111,342	569	141,520	15,588	340,475
Average per establishment ..		7.11		41.31		248.73		21.84
Percentage on total ..	79.06	25.73	17.29	32.70	3.65	41.57	100.00	100.00
1919-20—								
Number ..	12,666	92,010	2,975	121,388	650	163,336	16,291	376,734
Average per establishment ..		7.26		40.80		251.29		23.13
Percentage on total ..	77.75	24.42	18.26	32.22	3.99	43.36	100.00	100.00
1920-21—								
Number ..	13,396	96,379	3,066	124,307	651	165,053	17,113	386,639
Average per establishment ..		7.19		40.54		254.92		22.59
Percentage on total ..	78.28	24.93	17.92	32.15	3.80	42.92	100.00	100.00
1921-22—								
Number ..	14,211	100,801	3,163	127,692	649	167,432	18,023	395,425
Average per establishment ..		7.06		40.37		257.98		21.94
Percentage on total ..	78.86	25.37	17.54	32.29	3.60	42.34	100.00	100.00
1922-23—								
Number ..	15,176	104,545	3,337	137,998	660	169,867	19,173	412,410
Average per establishment ..		6.89		41.35		257.37		21.51
Percentage on total ..	79.15	25.35	17.41	33.46	3.44	41.19	100.00	100.00

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

§ 3. Power used in Factories.

1. States, 1922-23.—The following table shows the number of factories using steam, gas, oil, electricity, or water, and the horse-power of engines or motors during 1922-23 :—

FACTORIES.—HORSE-POWER OF ENGINES USED, 1922-23.

State.	Number of Establishments.			Actual Horse-power of Engines Used.					
	Using Machinery worked by Steam, Gas, Oil, Electricity, or Water.	Others.	Total.	Steam.	Gas.	Oil.	Electricity.	Water.	Total.
	No.	No.	No.	H.P.	H.P.	H.P.	H.P.	H.P.	H.P.
N.S.W., 1922-23	5,806	896	6,702	211,377	14,400	2,472	123,477	48	351,774
Vict., 1922-23 ..	5,762	1,334	7,096	112,547	18,968	3,233	81,679	(a)	216,427
Q'land., 1922 ..	1,528	350	1,878	72,882	10,249	1,444	21,685	36	103,296
S. Aust., 1922-23	1,308	301	1,609	39,622	10,128	2,690	14,657	3	67,100
W. Aust., 1922 ..	974	225	1,199	35,931	5,577	2,054	13,991		57,553
Tas., 1922 ..	573	116	689	3,558	380	347	28,361	35,645	68,291
Australia ..	15,951	3,222	19,173	475,917	59,702	12,240	283,850	35,732	867,441

(a) Statistics of Water Power not collected.

The preponderance shown by New South Wales is due to the location in that State of the largest number of industries requiring a considerable amount of power. 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 1922-23 using steam, gas, oil, electricity, or water was 15,951, or 83.20 per cent. of the total; 3,222 establishments, representing 16.80 per cent., used no mechanical power. The total actual horse-power in use was 867,441, distributed in the following proportions :—Steam, 54.87 per cent.; gas, 6.88 per cent.; oil, 1.41 per cent.; electricity, 32.72 per cent.; and water, 4.12 per cent.

2. Australia, 1918-19 to 1922-23.—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, 1918-19 TO 1922-23.

Year.(a)	Number of Establishments.			Actual Horse-power of Engines used.					
	Using Machinery worked by Steam, Gas, Oil, Electricity or Water.	Others.	Total.	Steam.	Gas.	Oil.	Electricity.	Water.	Total.
	No.	No.	No.	H.P.	H.P.	H.P.	H.P.	H.P.	H.P.
1918-19 ..	12,385	3,203	15,588	392,972	56,437	9,056	159,372	12,109	629,946
1919-20 ..	13,146	3,145	16,291	402,152	58,349	11,872	176,476	11,167	660,016
1920-21 ..	13,943	3,170	17,113	437,851	59,365	11,884	217,916	15,465	742,481
1921-22 ..	14,859	3,164	18,023	460,258	57,877	10,363	249,379	20,216	798,093
1922-23 ..	15,951	3,222	19,173	475,917	59,702	12,240	283,850	35,732	876,441

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

The growth of electrical power has been the chief determining agent 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 had increased to 283,850 horse-power, or one-third of the total installations in 1922-23. Steam power continues to expand with the development of the larger industries, but the increase in the use of gas and oil engines is negligible. During the past four years nearly 60,000 horse-power has been added each year to the plant actually in use.

3. **Classes of Industry, States, 1922-23.**—The following table gives a classification of the actual horse-power of engines used in factories of different descriptions in each State during 1922-23 :—

FACTORIES.—HORSE-POWER OF ENGINES USED IN EACH CLASS, 1922-23.

Class of Industry.	N.S.W. 1922-23.	Victoria. 1922-23.	Q'land. 1922.	S. Aust. 1922-23.	W. Aust. 1922.	Tas. 1922.	Aus- tralia.
	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. . .	9,647	9,105	1,272	2,269	1,000	683	23,976
II. Treating oils and fats, animal, vegetable, etc. . .	1,885	817	189	391	121	18	3,421
III. Processes in stone, clay, glass, etc. . .	21,646	11,445	1,628	4,669	2,882	517	42,787
IV. Working in wood . . .	20,425	15,373	10,296	2,699	9,282	2,268	60,343
V. Metal works, machinery, etc. . .	72,872	21,228	10,566	11,095	4,156	20,092	140,009
VI. Connected with food and drink, etc. . .	38,783	36,113	50,653	9,943	8,884	2,784	147,160
VII. Clothing and textile fabrics, etc. . .	8,603	17,728	1,898	1,150	440	563	30,382
VIII. Books, paper, printing, and engraving . . .	8,860	8,715	1,611	1,355	949	322	21,812
IX. Musical instruments, etc. . .	516	355	..	16	1	..	888
X. Arms and explosives . . .	14	792	..	3	..	..	809
XI. Vehicles and fittings, saddlery and harness, etc. . .	3,295	2,682	606	1,186	392	200	8,361
XII. Ship and boat building and repairing . . .	9,085	1,606	94	545	51	25	11,406
XIII. Furniture, bedding, and upholstery . . .	3,401	3,094	1,300	1,198	640	362	9,995
XIV. Drugs, chemicals, and by-products . . .	3,246	3,870	78	2,875	1,155	85	11,309
XV. Surgical and other scientific instruments . . .	75	60	38	21	15	..	209
XVI. Jewellery, timepieces, and plated ware . . .	416	479	35	100	23	13	1,066
XVII. Heat, light, and power . .	147,349	75,879	25,882	27,469	27,444	40,350	344,373
XVIII. Leatherware, n.e.i. . .	192	476	36	3	(a)	1	708
XIX. Minor wares, n.e.i. . .	1,464	6,610	114	113	(b) 118	8	8,427
Total	351,774	216,427	106,296	67,100	57,553	68,291	867,441

(a) Included with Class XIX.

(b) Includes Class XVIII.

4. **Classes of Industry, Australia, 1918-19 to 1922-23.**—The following table shows a similar classification of the actual horse-power of engines used in manufacturing industries in Australia during the years 1918-19 to 1922-23 inclusive :—

FACTORIES.—HORSE-POWER OF ENGINES USED, AUSTRALIA, 1918-19 TO 1922-23.

Class of Industry.	1918-19. (a)	1919-20. (a)	1920-21. (a)	1921-22. (a)	1922-23. (a)
I. Treating raw material, product of agricultural and pastoral pursuits, etc. . .	18,832	21,005	22,475	23,439	23,976
II. Treating oils and fats, animal, vegetable, etc. . .	2,701	3,109	3,098	3,062	3,421
III. Processes in stone, clay, glass, etc. . .	27,449	31,302	38,290	41,031	42,787
IV. Working in wood . . .	48,499	53,656	60,363	58,677	60,343
V. Metal works, machinery, etc. . .	99,681	106,792	122,744	135,090	140,009
VI. Connected with food and drink, etc. . .	110,267	120,408	124,550	136,773	147,160
VII. Clothing and textile fabrics, etc. . .	19,428	22,014	24,342	28,451	30,382
VIII. Books, paper, printing, and engraving . . .	16,246	17,444	18,201	21,392	21,812
IX. Musical instruments, etc. . .	501	540	704	500	888
X. Arms and explosives . . .	1,725	2,192	1,446	1,691	809
XI. Vehicles and fittings, saddlery and harness, etc. . .	5,292	5,770	6,410	6,990	8,361
XII. Ship and boat building and repairing . . .	6,230	6,860	10,076	11,879	11,406
XIII. Furniture, bedding, and upholstery . . .	6,891	7,667	8,227	8,923	9,995
XIV. Drugs, chemicals, and by-products . . .	3,179	9,631	10,332	11,386	11,309
XV. Surgical and other scientific instruments . . .	124	145	156	179	209
XVI. Jewellery, timepieces, and plated ware . . .	672	839	885	945	1,066
XVII. Heat, light, and power . .	249,199	241,893	280,589	297,409	344,373
XVIII. Leatherware, n.e.i. . .	599	571	616	651	708
XIX. Minor wares, n.e.i. . .	7,022	8,178	8,977	8,935	8,427
Total	629,946	660,016	742,481	798,093	867,441

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

The actual horse-power of engines used increased in every branch of industry during the last four years. The industries using the greatest amount of power were Class XVII. Heat, light, and power; Class VI. Connected with food and drink; and Class V. Metal works, machinery, etc. These three classes, which together accounted for 72.81 per cent. of the total power used in 1922-23, increased their horse-power from 459,147 to 631,542 during the four years under review, and are mainly responsible for the development of mechanical power in factories since 1918-19.

§ 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 sub-section 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 1918-19 to 1922-23 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 mean population in each State and Australia:—

FACTORIES.—EMPLOYMENT, 1918-19 TO 1922-23.

Year.(a)	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tas.	Australia.
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AVERAGE NUMBER.

1918-19	127,591	122,349	40,990	27,915	12,917	8,713	340,475
1919-20	144,454	136,522	40,891	29,442	15,409	10,016	376,734
1920-21	145,011	140,743	43,196	30,430	17,034	10,225	386,639
1921-22	148,876	144,876	42,248	31,171	18,127	10,127	395,425
1922-23	152,266	152,625	43,403	34,695	19,097	10,324	412,410

PERCENTAGE ON AUSTRALIAN TOTAL.

	%	%	%	%	%	%	%
1918-19	37.48	35.93	12.04	8.20	3.79	2.56	100.00
1919-20	38.34	36.24	10.85	7.82	4.09	2.66	100.00
1920-21	37.51	36.40	11.17	7.87	4.41	2.64	100.00
1921-22	37.65	36.64	10.69	7.88	4.58	2.56	100.00
1922-23	36.92	37.01	10.53	8.41	4.63	2.50	100.00

PER 10,000 OF MEAN POPULATION.

1918-19	650	851	586	610	420	439	672
1919-20	709	908	564	611	482	488	714
1920-21	693	921	578	620	517	486	715
1921-22	699	934	553	620	544	475	719
1922-23	701	960	556	676	562	481	734

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

2. Rates of Increase, 1918 to 1922-23.—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 1918-19 to 1922-23.

FACTORY EMPLOYEES.—PERCENTAGE OF INCREASE, 1918-19 TO 1922-23.

Years.(a)	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tas.	Australia.
	%	%	%	%	%	%	%
1918—1918-19 ..	5.84	3.47	1.35	4.81	6.16	7.85	3.79
1918-19—1919-20..	13.22	11.58	-0.24	5.47	19.29	14.95	10.65
1919-20—1920-21..	0.39	3.39	5.64	0.36	10.55	2.09	2.63
1920-21—1921-22..	2.67	2.94	-2.20	2.44	6.42	-0.96	2.27
1921-22—1922-23..	2.28	5.35	2.73	11.31	5.35	1.95	4.30

NOTE.—The minus sign indicates decrease.

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

3. Employees in Classes of Industry, Australia, 1918-19 to 1922-23.—The following table gives the average numbers of persons employed in factories under each group in Australia during the years 1918-19 to 1922-23 inclusive :—

FACTORY EMPLOYEES.—CLASSES, AUSTRALIA, 1918-19 TO 1922-23.

Class of Industry.	1918-19. (a)	1919-20. (a)	1920-21. (a)	1921-22. (a)	1922-23. (a)
I. Treating raw material, product of agricultural and pastoral pursuits, etc. ..	10,775	12,040	10,494	10,925	11,394
II. Treating oils and fats, animal, vegetable, etc. ..	2,604	3,075	2,848	3,103	3,173
III. Processes in stone, clay, glass, etc. ..	13,761	16,271	18,311	16,974	18,666
IV. Working in wood ..	25,825	29,865	31,942	32,393	33,102
V. Metal works, machinery, etc. ..	62,679	70,025	80,550	76,798	78,614
VI. Connected with food and drink, etc. ..	59,891	61,757	57,599	59,252	60,888
VII. Clothing and textile fabrics, etc. ..	81,441	89,424	88,577	97,194	102,451
VIII. Books, paper, printing and engraving ..	25,000	26,826	27,522	28,673	31,015
IX. Musical Instruments, etc. ..	714	902	1,065	1,154	1,415
X. Arms and explosives ..	1,986	1,862	1,504	1,372	433
XI. Vehicles and fittings, saddlery and harness, etc. ..	13,630	15,525	16,334	16,808	19,532
XII. Ship and boat building and repairing ..	6,119	8,343	6,702	7,035	6,053
XIII. Furniture, bedding, and upholstery ..	9,827	11,317	11,827	11,475	12,608
XIV. Drugs, chemicals, and by-products ..	5,861	6,436	6,805	6,933	6,884
XV. Surgical and other scientific instruments ..	453	495	548	570	582
XVI. Jewellery, timepieces, and plated ware ..	2,345	2,719	2,707	2,503	2,489
XVII. Heat, light, and power ..	10,912	11,991	12,770	13,431	14,112
XVIII. Leatherware, n.e.l. ..	1,799	2,233	2,191	2,414	2,476
XIX. Minor wares, n.e.l. ..	4,853	5,828	6,343	6,418	6,523
Total ..	340,475	376,734	386,639	395,425	412,410

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

On the average during each of the last four years, employment has been found for 17,984 additional persons in the manufacturing industries. The class responsible for the bulk of the increase was that connected with clothing and textile fabrics, as the result of the development which has occurred in woollen and knitting mills, boot factories, and the clothing industry.

4. Employees in Classes of Industry, States, 1922-23.—The following table gives a classification of employees in manufacturing industries in each State during 1922-23 :—

FACTORY EMPLOYEES.—CLASSES, STATES, 1922-23.

Class of Industry.	N.S.W. 1922-23.	Vic. 1922-23	Q'land. 1922.	S.A. 1922-23	W.A. 1922.	Tas. 1922.	Aus- tralia.
I. Treating raw material, product of agricul. and pastoral pursuits, etc.	4,177	4,488	767	1,054	400	508	11,394
II. Treating oils and fats, animal, vegetable, etc.	1,672	915	166	273	121	26	3,173
III. Processes in stone, clay, glass, etc.	8,303	6,059	828	2,048	1,132	296	18,666
IV. Working in wood	9,519	9,939	5,236	1,699	5,047	1,662	33,102
V. Metal works, machinery, etc.	34,459	23,626	6,761	9,015	3,086	1,667	78,614
VI. Connected with food and drink, etc.	19,518	19,037	12,838	4,168	2,351	1,976	60,888
VII. Clothing and textile fabrics, etc.	32,258	51,898	7,737	5,928	2,960	1,670	102,451
VIII. Books, paper, printing and engraving	12,299	10,979	3,321	2,251	1,298	867	31,015
IX. Musical instruments, etc.	888	444	..	67	16	..	1,415
X. Arms and explosives	24	406	..	3	..	..	433
XI. Vehicles and fittings, saddlery, and harness, etc.	6,561	6,407	1,444	3,713	837	570	19,532
XII. Ship and boat building and repairing	4,928	618	74	338	52	43	6,053
XIII. Furniture, bedding, and upholstery	4,725	4,392	1,356	1,157	589	389	12,608
XIV. Drugs, chemicals, and by-products.	2,780	2,619	133	853	464	35	6,884
XV. Surgical and other scientific instruments	215	203	82	46	36	..	582
XVI. Jewellery, timepieces, & plated ware	852	1,151	140	235	74	37	2,489
XVII. Heat, light, and power	5,280	5,364	1,100	1,481	357	580	14,112
XVIII. Leatherware, n.e.i.	1,064	1,123	189	92	(a)	8	2,476
XIX. Minor wares, n.e.i.	2,744	2,957	231	274	(b)277	40	6,523
Total	152,266	152,625	43,403	34,695	19,097	10,324	412,410

(a) Included in Class XIX.

(b) Includes Class XVIII.

The largest number employed in any particular class in Australia during 1922-23 was in Class VII., in which there were 102,451 employees, or 24.84 per cent. of the total in all classes. The class affording employment to the smallest number of hands was Class X., in which there were 433 hands, or 0.10 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 1922-23 are classified according to the nature of their employment :—

FACTORY EMPLOYEES.—NATURE OF EMPLOYMENT, 1922-23.

State.	Average Number of Persons Employed.						Total.
	Working Pro- priators.	Managers and Overseers.	Account- ants and Clerks.	Engine- ants and Firemen.	Workers, Skilled & Unskilled, in Factory Mill or Workshop. (a)	Carters, Messen- gers and Others.	
N.S. Wales, 1922-23	5,602	5,546	7,880	3,085	127,715	2,438	152,266
Victoria, 1922-23 ..	7,296	4,673	6,582	2,106	128,019	3,949	152,625
Queensland, 1922 ..	1,597	1,780	2,156	1,885	33,378	2,607	43,403
S. Australia, 1922-23	1,458	1,158	1,850	610	28,887	732	34,695
W. Australia, 1922	607	1,058	833	439	15,435	725	19,097
Tasmania, 1922 ..	500	412	630	302	8,162	318	10,324
Australia	17,060	14,627	19,931	8,427	341,596	10,769	412,410

(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 1918-19 to 1922-23 inclusive :—

FACTORIES.—OUTWORKERS(a), 1918-19 TO 1922-23.

Year.(b)	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tasmania.	Australia.
1918-1919 ..	582	1,022	30	57	4	20	1,715
1919-1920 ..	733	1,492	19	50	8	28	2,330
1920-1921 ..	471	1,151	41	68	14	45	1,790
1921-1922 ..	618	1,476	26	59	8	48	2,235
1922-1923 ..	547	1,228	33	84	8	32	1,932

(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 out-work, 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 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 South Australia the ratio at the latest date was one female employed to every four males, and in the remaining States about one to five. The ratio for Australia was less than 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 lighter work, such as wrapping and packing connected with other 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, 1918-19 to 1922-23.* The following table shows the average number of male and female employees in factories in each State from 1918-19 to 1922-23 :—

FACTORIES.—MALES AND FEMALES EMPLOYED, 1918-19 TO 1922-23.

State.	1918-19.(a)	1919-20.(a)	1920-21.(a)	1921-22.(a)	1922-23.(a)
MALES.					
New South Wales ..	96,884	109,836	112,187	112,362	114,970
Victoria.. ..	81,357	92,101	96,379	97,789	103,092
Queensland ..	33,597	33,851	36,011	35,050	35,528
South Australia ..	22,372	23,434	24,548	25,006	27,988
Western Australia ..	10,497	12,789	14,329	15,514	15,851
Tasmania ..	7,356	8,503	8,746	8,525	8,453
Australia ..	252,063	280,514	292,200	294,246	305,882
FEMALES.					
New South Wales ..	30,707	34,618	32,824	36,514	37,296
Victoria.. ..	40,992	44,421	44,364	47,087	49,533
Queensland ..	7,393	7,040	7,185	7,198	7,875
South Australia ..	5,543	6,008	5,882	6,165	6,707
Western Australia ..	2,420	2,620	2,705	2,613	3,246
Tasmania ..	1,357	1,513	1,479	1,602	1,871
Australia ..	88,412	96,220	94,439	101,179	106,528

(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 53,819, or an annual average of 13,455, whilst the number of female employees increased by 18,116, or an annual average of 4,529.

(iii) *Average Number of Males and Females Employed per 10,000 of Mean Population, 1918-19 to 1922-23.* The following table shows the average number of male and female employees per 10,000 of the mean male and female population respectively in each State from 1918-19 to 1922-23 :—

MALE AND FEMALE FACTORY EMPLOYEES PER 10,000 OF MEAN MALE AND FEMALE POPULATION RESPECTIVELY, 1918-19 TO 1922-23.

State.	1918-19.(a)	1919-20.(a)	1920-21.(a)	1921-22.(a)	1922-23.(a)
MALES.					
New South Wales ..	984	1,054	1,051	1,037	1,038
Victoria.. ..	1,189	1,245	1,279	1,279	1,307
Queensland ..	931	895	910	869	862
South Australia ..	1,018	975	1,001	992	1,087
Western Australia ..	664	761	814	875	876
Tasmania ..	754	851	821	792	782
Australia ..	1,004	1,048	1,063	1,053	1,070

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

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

State.	1918-19.(a)	1919-20.(a)	1920-21.(a)	1921-22.(a)	1922-23.(a)
FEMALES.					
New South Wales	314	330	321	350	350
Victoria	544	582	573	599	618
Queensland	219	203	204	199	213
South Australia	233	249	239	246	262
Western Australia	161	173	176	168	205
Tasmania	135	148	142	152	175
Australia	345	370	356	374	386

(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 1918-19 to 1922-23 in the average number of males and females employed in factories are shown below :—

PERCENTAGES OF ANNUAL INCREASE, MALE AND FEMALE FACTORY EMPLOYEES, 1918-19 TO 1922-23.

State.	1918-1919- (a)	1918-19- 1919-20.(a)	1919-20- 1920-21.(a)	1920-21- 1921-22.(a)	1921-22- 1922-23.(a)
MALES.					
New South Wales	% 7.62	% 13.37	% 2.14	% 0.16	% 2.31
Victoria	6.14	13.21	4.64	1.46	5.42
Queensland	(b) 2.55	0.76	6.38	-2.67	1.36
South Australia	4.91	4.75	4.75	1.87	11.93
Western Australia	(b) 8.17	21.83	12.04	8.27	2.17
Tasmania	(b) 7.23	15.59	2.86	-2.53	-0.84
Total	5.27	11.29	4.17	0.70	3.95

FEMALES.

New South Wales	0.58	12.74	-5.18	11.24	2.14
Victoria	-1.43	8.37	-0.13	6.14	5.19
Queensland	(b) -3.77	-4.77	2.06	0.18	9.41
South Australia	4.41	8.39	-2.10	4.81	8.79
Western Australia	(b) -1.79	8.26	3.24	3.40	24.23
Tasmania	(b) 11.32	11.50	-2.25	8.32	16.79
Total	-0.21	8.83	-1.85	7.14	5.29

NOTE.—The minus sign indicates decrease.

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

(b) Twelve months ended 31st December, 1918.

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 1922-23.

Industry.	New South Wales. 1922-23.			Victoria. 1922-23.			Other States.		
	Males.	Females	Femi- ninity. (a)	Males.	Females	Femi- ninity. (a)	Males.	Females	Femi- ninity. (a)
Woollen and tweed mills	675	861	12.11	2,169	2,432	7.89	316	475	20.10
Boots and shoes	3,866	2,096	-29.69	7,174	5,260	-15.39	1,943	1,148	-25.72
Slop clothing	2,600	8,471	53.03	2,274	7,743	54.60	1,845	5,889	52.29
Clothing (tailoring)									
Dressmaking and millinery	125	3,734	93.52	417	8,735	90.89	37	3,165	97.69
Dyeworks and cleaning	171	138	-10.68	138	122	-6.15	100	112	5.66
Furriers	117	150	12.36	185	338	29.25	3	3	..
Hats and caps	546	826	20.41	778	971	11.03	63	100	22.70
Waterproof and oilskin	59	183	51.24	51	122	41.04	1	3	50.00
Shirts, ties, and scarves	318	3,619	83.84	496	6,414	85.64	147	2,177	87.35
Hosiery and knitted goods	584	2,195	57.97	599	4,026	74.10	13	58	63.38
Rope and cordage	271	60	-63.74	649	451	-17.09	233	171	-15.35
Tents and tarpaulins	221	372	25.46	110	88	-11.11	97	63	-21.25
Other	..	..	..	32	124	58.97	64	69	3.76
Total, Class VII.	9,553	22,705	40.77	15,072	36,826	41.92	4,862	13,433	46.85

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 in a similar manner to 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, 1918-19 to 1922-23.**—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 1918-19 to 1922-23 :—

CHILDREN EMPLOYED IN FACTORIES, 1918-19 TO 1922-23.

State.	1918-19.(a)	1919-20.(a)	1920-21.(a)	1921-22.(a)	1922-23.(a)
MALES.					
New South Wales ..	2,586	3,824	3,673	3,911	3,995
Victoria ..	3,137	3,721	3,715	3,780	4,031
Queensland ..	1,171	1,214	1,266	1,077	1,119
South Australia ..	834	866	991	996	1,125
Western Australia ..	407	447	448	401	452
Tasmania ..	244	327	315	287	282
Australia ..	8,379	10,399	10,408	10,452	11,004
FEMALES.					
New South Wales ..	2,561	3,764	3,610	4,150	4,288
Victoria ..	2,389	2,872	2,798	3,120	3,163
Queensland ..	711	645	738	774	969
South Australia ..	545	765	679	714	795
Western Australia ..	307	307	311	235	251
Tasmania ..	105	186	193	135	266
Australia ..	6,618	8,539	8,329	9,128	9,732
TOTAL.					
New South Wales ..	5,147	7,588	7,283	8,061	8,283
Victoria ..	5,526	6,593	6,513	6,900	7,194
Queensland ..	1,882	1,859	2,004	1,851	2,088
South Australia ..	1,379	1,631	1,670	1,710	1,920
Western Australia ..	714	754	759	636	703
Tasmania ..	349	513	508	422	548
Australia ..	14,997	18,938	18,737	19,580	20,736

(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 more marked among the females than the males, the respective gains being 3,114 and 2,625. Examined in conjunction with the total number of persons employed the percentage of children increased very little since 1918-19 :—

**PERCENTAGE OF CHILDREN ON TOTAL NUMBER OF FACTORY EMPLOYEES,
1918-19 TO 1922-23.**

State.	1918-19.(a)	1919-20.(a)	1920-21.(a)	1921-22.(a)	1922-23.(a)
	%	%	%	%	%
New South Wales ..	4.03	5.25	5.02	5.41	5.44
Victoria ..	4.52	4.83	4.63	4.76	4.71
Queensland ..	4.59	4.55	4.64	4.38	4.81
South Australia ..	4.94	5.54	5.49	5.49	5.53
Western Australia ..	5.53	4.89	4.46	3.51	3.68
Tasmania ..	4.01	5.12	4.97	4.17	5.31
Australia ..	4.40	5.03	4.85	4.95	5.03

(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 1922-23 in the several industries indicated.

CHILDREN EMPLOYED.—VARIOUS INDUSTRIES, 1922-23.

Class.	Industry.	N.S.W. 1922-23.		Victoria. 1922-23.		Q'land. 1922.		S. Aust. 1922-23.		W. Aust. 1922.		Tas. 1922.		Australia.	
		M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
III.	Bricks, tiles, pottery, and earthenware ..	195	..	71	13	17	1	22	..	18	3	9	..	332	17
IV.	Joinery, boxes, cases, etc.	98	1	164	3	26	..	42	..	22	..	9	..	361	4
"	Saw mills ..	90	2	19	..	63	3	11	..	23	2	15	..	221	7
V.	Engineering, ironworks, and foundries ..	361	19	488	3	59	1	163	5	55	..	3	..	1,129	28
"	Galvanized ironwork- ing and tinsmithing ..	112	17	165	28	37	3	58	..	..	..	3	..	375	48
"	Railway carriage, rail- way and tramway workshops ..	34	..	165	..	2	..	16	..	1	..	..	..	218	..
VI.	Biscuits ..	256	141	84	41	7	16	11	11	16	10	17	7	391	226
"	Confectionery ..	66	143	43	58	26	52	4	34	2	6	17	52	158	345
"	Jams, pickles, sauces, etc.	14	19	57	40	11	18	30	19	3	5	52	18	167	119
"	Condiments, coffee, spices, etc. ..	86	132	7	..	1	2	62	8	1	..	..	..	157	142
"	Tobacco, cigars, etc. ..	45	134	78	8	..	..	2	1	1	6	..	..	126	149
VII.	Woolen, cotton, and tweed mills ..	54	97	200	207	10	25	10	11	..	..	23	47	297	387
"	Boots and shoes ..	222	251	357	335	54	103	59	48	24	9	18	24	734	770
"	Clothing (tailoring and slop) ..	118	903	102	379	44	284	30	201	11	55	9	46	314	1,868
"	Dressmaking and mil- linery ..	7	483	18	570	..	142	..	138	..	49	1	35	26	1,417
"	Shirts, ties, scarves, etc.	26	470	26	489	12	186	4	121	2	62	..	9	70	1,337
"	Hosiery and knitted goods ..	28	365	25	414	..	..	..	4	..	4	..	..	53	787
VIII.	Electrotyping, printing and binding ..	453	276	452	166	188	53	71	30	69	12	22	13	1,255	550
"	Paper making, paper boxes, etc. ..	79	169	27	74	5	26	21	79	4	8	..	..	136	356
XI.	Coach and wagon building ..	77	3	81	1	21	..	19	..	12	..	20	..	230	4
"	Cycles and motors ..	173	7	116	1	35	..	135	6	18	1	5	..	482	15
XIII.	Billiard tables, cabinet making and furniture	155	2	191	1	66	6	57	..	11	..	18	..	498	9
XIV.	Chemicals, drugs, and medicines ..	37	87	11	43	1	10	2	28	3	3	..	..	54	171
XVIII.	Leather belting, etc. ..	72	44	41	22	6	8	2	11	..	..	1	..	122	85

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 1922-23 was £326,497,136, of which amount the sum of £186,082,663 represents the value of the raw materials used. The difference between these two amounts, viz., £140,414,473, 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 1922-23 was £71,133,152.

2. **Salaries and Wages Paid.**—(i) *Total Amount, 1922-23.* The total amount of salaries and wages paid during the year 1922-23 in various classes of factories in Australia is shown in the following table :—

SALARIES AND WAGES PAID IN FACTORIES, 1922-23.

Class of Industry.	N.S.W. 1922-23.	Victoria. 1922-23.	Q'land. 1922.	S. Aust. 1922-23.	W. Aust. 1922.	Tas. 1922.	Australia.
	£	£	£	£	£	£	£
I. Treating raw material, product of agricultural and pastoral pursuits, etc.	860,272	848,518	142,929	174,421	54,145	46,660	2,126,945
II. Treating oils and fats, animal, vegetable, etc.	285,309	173,104	28,996	49,439	19,168	4,040	560,056
III. Processes in stone, clay, glass, etc.	1,698,000	1,240,998	157,799	407,824	204,424	50,156	3,759,201
IV. Working in wood	1,659,673	1,937,502	922,362	327,236	1,076,149	256,928	6,179,850
V. Metal works, machinery, etc.	7,076,984	4,666,474	1,426,221	1,854,944	642,600	395,176	16,062,399
VI. Connected with food and drink, etc.	3,393,049	3,538,736	2,512,595	697,699	447,818	284,245	10,874,142
VII. Clothing and textile fabrics, etc.	4,077,167	6,319,314	828,610	641,384	314,334	172,254	12,353,063
VIII. Books, paper, printing, and engraving	2,361,266	2,122,277	608,841	378,248	264,673	151,594	5,886,890
IX. Musical instruments, etc.	189,428	90,659	..	9,980	2,368	..	292,435
X. Arms and explosives	2,844	76,733	..	288	..	..	79,865
XI. Vehicles and fittings, saddlery and harness, etc.	1,085,172	1,074,237	215,738	546,626	133,012	80,603	3,135,388
XII. Ship and boat building and repairing	1,182,922	134,990	13,050	90,156	7,341	10,213	1,438,672
XIII. Furniture, bedding, and upholstery	810,913	693,135	225,726	179,610	110,199	53,795	2,073,378
XIV. Drugs, chemicals, and by-products	493,223	486,491	17,825	152,186	90,003	2,944	1,242,672
XV. Surgical and other scientific instruments	39,550	29,880	12,218	8,232	5,839	..	95,719
XVI. Jewellery, timepieces, and plated ware	151,615	180,605	24,225	33,794	12,389	4,277	406,905
XVII. Heat, light & power	1,089,342	1,239,329	265,914	338,826	83,621	124,890	3,141,922
XVIII. Leatherware, n.e.i.	160,036	164,810	19,741	12,746	(a)	1,080	358,413
XIX. Minor wares, n.e.i.	433,965	529,400	25,169	40,106	(b)32,542	4,046	1,065,228
Total	27,050,730	25,547,192	7,447,959	5,943,745	3,500,625	1,642,901	71,133,152

(a) Included in Class XIX.

(b) Includes Class XVIII.

The maximum amount of salaries and wages paid in any particular class during 1922-23 was in Class V., the amount being £16,062,399, or 22.58 per cent. on the total amount; the minimum amount was in Class X., £79,865, or 0.11 per cent. on the total. The State in which the largest amount was paid was New South Wales.

(ii) *Totals and Averages, 1918-19 to 1922-23.* 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 1918-19 to 1922-23. 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, 1918-19 TO 1922-23.

Year. (a)	Particulars.	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tas.	Australia.
		£	£	£	£	£	£	£
1918-19	Total amount paid . .	16,957,919	14,080,403	5,121,188	3,651,715	1,730,896	963,974	42,506,095
	Average per employee . .	137.33	120.47	129.45	136.64	138.55	115.57	129.80
1919-20	Total amount paid . .	21,681,196	17,702,173	5,364,818	3,988,062	2,173,350	1,205,959	52,115,558
	Average per employee . .	154.87	135.52	135.86	141.63	145.24	126.03	143.65
1920-21	Total amount paid . .	25,618,591	21,377,216	6,718,905	4,866,211	2,870,567	1,480,228	62,931,718
	Average per employee . .	182.39	159.41	161.12	166.96	173.60	150.86	169.28
1921-22	Total amount paid . .	26,783,242	23,846,495	7,217,773	5,313,927	3,386,550	1,502,874	68,050,861
	Average per employee . .	186.21	172.84	177.12	177.70	191.04	156.93	179.24
1922-23	Total amount paid . .	27,050,730	25,547,192	7,447,959	5,943,745	3,500,625	1,642,901	71,133,152
	Average per employee . .	184.44	175.79	178.16	178.83	189.32	167.23	179.92

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

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 is paid in Western Australia, where the percentage of males employed is largest.

The salaries and wages paid in factories have advanced considerably during recent years in consequence of the rapid rise in the cost of living. During the past four years the average wage increased by £50.12, or 38.61 per cent., while the additional outlay for wage increases amounted in the aggregate to nearly £20,000,000.

(iii) *Earnings of Males and Females, 1922-23.* 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 1922-23 :—

SALARIES AND WAGES.—MALE AND FEMALE FACTORY EMPLOYEES, 1922-23.

Class of Industry.	N.S.W. 1922-23.	Victoria. 1922-23.	Q'land. 1922.	S. Aust. 1922-23.	W. Aust. 1922.	Tas. 1922.	Australia.
MALES.							
I. Treating raw material product of agricultural pursuits, etc. . .	£ 842,352	£ 844,623	£ 142,101	£ 173,657	£ 53,622	£ 46,590	£ 2,102,945
II. Treating oils and fats, animal, vegetable, etc. . .	250,042	157,319	27,559	46,364	18,766	3,565	503,615
III. Processes in stone, clay, glass, etc. . .	1,634,422	1,225,128	156,510	406,676	200,510	49,884	3,723,130
IV. Working in wood . .	1,642,208	1,917,872	915,119	323,186	1,074,616	255,644	6,128,645
V. Metal works, machinery, etc. . .	7,001,227	4,612,128	1,417,162	1,840,413	639,367	392,328	15,902,625

**SALARIES AND WAGES.—MALE AND FEMALE FACTORY EMPLOYEES,
1922-23—continued.**

Class of Industry.	N.S.W. 1922-23.	Victoria. 1922-23.	Q'land. 1922.	S. Aust. 1922-23.	W. Aust. 1922.	Tas. 1922.	Australia.
MALES—continued.							
	£	£	£	£	£	£	£
VI. Connected with food and drink, etc. . .	2,894,486	3,037,697	2,437,997	642,736	417,328	254,307	9,084,551
VII. Clothing and textile fabrics, etc. . .	1,828,651	2,841,655	365,594	269,829	117,238	84,181	5,507,148
VIII. Books, paper, printing and engraving . .	2,039,707	1,816,221	539,077	327,316	236,866	138,819	5,098,006
IX. Musical Instruments, etc. . .	182,028	88,687	..	9,811	2,212	..	282,738
X. Arms and explosives	2,647	61,295	..	288	..	..	64,230
XI. Vehicles and fittings, saddlery and harness, etc. . .	1,058,735	1,055,669	207,215	528,647	129,474	77,109	3,056,849
XII. Ship and boat building and repairing	1,177,448	134,550	13,050	90,156	7,341	10,213	1,432,758
XIII. Furniture, bedding, and upholstery . .	747,256	646,606	217,068	174,312	107,226	51,894	1,944,362
XIV. Drugs, chemicals, and by-products . .	404,721	420,682	11,083	143,213	85,136	2,736	1,067,571
XV. Surgical and other scientific instruments . .	35,560	28,562	11,708	7,712	5,191	..	88,733
XVI. Jewellery, timepieces, and plated ware . .	141,481	170,659	22,547	32,852	12,101	4,065	383,705
XVII. Heat, light, and power	1,078,738	1,169,277	260,494	330,606	83,263	123,802	3,046,180
XVIII. Leatherware, n.e.l.	127,326	126,065	15,775	8,029	(a)	950	278,145
XIX. Minor wares, n.e.l. . .	317,386	444,451	21,823	36,537	(b)27,090	3,663	850,950
Total ..	23,456,421	20,799,146	6,781,882	5,392,340	3,217,347	1,499,750	61,146,886

FEMALES.

I. Treating raw material product of agricultural pursuits, etc. . .	17,920	3,895	828	764	523	70	24,000
II. Treating oils and fats, animal, vegetable, etc. . .	35,267	15,785	1,437	3,075	402	475	56,441
III. Processes in stone, clay, glass, etc. . .	13,578	15,870	1,289	1,148	3,914	272	36,071
IV. Working in wood . .	17,465	19,630	7,243	4,050	1,533	1,284	51,205
V. Metal works, machinery, etc. . .	75,757	54,346	9,059	14,531	3,233	2,848	159,774
VI. Connected with food and drink, etc. . .	498,563	501,039	74,598	54,963	30,490	29,938	1,189,591
VII. Clothing and textile fabrics, etc. . .	2,248,516	3,477,659	463,016	371,555	197,096	88,073	6,845,915
VIII. Books, paper, printing and engraving . .	321,559	306,056	69,764	50,932	27,807	12,775	788,893
IX. Musical Instruments, etc. . .	7,400	1,972	..	169	156	..	9,697
X. Arms and explosives	197	15,438	..	..	..	..	15,635
XI. Vehicles and fittings, saddlery and harness, etc. . .	26,437	18,568	8,523	17,979	3,538	3,494	78,539
XII. Ship and boat building and repairing	5,474	440	..	..	..	..	5,914
XIII. Furniture, bedding, and upholstery . .	63,657	46,529	8,658	5,298	2,973	1,901	129,016
XIV. Drugs, chemicals, and by-products . .	88,502	65,809	6,742	8,973	4,867	208	175,101
XV. Surgical and other scientific instruments . .	3,990	1,318	510	520	648	..	6,986
XVI. Jewellery, timepieces, and plated ware . .	10,134	9,946	1,678	942	288	212	23,200
XVII. Heat, light, and power	10,604	70,052	5,420	8,220	358	1,088	95,742
XVIII. Leatherware, n.e.l.	32,710	38,745	3,966	4,717	(a)	130	80,268
XIX. Minor wares, n.e.l. . .	116,579	84,949	3,346	3,569	(b) 5,452	383	214,278
Total ..	3,594,309	4,748,046	666,077	551,405	283,278	143,151	9,986,266

(a) Included in Class XIX.

(b) Includes Class XVIII.

(iv) *Total and Average Earnings of Males and Females, 1918-19 to 1922-23.* Similar information for the last five years is given in the table hereunder:—

**SALARIES AND WAGES.—MALE AND FEMALE FACTORY EMPLOYEES,
1918-19 TO 1922-23.**

Particulars.	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tas.	Australia.
MALES.							
1918-19. <i>a</i> Amount paid .. £	14,966,669	11,531,666	4,710,717	3,344,623	1,578,600	892,743	37,025,018
Per cent. on total ..	88.26	81.90	91.98	91.59	91.20	92.61	87.11
Average per employee £	160.82	150.89	146.19	157.55	156.41	127.75	154.25
1919-20. <i>a</i> Amount paid .. £	19,128,348	14,483,166	4,909,725	3,605,180	2,000,474	1,116,679	45,243,572
Per cent. on total ..	88.23	81.82	91.52	90.40	92.05	92.60	86.81
Average per employee £	181.06	166.98	151.09	162.43	161.84	138.51	169.14
1920-21. <i>a</i> Amount paid .. £	22,766,216	17,668,917	6,168,744	4,430,269	2,647,957	1,376,822	55,058,925
Per cent. on total ..	88.87	82.65	91.81	91.04	92.25	93.01	87.49
Average per employee £	210.99	195.63	178.49	190.05	191.16	165.07	197.85
1921-22. <i>a</i> Amount paid .. £	23,466,566	19,497,451	6,596,101	4,827,612	3,155,091	1,388,741	58,931,562
Per cent. on total ..	87.62	81.76	91.39	90.85	93.17	92.41	86.60
Average per employee £	218.03	213.07	196.28	203.02	209.65	173.57	210.79
1922-23. <i>a</i> Amount paid .. £	23,456,421	20,799,146	6,781,882	5,392,340	3,217,347	1,499,750	61,146,886
Per cent. on total ..	86.71	81.41	91.06	90.72	91.91	91.29	85.96
Average per employee £	213.83	215.56	199.57	202.85	210.53	187.99	210.84

FEMALES.

1919-20. <i>a</i> Amount paid .. £	1,991,250	2,548,737	410,471	307,092	152,296	71,231	5,481,077
Per cent. on total ..	11.74	18.10	8.02	8.41	8.80	7.39	12.89
Average per employee £	65.46	63.00	55.95	55.88	63.46	52.65	62.67
1919-20. <i>a</i> Amount paid .. £	2,552,848	3,219,007	455,093	382,882	172,876	89,280	6,871,986
Per cent. on total ..	11.77	18.18	8.48	9.60	7.95	7.40	13.19
Average per employee £	74.33	73.35	65.07	64.20	66.41	59.24	72.11
1920-21. <i>a</i> Amount paid .. £	2,852,375	3,708,299	550,161	435,942	222,610	103,406	7,872,793
Per cent. on total ..	11.13	17.35	8.19	8.96	7.75	6.99	12.51
Average per employee £	87.61	84.71	77.04	74.71	82.94	70.30	84.23
1921-22. <i>a</i> Amount paid .. £	3,316,676	4,349,044	621,672	486,315	231,459	114,133	9,119,299
Per cent. on total ..	12.38	18.24	8.61	9.15	6.83	7.59	13.40
Average per employee £	91.62	93.60	87.01	79.54	89.19	72.42	91.11
1922-23. <i>a</i> Amount paid .. £	3,594,309	4,748,046	666,077	551,405	283,278	143,151	9,986,266
Per cent. on total ..	13.29	18.59	8.94	9.23	8.09	8.71	14.04
Average per employee £	97.23	97.21	85.13	82.87	88.30	75.55	94.80

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

(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, 1922-23.**

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. . .	£ 230,176	£ 10,750	£ 1,872,769	£ 13,250	£ 2,102,945	£ 24,000	£ 2,126,945
II. Treating oils and fats, animal, vegetable, etc. . .	104,002	12,156	399,613	44,285	503,615	56,441	560,056
III. Processes in stone, clay, glass, etc. . .	384,800	18,551	3,338,330	17,520	3,723,130	36,071	3,759,201
IV. Working in wood . .	679,665	40,157	5,448,980	11,048	6,128,645	51,205	6,179,850
V. Metal works, machinery, etc. . .	1,629,801	88,903	14,272,824	70,871	15,902,625	159,774	16,062,399
VI. Connected with food and drink, etc. . .	1,758,914	172,482	7,925,637	1,017,109	9,684,551	1,189,591	10,874,142
VII. Clothing and textile fabrics, etc. . .	886,603	357,321	4,620,545	6,488,594	5,507,148	6,845,915	12,353,063
VIII. Books, paper, printing and engraving . .	1,084,206	161,384	4,013,800	627,509	5,098,006	788,893	5,886,899
IX. Musical instruments, etc. . .	29,511	4,493	253,227	5,204	282,738	9,697	292,435
X. Arms and explosives	18,928	616	45,302	15,019	64,230	15,635	79,865

**SALARIES AND WAGES.—MANAGERS, OVERSEERS, AND OTHER
FACTORY EMPLOYEES, AUSTRALIA, 1922-23—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. . .	305,270	48,591	2,751,579	29,948	3,056,849	78,539	3,135,388
XII. Ship and boat building and repairing . .	160,537	4,823	1,272,221	1,091	1,432,758	5,914	1,438,672
XIII. Furniture, bedding, and upholstery . .	149,873	23,332	1,794,489	105,684	1,944,362	129,016	2,073,378
XIV. Drugs, chemicals, and by-products . .	253,849	36,715	813,722	138,386	1,067,571	175,101	1,242,672
XV. Surgical and other scientific instruments . .	15,323	2,385	73,410	4,601	88,733	6,986	95,719
XVI. Jewellery, timepieces, and plated ware . .	34,888	9,860	348,817	13,340	383,705	23,200	406,905
XVII. Heat, light, and power . .	620,769	43,239	2,425,411	52,503	3,046,180	95,742	3,141,922
XVIII. Leatherware, n.e.i. . .	44,816	8,751	233,329	71,517	278,145	80,268	358,413
XIX. Minor wares, n.e.i. . .	122,926	15,050	728,024	199,228	850,950	214,278	1,065,228
Total . .	8,514,857	1,059,559	52,632,029	8,926,707	61,146,886	9,986,266	71,133,152
Average paid per employee . .	321.51	131.23	199.72	91.78	210.84	94.80	179.92

3. Value of Fuel and Light Used.—(i) Total Amount, 1922-23. The expenditure in factories on fuel and light is of considerable importance; in 1922-23 it amounted to £8,659,615. The classes of industry in which fuel was most extensively used were Class V., Metal Works, Machinery, etc., £2,157,348; Class XVII., Heat, Light, Power, etc., £1,863,494, of which amount £1,624,908 was expended on generating electric light and power; Class VI., Connected with Food, Drink, etc., £1,731,534; and Class III., £1,251,053. The following table shows the value of fuel and light used in the different classes of industry during 1922-23 :—

VALUE OF FUEL AND LIGHT USED IN FACTORIES, 1922-23.

Class of Industry.	N.S.W. 1922-23.	Victoria. 1922-23.	Q'land. 1922.	S. Aust. 1922-23.	W. Aust. 1922.	Tas. 1922.	Australia.
I. Treating raw material, product of agricultural and pastoral pursuits, etc. . .	£ 130,189	£ 116,117	£ 19,904	£ 22,722	£ 7,336	£ 2,277	£ 298,545
II. Treating oils and fats, animal, vegetable, etc. . .	48,666	37,148	3,015	5,165	5,638	484	100,116
III. Processes in stone, clay, glass, etc. . .	550,841	425,586	34,738	158,843	64,902	16,143	1,251,053
IV. Working in wood . .	60,192	41,115	20,045	8,933	11,250	4,484	146,019
V. Metal works, machinery, etc. . .	1,285,678	300,693	113,545	317,200	37,254	102,078	2,157,348
VI. Connected with food and drink, etc. . .	569,828	560,548	362,653	138,899	74,123	25,483	1,731,534
VII. Clothing and textile fabrics, etc. . .	103,291	216,177	17,778	18,436	5,993	4,226	365,901
VIII. Books, paper, printing, engraving . .	81,482	98,868	21,254	13,063	7,623	3,415	225,705
IX. Musical instruments, etc. . .	3,372	1,727	..	138	11	..	5,248
X. Arms and explosives . .	63	7,744	..	8	..	..	7,815
XI. Vehicles and fittings, saddlery and harness, etc. . .	34,775	33,124	4,577	18,114	6,116	2,704	99,410
XII. Ship and boat building and repairing . .	53,650	5,903	213	5,467	69	130	65,432
XIII. Furniture, bedding, and upholstery . .	21,319	20,855	6,773	5,223	2,646	1,281	58,097
XIV. Drugs, chemicals, and by-products . .	44,624	56,971	976	28,937	7,344	293	139,145
XV. Surgical and other scientific instruments . .	743	1,168	367	320	126	..	2,724
XVI. Jewellery, timepieces, and plated ware . .	5,174	6,604	962	1,781	294	177	14,992
XVII. Heat, light, and power . .	999,240	417,185	83,006	204,268	130,133	29,662	1,863,494
XVIII. Leatherware, n.e.i. . .	1,904	5,330	302	226	(a)	16	7,778
XIX. Minor wares, n.e.i. . .	26,037	90,818	548	712	(b) 1,132	12	119,259
Total . .	4,021,068	2,443,681	690,656	948,455	361,990	193,765	8,659,615

(a) Included with Class XIX.

(b) Includes Class XVIII.

(ii) *Total Amount, 1918-19 to 1922-23.* The following table gives the sums expended on fuel and light during the past five years :—

VALUE OF FUEL AND LIGHT USED IN FACTORIES, 1918-19 TO 1922-23.

Year.(a)	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tas.	Australia.
	£	£	£	£	£	£	£
1918-19	2,298,041	1,457,124	424,099	644,687	211,950	105,392	5,141,293
1919-20	2,710,666	1,723,220	531,612	558,802	222,334	112,555	5,859,189
1920-21	3,608,744	2,184,096	766,500	704,775	273,061	155,222	7,692,488
1921-22	3,983,730	2,329,760	668,224	798,495	324,619	151,553	8,256,381
1922-23	4,021,068	2,413,681	690,656	948,455	361,990	193,765	8,659,615

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

4. *Value of Raw Materials Used.*—(i) *Total Amount, 1922-23.* The value of raw materials worked up (i.e., exclusive of fuel, lubricants, etc.) in factories in Australia during 1922-23 was £186,082,663, which represents 56.99 per cent. of the total value of the final output. (See next sub-section.) 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, 1922-23.

Class of Industry.	N.S.W. 1922-23.	Victoria. 1922-23.	Q'land. 1922.	S. Aust. 1922-23.	W. Aust. 1922.	Tas. 1922.	Australia.
	£	£	£	£	£	£	£
I. Treating raw material, product of agricultural and pastoral pursuits, etc. . .	6,925,316	4,678,979	1,350,492	856,556	444,149	339,484	14,594,976
II. Treating oils and fats, animal, vegetable, etc. . .	1,697,955	790,919	108,836	221,477	89,554	11,541	2,920,282
III. Processes in stone, clay, glass, etc. . .	1,395,561	561,230	138,783	295,586	116,575	15,577	2,523,312
IV. Working in wood . .	4,105,083	2,346,950	1,482,114	1,287,808	277,431	150,015	9,649,401
V. Metal works, machinery, etc. . .	13,538,294	6,460,452	1,434,976	4,704,760	719,589	807,302	27,665,373
VI. Connected with food and drink, etc. . .	31,012,354	24,841,387	13,786,677	5,038,471	2,165,123	1,259,300	78,103,312
VII. Clothing and textile fabrics, etc. . .	7,317,746	12,953,821	1,612,191	1,029,108	655,982	268,050	23,836,898
VIII. Books, paper, printing, and engraving . .	2,831,800	2,675,426	527,443	490,167	246,657	140,934	6,912,427
IX. Musical instruments, etc. . .	195,690	111,824	..	5,788	16,905	..	330,207
X. Arms and explosives . .	7,270	222,653	..	606	..	..	230,529
XI. Vehicles and fittings, saddlery and harness, etc. . .	1,147,683	1,201,133	333,411	863,458	157,832	79,775	3,783,292
XII. Ship and boat building and repairing . .	497,441	121,202	8,249	93,242	3,803	5,452	729,389
XIII. Furniture, bedding, and upholstery . .	1,440,814	1,128,892	341,828	211,794	139,208	53,151	3,315,687
XIV. Drugs, chemicals, and by-products . .	2,241,459	1,635,958	43,363	534,196	394,095	21,330	4,870,401
XV. Surgical and other scientific instruments . .	33,064	25,013	8,817	6,231	8,211	..	81,336
XVI. Jewellery, timepieces, and platedware . .	128,282	242,188	16,811	36,353	14,891	1,670	440,195
XVII. Heat, light, and power . .	1,695,492	1,240,320	138,623	209,254	55,916	71,964	3,411,569
XVIII. Leatherware, n.e.i. . .	325,549	407,283	34,954	27,256	(a)	1,200	796,242
XIX. Minor wares, n.e.i. . .	685,548	1,012,533	36,172	103,441	(b) 47,426	2,715	1,887,835
Total ..	77,222,401	62,658,163	21,403,740	16,015,552	5,553,347	3,229,460	186,082,663

(a) Included in Class XIX.

(b) Includes Class XVIII.

The largest value of raw materials used was in Class VI., "Connected with Food and Drink, etc.," the total being £78,103,312. The next in order of importance was Class V., "Metal Works, Machinery, etc.," in which raw materials valued at £27,665,373 were used. The minimum value appears in Class XV., "Surgical and other Scientific Instruments," the total being only £81,336.

(ii) *Total Amount, 1918-19 to 1922-23.* 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, 1918-19 TO 1922-23.

Year.(a)	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tasmania.	Australia.
	£	£	£	£	£	£	£
1918-19 ..	69,737,452	52,098,737	19,693,043	13,759,882	3,963,470	3,230,188	162,482,772
1919-20 ..	81,188,497	65,563,104	19,386,068	12,970,957	5,051,114	3,563,137	187,722,877
1920-21 ..	91,104,505	65,401,425	24,073,200	14,375,430	6,677,414	4,234,308	205,866,282
1921-22 ..	82,090,396	60,352,561	24,808,420	14,087,930	6,087,693	2,933,265	190,410,265
1922-23 ..	77,222,401	62,658,163	21,403,740	16,015,552	5,553,347	3,229,460	186,082,663

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

5. **Total Value of Output.** (i) *Total, 1922-23.* The value of the output of new goods manufactured and of repairs effected in factories of various classes in each State during 1922-23 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 used. The difference between the value of the materials used and the total output (see sub-section 6 hereof) is the real value of production from manufactories.

TOTAL VALUE OF OUTPUT OF FACTORIES, 1922-23.

Class of Industry.	N.S.W. 1922-23.	Victoria. 1922-23.	Q'land. 1922.	S. Aust. 1922-23.	W. Aust. 1922.	Tas. 1922.	Australia.
	£	£	£	£	£	£	£
I. Treating raw material, product of agricultural and pastoral pursuits, etc.	8,799,767	6,314,548	2,199,970	1,174,575	594,273	445,322	19,528,455
II. Treating oils and fats, animal, vegetable, etc.	2,501,477	1,362,465	206,022	349,197	136,634	17,042	4,572,837
III. Processes in stone, clay, glass, etc.	5,004,400	3,144,545	497,491	1,137,010	442,538	111,184	10,337,168
IV. Working in wood	6,647,741	5,518,461	2,907,778	1,783,410	1,683,344	540,285	19,081,019
V. Metal works, machinery, etc.	25,774,784	13,709,244	3,592,652	7,756,338	1,506,960	1,699,006	54,038,984
VI. Connected with food and drink, etc.	41,751,398	34,269,930	21,115,294	6,857,218	3,265,673	1,826,966	109,086,479
VII. Clothing and textile fabrics, etc.	14,195,473	23,799,997	2,977,934	2,033,517	1,111,853	570,609	44,689,383
VIII. Books, paper, printing, and engraving	7,387,579	6,750,988	1,717,169	1,114,636	757,172	386,731	18,114,275
IX. Musical instruments, etc.	498,507	250,804	..	29,267	20,368	..	798,946
X. Arms and explosives	14,475	370,308	..	992	..	..	385,775
XI. Vehicles and fittings, saddlery and harness, etc.	2,793,337	2,911,085	721,520	1,748,315	357,731	205,131	8,737,119
XII. Ship and boat building and repairing	1,765,265	294,051	23,269	205,863	13,411	18,533	2,320,392
XIII. Furniture, bedding, and upholstery	2,667,046	2,251,480	683,912	491,913	290,412	137,276	6,522,039
XIV. Drugs, chemicals, and by-products	4,096,600	2,756,575	90,876	808,690	612,649	28,963	8,394,353
XV. Surgical and other scientific instruments	95,179	76,867	29,453	27,233	15,096	..	244,728
XVI. Jewellery, timepieces, and plated ware	370,682	558,436	51,717	96,032	30,698	8,854	1,116,419
XVII. Heat, light, and power	6,302,605	4,409,843	874,039	1,074,095	387,908	419,114	13,467,604
XVIII. Leatherware, n.e.i.	595,873	696,008	68,079	47,980	(a)	3,054	1,410,994
XIX. Minor wares, n.e.i.	1,472,952	1,840,708	66,926	167,494	(b) 93,931	8,156	3,650,167
Total	132,735,140	111,286,343	37,824,101	26,903,775	11,321,551	6,426,226	326,497,136

(a) Included in Class XIX.

(b) Includes Class XVIII.

New South Wales far exceeds the other States in respect of the total value of output, the value being £132,735,140, or 40.65 per cent. on the total for all States. Next in order of value is Victoria, which produced 34.08 per cent.; the value of the output of Queensland was 11.59 per cent.; of South Australia 8.24 per cent.; of Western Australia 3.47 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, 1918-19 to 1922-23.* The following statement shows the value of output of factories, value per employee, and value per head of mean population in each State during the five years ended 1922-23:—

TOTAL VALUE OF OUTPUT OF FACTORIES, 1918-19 TO 1922-23.

Year.(a)	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tasmania.	Australia.
TOTAL.							
	£	£	£	£	£	£	£
1918-19 ..	104,803,018	80,195,677	30,559,839	20,810,630	7,003,505	5,684,219	249,056,888
1919-20 ..	123,213,480	101,475,363	32,452,744	20,454,539	8,723,928	6,216,554	292,536,608
1920-21 ..	137,841,386	106,008,294	39,190,242	22,358,109	11,443,080	7,151,972	323,993,083
1921-22 ..	132,820,065	106,243,181	40,334,298	23,854,857	11,291,739	5,796,625	320,340,765
1922-23 ..	132,735,140	111,286,343	37,824,101	26,903,775	11,321,551	6,426,226	326,497,136

PER EMPLOYEE.

	£	£	£	£	£	£	£
1918-19 ..	821	655	746	745	542	652	731
1919-20 ..	853	743	794	695	566	621	777
1920-21 ..	951	753	907	735	672	699	838
1921-22 ..	892	733	955	765	623	572	810
1922-23 ..	872	729	871	775	593	622	792

PER HEAD OF MEAN POPULATION.

	£	£	£	£	£	£	£
1918-19 ..	53.43	55.79	43.72	45.47	22.75	28.67	49.13
1919-20 ..	60.45	67.50	44.78	42.47	27.30	30.32	55.41
1920-21 ..	65.92	69.37	52.43	45.52	34.72	33.99	59.95
1921-22 ..	62.44	68.50	52.75	47.46	33.88	27.17	58.28
1922-23 ..	61.09	69.98	48.43	52.42	33.33	29.92	58.11

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

6. Value Added in Process of Manufacture.—(i) *Total in Classes, 1922-23.* The difference between the figures given in sub-section 5 and the corresponding figures in sub-section 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 1922-23 in each State for the various classes of factories:—

VALUE ADDED IN PROCESS OF MANUFACTURE, 1922-23.

Class of Industry.	N.S.W. 1922-23.	Victoria. 1922-23.	Q'land. 1922.	S. Aust. 1922-23.	W. Aust. 1922.	Tas. 1922.	Australia.
	£	£	£	£	£	£	£
I. Treating raw material, product of agricultural and pastoral pursuits, etc. . .	1,874,451	1,635,569	849,478	318,019	150,124	105,838	4,933,470
II. Treating oils and fats, animal, vegetable, etc. . .	803,522	571,546	97,186	127,720	47,080	5,501	1,652,555
III. Processes in stone, clay, glass, etc. . .	3,608,839	2,583,315	358,708	841,424	325,963	95,607	7,813,856
IV. Working in wood . .	2,542,658	3,171,511	1,425,664	495,602	1,405,913	390,270	9,431,618
V. Metal works, machinery, etc. . .	12,236,490	7,248,792	2,157,676	3,051,578	787,371	891,704	26,373,611
VI. Connected with food and drink, etc. . .	10,739,044	9,428,543	7,328,617	1,818,747	1,100,550	567,666	30,983,167
VII. Clothing and textile fabrics, etc. . .	6,877,727	10,846,176	1,365,743	1,004,409	455,871	302,559	20,852,485
VIII. Books, paper, printing, and engraving . .	4,555,779	4,075,562	1,189,726	624,469	510,515	245,797	11,201,848
IX. Musical instruments, etc. . .	302,817	138,980	..	23,479	3,463	..	468,739
X. Arms and explosives. .	7,205	147,655	..	386	..	..	155,246
XI. Vehicles and fittings, saddlery and harness, etc. . .	1,645,654	1,709,952	388,109	884,857	199,899	125,856	4,953,827
XII. Ship and boat building and repairing . .	1,267,824	172,849	15,020	112,621	9,608	13,081	1,591,003
XIII. Furniture, bedding, and upholstery . .	1,226,232	1,122,588	342,084	280,119	151,204	84,125	3,206,352
XIV. Drugs, chemicals, and by-products . .	1,855,141	1,120,617	47,513	274,494	218,554	7,633	3,523,952
XV. Surgical & other scientific instruments . .	62,115	51,854	20,636	21,002	7,785	..	163,392
XVI. Jewellery, timepieces, and plated ware . .	242,400	316,248	34,906	59,679	15,807	7,184	676,224
XVII. Heat, light, and power . .	4,607,113	3,169,523	735,416	864,841	331,992	347,150	10,056,035
XVIII. Leatherware, n.e.i. . .	270,324	288,725	33,125	20,724	(a)	1,854	614,752
XIX. Minor wares, n.e.i. . .	787,404	828,175	30,754	64,053	(b) 46,505	5,441	1,762,332
Total . .	55,512,739	48,623,180	16,420,361	10,888,223	5,768,204	3,196,766	140,414,473

(a) Includes Class XVIII.

(b) Included in Class XIX.

(ii) *Totals and Averages, 1918-19 to 1922-23.* The amount of the value added in each State is in much the same order as in the case of value of output, the six most important classes being VI., V., VII., VIII., XVII., and IV., in the order named. The value added to raw material by process of manufacture and the amount per employee and per head of mean population are shown in the following table for the years 1918-19 to 1922-23 :—

**FACTORIES.—VALUE ADDED IN PROCESS OF MANUFACTURE,
1918-19 TO 1922-23.**

Year.(a)	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tasmania.	Australia.
VALUE.							
	£	£	£	£	£	£	£
1918-19 . .	35,065,566	28,096,940	10,866,796	7,050,748	3,040,035	2,454,031	86,574,116
1919-20 . .	42,024,983	35,912,259	13,066,676	7,483,582	3,672,814	2,653,417	104,813,731
1920-21 . .	46,736,881	40,606,869	15,117,042	7,982,679	4,765,666	2,917,664	118,126,801
1921-22 . .	50,729,669	45,890,620	15,525,878	9,766,927	5,204,046	2,813,360	129,930,500
1922-23 . .	55,512,739	48,623,180	16,420,361	10,888,223	5,768,204	3,196,766	140,414,473

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

FACTORIES.—VALUE ADDED IN PROCESS OF MANUFACTURE, 1918-19 TO 1922-23—*continued.*

Year (a).	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tasmania.	Australia.
PER EMPLOYEE.							
	£	£	£	£	£	£	£
1918-19 ..	275	230	265	253	235	282	254
1919-20 ..	291	263	320	254	238	265	278
1920-21 ..	322	289	350	262	280	285	306
1921-22 ..	341	317	367	313	287	278	329
1922-23 ..	365	319	378	314	302	310	340
PER HEAD OF MEAN POPULATION.							
	£	£	£	£	£	£	£
1918-19 ..	17.88	19.55	15.55	15.41	9.88	12.38	17.08
1919-20 ..	20.62	23.89	18.03	15.54	11.49	12.94	19.85
1920-21 ..	23.35	26.57	20.22	16.25	14.46	13.86	21.86
1921-22 ..	23.85	29.59	20.30	19.43	15.62	13.19	23.63
1922-23 ..	25.55	30.58	21.02	21.22	16.98	14.88	24.99

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

7. Value of Output and Cost of Production.—As the total value of the output for Australia for 1922-23 was estimated at £326,497,136, there remained, after payment of £186,082,663, the value of the raw materials used, of £71,133,152 for salaries and wages, and of £8,659,615 for fuel, the sum of £60,621,706 to provide for all other expenditure and profits. The following table gives corresponding particulars for each State, expressed absolutely, and as percentages on the total value of the output for the year 1922-23 :—

FACTORIES.—VALUE OF OUTPUT AND COST OF PRODUCTION, 1922-23.

State.	Raw Materials Used.	Fuel and Light.	Salaries and Wages.	All other Expenditure, Interest, and Profits.	Total Value of Output.
VALUE AND COST, ETC.					
	£	£	£	£	£
New South Wales, 1922-23	77,222,401	4,021,068	27,050,730	24,440,941	132,735,140
Victoria, 1922-23 ..	62,658,163	2,443,681	25,547,192	20,637,307	111,286,343
Queensland, 1922 ..	21,403,740	690,656	7,447,959	8,281,746	37,824,101
South Australia, 1922-23 ..	16,015,552	948,455	5,943,745	3,996,023	26,903,775
Western Australia, 1922 ..	5,553,347	361,990	3,500,625	1,905,589	11,321,551
Tasmania, 1922 ..	3,229,460	193,765	1,642,901	1,360,100	6,426,226
Australia ..	186,082,663	8,659,615	71,133,152	60,621,706	326,497,136

PERCENTAGE OF COSTS, ETC., ON TOTAL VALUE.

	%	%	%	%	%
New South Wales, 1922-23	58.18	3.03	20.38	18.41	100.00
Victoria, 1922-23 ..	56.30	2.20	22.96	18.54	100.00
Queensland, 1922 ..	56.59	1.83	19.69	21.89	100.00
South Australia, 1922-23 ..	59.53	3.53	22.09	14.85	100.00
Western Australia, 1922 ..	49.05	3.20	30.92	16.83	100.00
Tasmania, 1922 ..	50.25	3.02	25.57	21.16	100.00
Australia ..	56.99	2.65	21.79	18.57	100.00

§ 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 1918–19 to 1922–23 by £58,286,505, i.e., from £102,176,713 to £160,463,218, or at the rate of £14,571,626 per annum.

The following statement shows the values of land and buildings and of plant and machinery used in connexion with manufacturing industries in each State during the year 1922–23 :—

VALUE OF LAND, BUILDINGS, PLANT, AND MACHINERY, 1922–23.

Value of—	N.S.W. 1922–23.	Victoria. 1922–23.	Q'land. 1922.	S. Aust. 1922–23.	W. Aust. 1922.	Tasmania. 1922.	Australia.
	£	£	£	£	£	£	£
Land and buildings	34,559,510	22,428,525	6,615,350	5,324,484	4,001,366	1,452,073	74,381,308
Plant and machinery	37,548,766	23,994,715	11,098,375	5,519,035	4,218,550	3,702,469	86,081,910
Total ..	72,108,276	46,423,240	17,713,725	10,843,519	8,219,916	5,154,542	160,463,218

The total capital invested in land, buildings, plant, and machinery in manufacturing industries in Australia during the year 1922–23 was approximately £160,463,218 (or £28 11s. 3d. per head of population); of that sum £74,381,308 was invested in land and buildings occupied as manufactories, the remaining £86,081,910 being the value of the plant and machinery used in connexion therewith.

2. **Value of Land and Buildings.**—(i) *Total, Australia, 1918–19 to 1922–23.* 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 values of land and buildings occupied in connexion with manufacturing industries of various classes during each year from 1918–19 to 1922–23 inclusive :—

VALUE OF LAND AND BUILDINGS.—AUSTRALIA, 1918–19 TO 1922–23.

Class of Industry.	1918–19. <i>a</i>	1919–20. <i>a</i>	1920–21. <i>a</i>	1921–22. <i>a</i>	1922–23. <i>a</i>
	£	£	£	£	£
I. Treating raw material, product of agricultural and pastoral pursuits, etc.	1,415,725	1,588,513	1,811,005	1,910,816	1,983,100
II. Treating oils and fats, animal, vegetable, etc.	610,573	614,877	680,763	741,683	831,004
III. Processes in stone, clay, glass, etc.	1,943,848	2,216,901	2,814,447	3,067,776	3,242,782
IV. Working in wood	2,349,500	2,622,071	3,061,888	3,359,738	3,889,858
V. Metal works, machinery, etc.	8,163,051	8,997,496	10,409,753	10,607,622	11,396,988
VI. Connected with food and drink, etc.	12,403,204	13,411,552	14,218,716	15,306,571	17,064,884
VII. Clothing and textile fabrics, etc.	6,059,980	6,876,671	8,265,497	10,122,483	11,588,846
VIII. Books, paper, printing, and engraving	4,029,014	4,270,008	4,738,597	5,158,723	6,132,123
IX. Musical instruments, etc.	121,885	134,462	195,072	226,751	304,432
X. Arms and explosives	257,520	264,020	275,482	277,582	207,500
XI. Vehicles and fittings, saddlery and harness, etc.	2,156,572	2,467,633	3,093,034	3,576,519	4,145,937
XII. Ship and boat building and repairing	1,059,529	1,122,468	1,391,113	1,860,720	1,796,690
XIII. Furniture, bedding, and upholstery	1,189,103	1,325,762	1,663,903	1,839,005	2,109,655
XIV. Drugs, chemicals, and by-products	1,393,237	1,446,721	1,687,297	2,059,410	2,171,915
XV. Surgical and other scientific instruments	106,225	104,628	132,161	156,048	189,777
XVI. Jewellery, timepieces, and plated ware	369,050	425,214	487,763	578,963	580,094
XVII. Heat, light, and power	3,999,806	4,342,913	4,867,348	5,138,371	5,277,183
XVIII. Leatherware, n.e.l.	178,444	231,073	304,506	310,904	359,636
XIX. Minor wares, n.e.l.	472,639	554,588	733,756	1,022,793	1,108,904
Total ..	48,278,905	53,017,571	60,331,468	67,322,458	74,381,308

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

As shown in the above table, the total net increase during the four years was £26,102,403, or an annual average of £6,525,601. The largest increases were in Classes VII., VI., V., VIII., XI., and IV., and amounted to £5,528,866, £4,661,680, £3,233,937, £2,103,109, £1,989,365, and £1,540,358 respectively.

(ii) *Value in each State, 1922-23.* The following table gives similar information for each State for the past year :—

VALUE OF LAND AND BUILDINGS.—STATES, 1922-23.

Class of Industry.	N.S.W. 1922-23.	Vic. 1922-23.	Q'land. 1922.	S. Aust. 1922-23.	W. Aust. 1922.	Tas. 1922.	Australia.
I. Treating raw material, product of agricultural and pastoral pursuits, etc. . .	£ 872,602	£ 766,045	£ 130,956	£ 133,508	£ 59,242	£ 20,747	£ 1,983,100
II. Treating oils and fats, animal, vegetable, etc. . .	507,114	199,935	36,576	62,896	20,218	4,265	831,004
III. Processes in stone, clay, glass, etc. . .	1,782,238	795,270	144,922	308,756	178,028	33,568	3,242,782
IV. Working in wood . .	1,829,847	815,430	365,096	249,799	551,059	78,627	3,889,858
V. Metal works, machinery, etc. . .	5,841,826	2,806,100	761,060	1,101,719	683,446	202,837	11,396,988
VI. Connected with food and drink, etc. . .	6,584,411	4,644,725	3,060,107	1,128,231	1,061,184	586,226	17,064,884
VII. Clothing and textile fabrics, etc. . .	4,730,391	5,068,015	620,149	630,934	363,765	175,592	11,588,846
VIII. Books, paper, printing, and engraving . .	2,863,847	1,899,535	614,221	390,228	291,998	72,294	6,132,123
IX. Musical instruments, etc. . .	159,437	112,920	..	25,445	6,630	..	304,432
X. Arms and explosives . .	4,750	199,250	..	3,500	..	..	207,500
XI. Vehicles and fittings, saddlery and harness, etc. . .	1,888,554	1,114,285	261,158	521,884	233,937	126,119	4,145,937
XII. Ship and boat building and repairing . .	1,492,385	234,790	10,007	48,528	7,830	3,150	1,796,690
XIII. Furniture, bedding, and upholstery . .	891,942	734,085	193,086	139,073	117,086	34,383	2,109,655
XIV. Drugs, chemicals, and by-products . .	1,194,982	622,075	18,205	203,406	121,672	11,575	2,171,915
XV. Surgical and other scientific instruments . .	85,007	43,520	25,788	17,580	17,882	..	189,777
XVI. Jewellery, timepieces, and plated ware . .	244,546	220,605	31,555	44,301	25,785	13,302	580,094
XVII. Heat, light, and power . .	3,006,473	1,420,555	295,402	251,070	216,677	87,006	5,277,183
XVIII. Leatherware, n.e.i. . .	180,378	149,165	21,536	8,325	(a)	232	359,636
XIX. Minor wares, n.e.i. . .	398,780	582,220	25,526	55,301	(b)44,927	2,150	1,108,904
Total . .	34,559,510	22,428,525	6,615,350	5,324,484	4,001,366	1,452,073	74,381,308

(a) Included in Class XIX.

(b) Includes Class XVIII.

The maximum value for Australia of land and buildings in any particular class was in Class VI., amounting to £17,064,884, or 22.94 per cent. on the total value. The next in order of importance were Classes VII., V., VIII., and XVII., in which the values were £11,588,846, £11,396,988, £6,132,123, and £5,277,183 respectively. The sum of the values for the five classes mentioned amounted to £51,460,024, or 69.18 per cent. on the total value for all classes.

(iii) *Value in each State, 1918-19 to 1922-23.* The total value of factory land and buildings at the end of each year from 1918-19 to 1922-23 is given hereunder.

VALUE OF LAND AND BUILDINGS, 1918-19 TO 1922-23.

Year.(a)	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tasmania.	Australia.
	£	£	£	£	£	£	£
1918-19 ..	22,081,877	13,673,515	5,519,316	3,672,831	2,487,967	843,999	48,278,905
1919-20 ..	24,108,890	14,957,535	5,886,215	3,977,099	3,132,014	955,768	53,017,571
1920-21 ..	28,428,917	17,313,350	6,261,266	4,495,867	3,350,608	981,680	60,831,468
1921-22 ..	32,052,308	19,810,170	6,373,504	4,711,022	3,206,295	1,169,164	67,322,468
1922-23 ..	34,559,510	22,428,525	6,615,350	5,324,484	4,001,366	1,452,073	74,381,308

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

Since 1918-19 there has been a general increase throughout Australia, the States showing the greatest progress being New South Wales, Victoria, and South Australia, with annual average increases of £3,119,408, £2,188,753, and £412,913 respectively.

3. Value of Plant and Machinery.—(i) *Total, Australia, 1918-19 to 1922-23.* The following table shows for Australia as a whole the approximate value of plant and machinery used in factories during each year from 1918-19 to 1922-23 inclusive :—

VALUE OF PLANT AND MACHINERY.—AUSTRALIA, 1918-19 TO 1922-23.

Class of Industry.	1918-19.(a)	1919-20.(a)	1920-21.(a)	1921-22.(a)	1922-23.(a)
I. Treating raw material, product of agricultural and pastoral pursuits, etc.	£ 1,382,538	£ 1,668,023	£ 1,823,119	£ 1,915,266	£ 2,064,189
II. Treating oils and fats, animal, vegetable, etc.	688,737	712,583	829,390	881,060	1,035,461
III. Processes in stone, clay, glass, etc.	2,414,539	2,853,294	3,565,033	4,231,438	4,841,188
IV. Working in wood	3,063,111	3,398,146	4,083,711	4,543,992	4,734,078
V. Metal works, machinery, etc.	10,702,907	11,959,693	14,688,625	15,833,262	16,701,195
VI. Connected with food and drink, etc.	13,648,102	14,532,708	16,472,128	18,037,602	20,214,770
VII. Clothing and textile fabrics, etc.	2,255,623	3,059,732	3,781,164	4,840,385	5,775,392
VIII. Books, paper, printing, and engraving	3,225,151	3,684,858	4,246,439	4,890,224	5,800,029
IX. Musical instruments, etc.	26,532	31,302	53,078	66,274	86,660
X. Arms and explosives	345,880	327,700	304,800	271,845	216,667
XI. Vehicles and fittings, saddlery and harness, etc.	532,361	627,087	853,259	941,849	1,047,440
XII. Ship and boat building and repairing	1,627,143	1,711,746	1,520,756	2,161,809	2,035,576
XIII. Furniture, bedding, and upholstery	306,853	369,738	466,952	505,870	559,354
XIV. Drugs, chemicals, and by-products	1,091,229	1,264,703	1,497,619	1,646,119	1,785,912
XV. Surgical and other scientific instruments	23,333	23,257	32,299	36,542	39,577
XVI. Jewellery, timepieces, and plated ware	84,453	103,690	114,892	125,764	137,512
XVII. Heat, light, and power	12,025,382	13,127,358	13,515,725	16,032,361	17,587,928
XVIII. Leatherware, n.e.l.	40,477	48,136	66,544	76,251	91,306
XIX. Minor wares, n.e.l.	413,457	490,840	734,687	997,767	1,027,676
Total	53,897,808	59,999,594	68,655,270	78,085,680	86,081,910

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

During the past four years there has been a steady and substantial net increase amounting in all to £32,184,102, or an annual average of £8,046,026. All classes of industry participated, the largest increase being in Class VI., "Connected with Food and Drink, etc.," where it amounted to £6,566,668, while the next in order were Class V., "Metal Works, Machinery, etc.," with an increase of £5,998,288, and Class XVII., "Heat, Light, and Power," £5,862,546.

(ii) *Value in each State, 1918-19 to 1922-23.* 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 by far the largest advance, viz., £13,897,614; while Victoria comes next with £10,349,495.

VALUE OF PLANT AND MACHINERY.—STATES, 1918-19 TO 1922-23.

Year.(a)	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tasmania.	Total.
	£	£	£	£	£	£	£
1918-19	23,651,152	13,645,220	8,391,480	3,551,386	2,742,386	1,916,184	53,897,808
1919-20	26,366,083	15,846,935	8,867,803	3,931,562	2,938,889	2,048,322	59,999,594
1920-21	31,115,444	18,179,385	9,615,509	4,473,247	3,340,158	1,931,527	68,655,270
1921-22	35,229,530	21,182,110	10,253,104	4,896,264	3,596,877	2,927,795	78,085,680
1922-23	37,548,766	23,994,715	11,098,375	5,519,035	4,218,550	3,702,469	86,081,910

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

(iii) *Value according to Industry, 1922-23.* The following table shows the value of plant and machinery used in factories in each State during 1922-23, classified according to the nature of the industry in which used:—

VALUE OF PLANT AND MACHINERY.—INDUSTRIES, 1922-23.

Class of Industry.	N.S.W. 1922-23.	Vic. 1922-23.	Q'land. 1922.	S. Aust. 1922-23.	W. Aust. 1922.	Tas. 1922.	Australia.
I. Treating raw material, product of agricultural and pastoral pursuits, etc. . . .	£ 948,401	£ 682,795	£ 182,113	£ 121,466	£ 62,253	£ 67,161	£ 2,064,180
II. Treating oils and fats, animal, vegetable, etc. . .	568,971	234,485	58,152	137,382	35,796	675	1,035,461
III. Processes in stone, clay, glass, etc. . . .	2,734,703	938,190	246,025	530,432	308,678	33,160	4,841,188
IV. Working in wood . . .	1,330,569	1,027,445	735,688	135,474	1,309,806	189,096	4,734,078
V. Metal works, machinery, etc. . . .	9,809,929	2,930,135	1,034,161	958,141	471,596	1,497,233	16,701,195
VI. Connected with food and drink, etc. . . .	6,706,542	4,689,135	6,223,180	1,036,769	890,758	668,386	20,214,770
VII. Clothing and textile fabrics, etc. . . .	1,753,891	3,432,905	211,657	209,518	72,323	95,098	5,775,392
VIII. Books, paper, printing, and engraving . . .	2,592,549	2,130,265	409,513	304,047	271,640	92,015	5,800,029
IX. Musical instruments, etc. . .	52,522	31,770	..	2,193	175	..	86,660
X. Arms and explosives . . .	2,677	213,640	..	350	..	..	216,667
XI. Vehicles and fittings, saddlery and harness, etc. . . .	450,087	307,945	67,402	154,008	45,476	22,522	1,047,440
XII. Ship and boat building and repairing . . .	1,815,227	107,460	30,210	77,452	3,307	1,920	2,035,576
XIII. Furniture, bedding and upholstery . . .	226,940	166,485	75,039	45,397	30,777	14,716	559,354
XIV. Drugs, chemicals, and by-products . . .	753,649	468,535	15,737	391,415	147,008	9,568	1,785,912
XV. Surgical and other scientific instruments . . .	15,647	12,060	5,843	4,184	1,843	..	39,577
XVI. Jewellery, timepieces, and plated ware . . .	50,092	64,230	6,718	12,357	2,520	1,595	127,512
XVII. Heat, light, and power . .	7,390,667	5,780,290	1,788,121	1,374,454	545,816	1,008,580	17,887,928
XVIII. Leatherware, n.e.l. . .	36,540	50,330	2,731	1,365	(a)	340	91,306
XIX. Minor wares, n.e.l. . .	303,163	676,615	6,085	22,631	(b) 18,778	404	1,027,676
Total . . .	37,548,766	23,994,715	11,098,375	5,519,035	4,218,550	3,702,469	86,081,910

(a) Included with Class XIX.

(b) Includes Class XVIII.

The greatest value for any particular class of industry is for Class VI., "Connected with Food and Drink, etc.," and amounts to £20,214,770, or 23.48 per cent. on the total for all classes. The next in order of importance is Class XVII., "Heat, Light, and Power," amounting to £17,887,928, or 20.78 per cent. on the total, followed by Class V., "Metal Works, Machinery, etc.," which amounts to £16,701,195, or 19.40 per cent. on the total value. The total for these three classes amounts to £54,803,893, or 63.66 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, 1922–23.* 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 the tanning of the finer skins is now undertaken with satisfactory results. The position of the industry in the several States is as follows :—

TANNERIES, 1922–23.

Items.	N.S.W. 1922–23.	Vic. 1922–23.	Q'land. 1922.	S. Aust. 1922–23.	W.A. 1922.	Tas. 1922.	Aus- tralia.
Number of factories	78	49	17	10	6	3	163
Number of employees	1,395	2,443	336	204	97	67	4,542
Actual horse-power of engines employed	2,827	3,858	312	318	267	158	7,740
Approx. value of land and buildings £	294,597	381,000	24,860	32,639	23,609	12,623	769,328
Approx. value of plant and machinery £	207,555	338,160	33,438	21,420	18,778	8,209	627,560
Total amount of wages paid during year £	305,968	520,487	60,651	43,063	19,669	12,683	963,526
Value of fuel used	23,045	41,380	3,883	3,926	1,900	930	75,064
Value of raw material worked up £	1,424,513	1,825,999	282,110	112,932	76,896	43,531	3,765,981
Total value of output	1,979,964	2,775,224	445,751	172,174	122,402	72,843	5,568,358
Value added in process of manufacture £	555,451	949,225	163,641	59,242	45,506	29,312	1,802,377

(ii) *Development in Australia, 1918–19 to 1922–23.* The development of the tanning industry during the period 1918–19 to 1922–23 is shown in the following table :—

TANNERIES.—AUSTRALIA, 1918–19 TO 1922–23.

Items.	1918–19.	1919–20.	1920–21.	1921–22.	1922–23.
Number of factories	153	160	164	164	163
Number of employees	3,688	4,147	4,026	4,438	4,542
Actual horse-power of engines used ..	5,247	6,367	6,868	7,697	7,740
Approx. value of land and buildings £	459,163	552,521	684,892	721,699	769,328
Approx. value of plant and machinery £	360,682	422,976	520,400	581,008	627,560
Total amount of wages paid	577,043	777,368	825,751	935,009	963,526
Value of fuel used	45,957	60,981	62,247	72,581	75,064
Value of raw materials worked up £	4,423,092	6,837,835	4,596,271	3,684,000	3,765,981
Value of final output	5,762,741	8,772,336	6,179,417	5,451,596	5,568,358
Value added in process of manufacture £	1,339,649	1,934,501	1,583,146	1,767,596	1,802,377

The above table shows increases in the number of factories, hands employed, and the equipment of the establishments in the tanning industry during the past four years. Owing to fluctuations in prices the financial figures in respect of materials used and output reveal a decline, whereas the industry has made good progress, the production of leather increasing from 45,668,951 lbs. in 1918–19 to 55,913,930 lbs. in 1922–23, while the number of basils turned out increased by 326,301 during the period.

(iii) *Raw Materials Used and Production, 1922–23.* The quantities of raw materials used and leather produced in tanneries in each State are shown in the following table :—

TANNERIES.—RAW MATERIALS USED AND PRODUCTION, 1922–23.

Particulars.	N.S.W. 1922–23.	Victoria. 1922–23.	Q'land. 1922.	S. Aust. 1922–23.	W. Aust. 1922.	Tas. 1922.	Australia.
Hides and calf skins No.	1,020,478	1,444,034	146,225	67,377	42,823	19,113	2,740,050
Sheep pelts	4,450,426	1,642,074	97,903	71,187	..	62,000	6,323,590
Other skins	354,632	761,866	311,036	2,250	28,653	1,319	1,459,756
Bark	11,524	13,683	2,739	1,166	1,091	467	30,670
Leather made	21,407,476	27,325,665	3,929,059	1,380,158	1,558,074	313,498	55,913,930
Basils produced	3,293,744	1,676,324	97,899	71,307	..	40,260	5,179,534

3. **Fellmongering and Wool-scouring Works.**—(i) *Details for each State, 1922-23.* 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, 1922-23.

Items.	N.S.W. 1922-23.	Vic. 1922-23.	Q'land. 1922.	S. Aust. 1922-23.	W.A. 1922.	Tas. 1922.	Australia.
Number of factories ..	46	30	17	3	3	..	99
Number of employees ..	1,504	609	340	86	37	..	2,576
Actual horse-power of engines used ..	3,883	1,672	645	192	138	..	6,530
Approx. value of land and buildings £	254,315	174,960	88,389	14,678	10,031	..	542,373
Approx. value of plant and machinery £	387,166	180,655	128,353	25,000	12,745	..	733,919
Total amount of wages paid £	312,714	137,539	70,316	16,433	9,013	..	546,015
Value of fuel used ..	52,658	35,199	13,328	4,066	2,768	..	108,019
Value of raw material worked up £	3,945,744	1,507,302	1,040,038	175,684	180,017	..	6,848,785
Value of final output ..	4,698,885	1,802,440	1,686,664	214,081	200,092	..	8,602,162
Value added in process of manufacture £	753,141	295,138	646,626	38,397	20,075	..	1,753,377

(ii) *Development in Australia, 1918-19 to 1922-23.* The following return furnishes particulars of fellmongering and wool-scouring establishments in Australia for the last five years :—

FELLMONGERING AND WOOL-SCOURING WORKS.—AUSTRALIA, 1918-19 TO 1922-23.

Items.	1918-19.	1919-20.	1920-21.	1921-22.	1922-23.
Number of factories ..	107	110	97	97	99
Number of employees ..	3,392	3,610	2,707	2,571	2,576
Actual horse-power of engines used ..	5,707	6,025	6,278	6,657	6,530
Approx. value of land and buildings £	466,658	514,499	548,084	541,561	542,373
Approx. value of plant and machinery £	584,343	683,227	681,366	720,972	733,919
Total amount of wages paid ..	517,161	652,842	510,286	533,705	546,015
Value of fuel used ..	84,478	99,981	84,833	99,741	108,019
Value of raw materials worked up ..	11,213,481	12,279,135	6,682,138	5,660,278	6,848,785
Value of final output ..	13,126,314	14,745,652	7,913,477	6,699,452	8,602,162
Value added in process of manufacture £	1,912,833	2,466,517	1,231,339	1,039,174	1,753,377

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 lbs. of scoured wool was produced. The production fell to 63,393,044 lbs. in 1920-21, but increases were recorded during the past two years, and the output of scoured wool in 1922-23 was 71,442,322 lbs.

4. **Soap and Candle Factories.**—(i) *Details for each State, 1922-23.* 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 1922-23 :—

SOAP AND CANDLE FACTORIES, 1922-23.

Items.	N.S.W. 1922-23.	Victoria. 1922-23.	Q'land. 1922.	S. Aust. 1922-23	W.A. 1922. (c)	Tas. 1922.	Australia.
Number of factories	28	19	11	6	4	1	69
Number of employees	1,125	769	166	213	121	25	2,419
Actual horse-power of engines employed	1,027	662	189	311	121	10	2,320
Approx. value of land and buildings £	279,442	172,790	36,576	50,025	a	a	563,216 ^b
Approx. value of plant and machinery £	352,744	196,355	58,152	115,570	a	a	759,192 ^b
Total amount of wages paid during year £	179,478	142,685	28,996	41,314	a	a	415,681 ^b
Value of fuel used	33,930	23,686	3,015	3,985	a	a	75,728 ^b
Value of raw material worked up £	739,860	661,836	108,836	178,923	a	a	1,790,540 ^b
Total value of output	1,242,704	1,152,270	206,022	287,948	a	a	3,042,506 ^b
Value added in process of manufacture £	502,344	490,434	97,186	109,025	a	a	1,251,966 ^b

(a) Particulars not available for publication.

(b) Including Western Australia and Tasmania.

(c) Includes one oil and grease establishment.

(ii) *Development in Australia, 1918-19 to 1922-23.* The following table gives similar particulars for the last five years as regards Australia as a whole :—

SOAP AND CANDLE FACTORIES.—AUSTRALIA, 1918-19 TO 1922-23.

Items.	1918-19.a	1919-20.b	1920-21.b	1921-22.c	1922-23.d
Number of factories	60	61	62	69	69
Number of employees	1,902	2,163	2,008	2,329	2,419
Actual horse-power of engines used	1,568	1,749	1,782	2,015	2,320
Approx. value of land and buildings £	426,909	428,824	426,339	479,872	563,216
Approx. value of plant and machinery £	488,402	486,187	537,534	610,418	759,192
Total amount of wages paid	251,762	296,352	326,449	394,567	415,681
Value of fuel used	65,469	81,938	88,728	94,204	75,728
Value of raw material worked up £	1,830,417	2,389,706	2,119,957	1,755,252	1,790,540
Value of final output	2,618,806	3,377,783	2,941,833	3,007,286	3,042,506
Value added in process of manufacture £	788,389	988,077	821,876	1,252,034	1,251,966

(a) Excluding three soap and candle establishments in Western Australia, and one in Tasmania.

(b) Excluding three soap and candle establishments in Western Australia.

(c) Including two bark mills, one fibre works, and one olive oil establishment in Western Australia.

(d) Including one oil and grease establishment in Western Australia.

(iii) *Raw Materials Used and Production, 1918-19 to 1922-23.* The following statement shows the quantities of certain raw materials used, together with the production, in soap and candle factories in Australia during the years 1918-19 to 1922-23 :—

SOAP AND CANDLE FACTORIES.—RAW MATERIALS USED AND PRODUCTION, AUSTRALIA, 1918-19 TO 1922-23.

Particulars.	1918-19.a	1919-20.a	1920-21.a	1921-22.a	1922-23.a
Tallow used cwt.	431,638	390,267	353,001	460,164	482,422
Alkali used	126,981	123,101	120,882	134,994	144,092
Coconut oil used gal.	624,802	469,549	459,013	591,117	662,161
Soap made cwt.	694,456	788,478	692,192	824,002	878,286
Candles made	97,692	104,676	87,304	91,116	101,586

(a) Exclusive of Western Australia.

5. Saw-mills, etc.—(i) *Details for States, 1922-23.* 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., 1922-23.

Items.	N.S.W. 1922-23.	Victoria. 1922-23.	Q'land. 1922.	S. Aust. 1922-23.	W. Aust. 1922.	Tas. 1922.	Australia.
Number of factories	744	573	326	94	177	159	2,067
Number of employees	8,701	9,209	4,971	1,634	5,035	1,623	31,173
Actual horse-power of engines employed	19,111	14,650	9,746	2,653	9,272	2,183	57,615
Approximate value of land and buildings £	1,606,075	718,570	336,143	240,949	549,869	73,627	3,525,233
Approximate value of plant and machinery £	1,207,270	941,635	674,482	133,415	1,304,248	185,466	4,446,516
Total amount of wages paid during year £	1,528,014	1,784,207	879,663	316,969	1,074,304	248,980	5,832,137
Value of fuel used £	51,771	35,784	16,938	8,683	10,727	4,203	128,106
Value of raw material worked up £	3,874,194	2,177,304	1,382,312	1,262,316	2,674,337	141,009	9,104,572
Total value of output £	6,171,288	5,096,309	2,713,992	1,739,695	1,670,664	520,417	17,912,365
Value added in process of manufacture £	2,297,094	2,919,005	1,331,680	477,379	1,403,227	379,408	8,807,793

(ii) *Development in Australia, 1918-19 to 1922-23.* The development of forest and other saw-mills, etc., since 1918-19 is shown in the following table :—

SAW-MILLS, FOREST AND OTHER ; JOINERY, ETC.—AUSTRALIA,
1918-19 TO 1922-23.

Items.	1918-19.	1919-20.	1920-21.	1921-22.	1922-23.
Number of establishments	1,621	1,766	1,897	1,943	2,067
Number of employees	24,427	28,171	30,074	30,522	31,173
Actual horse-power of engines used	46,641	51,691	57,947	56,046	57,615
Approx. value of land and buildings £	2,132,509	2,376,011	2,773,952	3,036,444	3,525,233
Approx. value of plant and machinery £	2,937,691	3,253,706	3,868,390	4,271,225	4,446,516
Total amount of wages paid £	3,189,087	4,052,707	5,248,331	5,701,531	5,832,137
Value of fuel used £	78,294	91,341	102,195	115,049	128,106
Value of raw material worked up £	5,773,999	7,624,110	9,344,674	8,348,619	9,104,572
Value of final output £	10,890,530	14,276,983	17,446,035	16,832,110	17,912,365
Value added in process of manufacture £	5,116,531	6,652,873	8,101,361	8,488,491	8,807,793

The pre-war development in Australia in the building and other trades using timber received a temporary check during the war years, but the all-round increases since 1918-19 in the number of employees, in wages, value of materials used, and final output, as well as in capital invested in land and buildings and plant and machinery, show that the industries concerned have practically regained their normal rate of progression.

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, strippers, stump-jump and other ploughs, harrows, disc and other cultivators, winnowers, corn-shellers and baggers, drills, 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 exported to many countries.

(ii) *Details for States, 1922-23.* The following table gives particulars of the agricultural implement works in each State for the year 1922-23 :—

AGRICULTURAL IMPLEMENT WORKS, 1922-23.

Items.	N.S.W. 1922-23.	Vic. 1922-23.	Q'land. 1922.	S. Aust. 1922-23.	W. Aust. 1922.	Tas. 1922.	Aus- tralia.
Number of factories	28	61	8	51	6	..	154
Number of employees	549	2,654	190	1,099	182	..	4,674
Actual horse-power of engines employed	328	1,723	242	1,091	235	..	3,619
Approx. value of land and buildings £	136,433	191,245	26,705	109,504	36,100	..	499,987
Approx. value of plant and machinery £	55,233	313,295	25,626	91,088	23,679	..	508,921
Total amount of wages paid during year £	111,398	555,394	38,516	193,595	42,875	..	941,778
Value of fuel used	4,172	36,935	1,291	10,149	1,999	..	54,546
Value of raw material worked up	114,428	626,561	51,724	199,374	193,818	..	1,190,905
Total value of output	326,111	1,511,724	110,703	474,424	262,380	..	2,685,342
Value added in process of manufacture £	211,683	885,163	58,979	275,050	63,562	..	1,494,437

(iii) *Development in Australia, 1918-19 to 1922-23.* The Agricultural Implement industry declined considerably during the war years, but steady development has taken place since 1918-19, and substantial increases have occurred in all the items enumerated, although a slight decrease on the previous year's figures was noticeable in the returns for 1922-23. Details for the past five years are as follows :—

AGRICULTURAL IMPLEMENT WORKS.—AUSTRALIA, 1918-19 TO 1922-23.

Items.	1918-19.a	1919-20.a	1920-21.a	1921-22.	1922-23.
Number of factories	138	141	141	140	154
Number of employees	2,914	3,116	4,299	4,696	4,674
Actual horse-power of engines used	2,338	2,505	2,576	3,312	3,619
Approx. value of land and buildings £	367,951	368,897	392,870	435,233	499,987
Approx. value of plant and machinery £	350,754	372,949	431,152	478,896	508,921
Total amount of wages paid	420,750	465,558	794,554	987,610	941,778
Value of fuel used	26,755	30,096	55,709	60,410	54,546
Value of raw material worked up	531,766	586,048	1,064,611	1,387,571	1,190,905
Value of final output	1,149,121	1,282,931	2,288,713	2,863,875	2,685,342
Value added in process of manufacture £	617,355	696,883	1,224,102	1,476,304	1,494,437

(a) Excluding three establishments in Western Australia.

7. *Engineering Works, Ironworks, and Foundries.*—(i) *Details for States, 1922-23.* The classification in these industries is not very satisfactory. Generally, engineering shops, ironworks, and foundries are included, as also are factories for making nails, safes, patterns, meters, and springs. Railway workshops, agricultural implement factories, cyanide, smelting, pyrites, and metallurgical works, galvanized iron works, stove and oven-making works, and wire-working establishments are not included. The combination of industries is rendered necessary owing to the limited classification still adopted by some of the States.

ENGINEERING WORKS, IRONWORKS, AND FOUNDRIES, 1922-23.

Items.	N.S.W. 1922-23.	Victoria. 1922-23.	Q'land. 1922.	S. Aust. 1922-23.	W. Aust. 1922.	Tas. 1922.	Australia.
Number of factories	475	584	103	96	86	24	1,368
Number of employees	14,388	11,061	2,216	2,631	1,094	432	31,872
Actual horse-power of engines employed	32,242	13,639	1,791	1,824	1,564	268	51,328
Approximate value of land and buildings	2,594,268	1,283,750	206,633	270,808	166,026	38,545	4,560,030
Approximate value of plant and machinery	4,008,230	1,478,485	240,599	273,443	147,123	53,437	6,201,317
Total amount of wages paid during year	2,625,899	2,183,506	494,421	496,650	193,499	79,991	6,078,966
Value of fuel used	281,310	188,619	32,332	39,926	13,931	4,665	560,783
Value of raw materials worked up	4,615,718	2,721,701	483,285	710,729	218,935	45,655	8,794,023
Total value of output	8,538,895	6,285,387	1,296,468	1,471,825	513,451	154,919	18,260,945
Value added in process of manufacture	3,922,177	3,563,686	813,183	761,096	296,516	109,264	9,466,922

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 and smelting machinery and apparatus forms an important section of this industry.

(ii) *Development in Australia, 1918-19 to 1922-23.* The development of engineering works, ironworks, and foundries in Australia since 1918-19 is shown in the following table :—

**ENGINEERING WORKS, IRONWORKS, AND FOUNDRIES.—AUSTRALIA,
1918-19 TO 1922-23.**

Items.	1918-19a.	1919-20a.	1920-21a.	1921-22.	1922-23.
Number of factories ..	1,058	1,141	1,248	1,281	1,368
Number of employees ..	25,834	31,050	33,914	30,628	31,872
Actual horse-power of engines used ..	47,078	53,410	48,852	51,780	51,328
Approx. value of land and buildings £	3,139,984	3,527,933	4,108,640	4,197,014	4,560,030
Approx. value of plant and machinery £	5,120,625	6,339,285	5,702,388	5,933,667	6,201,317
Total amount of wages paid £	3,821,623	5,161,441	6,523,651	6,265,599	6,078,966
Value of fuel used ..	£ 649,119	1,037,012	831,032	623,273	560,783
Value of raw material worked up ..	£ 9,942,386	11,928,660	14,247,190	11,727,407	8,794,023
Value of final output ..	£ 16,291,175	20,209,329	24,361,080	21,468,595	18,280,945
Value added in process of manufacture £	6,348,789	8,280,669	10,113,890	9,741,188	9,466,922

(a) Including three agricultural implement establishments in Western Australia.

The expansion of local industry during recent years has necessitated an increased provision of machinery, and the difficulty of obtaining overseas supplies during the war and for some years after created an opportunity of which the Australian engineering trade has availed itself largely. Since 1918-19 the number of establishments has increased by more than 29 per cent. and the number of employees by 23 per cent., while the capital invested in land, buildings, plant and machinery increased from £8,260,609 to £10,761,347. It is difficult to measure the output of the engineering industries owing to price fluctuations, but the closing down of the Broken Hill Proprietary Company's Steel Works at Newcastle during the major part of 1922-23 was mainly responsible for the greatly reduced output recorded for that year. These industries are all large consumers of Australian materials, and for this reason their progress is doubly important.

8. Railway and Tramway Workshops.—(i) *Details for each State, 1922-23.* 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, 1922-23.

Items.	N.S.W. 1922-23.	Victoria. 1922-23.	Q'land. 1922.	S. Aust. 1922-23.	W. Aust. 1922.	Tas. 1922.	Australia.
Number of factories ..	37	18	11	19	20	7	112
Number of employees ..	10,538	5,706	2,607	2,665	1,756	400	23,672
Actual horse-power of engines employed ..	6,567	3,233	3,009	1,228	2,306	260	16,603
Approximate value of land and buildings ..	£ 1,475,346	781,110	350,786	346,083	474,576	1,165	3,429,066
Approximate value of plant and machinery ..	£ 1,725,382	734,760	206,355	242,359	298,528	91,868	3,299,252
Total amount of wages paid during year ..	£ 2,616,029	1,211,233	615,171	658,213	392,621	98,253	5,591,520
Value of fuel used ..	£ 59,763	35,777	10,822	25,052	21,050	3,331	155,795
Value of raw material worked up ..	£ 1,788,691	1,663,131	366,201	325,408	283,474	30,694	4,450,509
Total value of output ..	£ 4,475,613	3,213,280	906,286	1,126,501	693,982	177,387	10,603,049
Value added in process of manufacture ..	£ 2,686,922	1,550,149	540,085	811,093	408,508	146,693	6,143,450

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, 1918-19 to 1922-23.* The following table shows the development of railway and tramway workshops in Australia since 1918-19 :—

RAILWAY AND TRAMWAY WORKSHOPS.—AUSTRALIA, 1918-19 TO 1922-23.

Items.	1918-19.	1919-20.	1920-21.	1921-22.	1922-23.
Number of factories	94	94	103	101	112
Number of employees	19,036	21,488	23,670	23,802	23,672
Actual horse-power of engines used ..	13,434	15,626	16,142	15,889	16,603
Approx. value of land and buildings £	2,944,626	2,976,838	3,123,818	3,287,393	3,429,066
Approx. value of plant and machinery £	2,636,591	2,616,001	2,810,282	3,111,789	3,299,252
Total amount of wages paid £	3,106,829	3,977,702	5,273,942	5,609,957	5,541,520
Value of fuel used	90,818	104,496	132,956	143,357	155,795
Value of raw material worked up £	2,082,557	2,829,907	3,808,850	4,518,058	4,459,599
Value of final output	5,418,996	7,116,984	9,488,649	10,610,662	10,603,049
Value added in process of manufacture £	3,336,439	4,287,077	5,679,799	6,092,604	6,143,450

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 war, the operations of these establishments were restricted to necessary work, but since 1918-19 the rate of expansion has been rapid. The number of employees has risen from 19,036 to 23,672, and the value of the output has been almost doubled during the past four years.

9. *Smelting Works, etc.*—The following table gives particulars of metal smelting, cyanide, pyrites, and metallurgical 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.

SMELTING, CYANIDE, PYRITES, ETC., WORKS, 1922-23.

Items.	N.S.W. 1922-23.	Victoria. 1922-23.	Q'land. 1922.	S. Aust. 1922-23.	W.A. 1922. (a)	Tas. 1922.	Australia.
Number of factories	17	11	5	2	..	3	38
Number of employees	2,849	81	552	1,548	..	714	5,754
Actual horse-power of engines employed ..	24,334	90	4,501	6,439	..	19,516	54,880
Approx. value of land and buildings £	465,128	17,685	15,332	b	..	b	c 920,665
Approx. value of plant and machinery £	2,790,449	15,555	438,836	b	..	b	c 4,866,551
Total amount of wages paid during year £	571,752	14,379	96,524	b	..	b	c 1,243,121
Value of fuel used	816,039	5,391	65,151	b	..	b	c 1,217,060
Value of raw material worked up £	3,928,632	101,008	222,056	b	..	b	c 8,193,241
Total value of output	7,215,521	141,321	641,177	b	..	b	c13,492,807
Value added in process of manufacture £	3,286,889	40,313	419,121	b	..	b	c 5,299,566

(a) See third paragraph below.

(b) Information not available for publication.

(c) Including South Australia and Tasmania.

In New South Wales the figures quoted represent seventeen smelting works; those for Victoria include three cyanide and eight metallurgical works; Queensland smelting and cyaniding works; South Australia two smelting works; and Tasmania three smelting works.

The output of the base metal industry has declined in Australia during the past four years, although considerable improvement has been effected on the production figures for 1919-20, when the industry suffered a serious depression owing to the slump in metal prices. The equipment of these metal establishments has been greatly developed since 1918-19, the value of the plant and machinery used therein increasing from £1,832,731 to £4,866,551, while the actual horse-power of the engines used was nearly doubled.

In Western Australia all the plants are worked on the mines, and are therefore not included.

10. Bacon-curing Factories.—(i) *Details for each State, 1922-23.* The following table gives particulars of factories engaged in bacon-curing in each State during the past year :—

BACON-CURING FACTORIES, 1922-23.

Items.	N.S.W. 1922-23.	Victoria. 1922-23.	Q'land. 1922.	S. Aust. 1922-23.	W. Aust. 1922.	Tas. 1922.	Aus- tralia.
Number of factories	21	24	6	10	6	4	71
Number of employees	308	494	404	144	55	21	1,426
Actual horse-power of engines employed	505	1,262	764	218	204	76	3,029
Approximate value of land and buildings £	124,048	168,350	109,955	25,201	35,779	4,685	468,108
Approximate value of plant and machinery £	71,037	104,075	63,039	16,008	17,360	1,932	274,351
Total amount of salaries and wages paid £	78,353	104,841	90,776	27,604	13,292	3,357	318,223
Value of fuel used £	13,253	16,905	10,829	2,700	2,501	485	46,673
Value of raw material worked up ..	811,996	1,030,686	515,427	215,599	106,511	52,701	2,732,920
Total value of output £	983,962	1,289,267	987,480	281,336	131,440	59,289	3,732,774
Value added in process of manu- facture £	171,966	258,581	472,053	65,737	24,929	6,588	999,854

(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 1922-23 :—

BACON-CURING FACTORIES.—PIGS KILLED, AND PRODUCTION, 1922-23.

Particulars.	N.S.W. 1922-23.	Victoria. 1922-23.	Q'land. 1922.	S. Aust. 1922-23.	W. Aust. 1922.	Tasmania. 1922.	Aus- tralia.
PIGS KILLED.							
Number	201,542	186,524	171,246	52,232	(a) 17,028	10,486	639,058
PRODUCTS (,000 OMITTED).							
Bacon and ham .. lbs.	17,506	17,293	14,593	4,141	1,795	1,070	56,398
Lard	754	861	782	144	120	77	2,738
VALUE.							
Bacon and ham .. £	891,801	880,953	691,615	227,440	106,482	52,935	2,851,226
Lard £	23,930	27,334	26,943	5,308	3,522	2,354	89,400
Other products .. £	64,371	380,980	268,922	48,588	21,436	4,000	788,297

(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.*

11. Butter, Cheese, and Condensed Milk Factories.—(i) *Details for each State, 1922-23.* The subjoined table gives particulars of butter, cheese and condensed milk factories in each State during the year 1922-23 :—

BUTTER, CHEESE, AND CONDENSED MILK FACTORIES, 1922-23.

Items.	N.S.W. 1922-23.	Victoria. 1922-23.	Q'land. 1922.	S. Aust. 1922-23.	W.A. 1922.	Tas. 1922.	Australia.
Number of factories	170	182	129	51	8	33	573
Number of employees	1,295	2,278	1,102	284	38	144	5,141
Actual horse-power of engines employed	4,556	4,768	2,629	673	266	257	13,149
Approximate value of land and buildings £	432,234	683,640	194,936	125,885	21,346	32,688	1,490,729
Approximate value of plant and machinery £	548,089	863,620	369,637	102,135	18,671	282,609	2,184,761
Total amount of wages paid £	287,130	503,355	227,054	45,883	9,060	18,736	1,091,218
Value of fuel used £	79,188	115,608	38,160	7,244	1,700	2,244	244,144
Value of raw material worked up £	6,004,647	6,773,312	3,608,190	787,511	85,220	205,378	17,464,258
Total value of output £	6,742,110	7,899,377	4,795,689	924,329	110,196	275,081	20,746,782
Value added in process of manufacture £	737,463	1,126,065	1,187,499	136,818	24,970	69,703	3,282,524

(ii) *Development in Australia, 1918-19 to 1922-23.* The following table shows the progress of the factories in this industry during the past five years :—

**BUTTER, CHEESE, AND CONDENSED MILK FACTORIES.—AUSTRALIA,
1918-19 TO 1922-23.**

Items.	1918-19.	1919-20.	1920-21.	1921-22.	1922-23.
Number of factories	558	563	579	591	573
Number of employees	4,369	4,544	4,981	5,368	5,141
Actual horse-power of engines used	9,491	10,102	11,920	11,947	13,149
Approx. value of land and buildings £	907,148	1,060,544	1,229,964	1,335,760	1,490,729
Approx. value of plant and machinery £	1,107,127	1,262,706	1,491,974	1,711,169	2,184,761
Total amount of wages paid £	633,076	742,341	944,783	1,109,860	1,091,218
Value of fuel used £	140,125	167,142	225,356	263,585	244,144
Value of raw material worked up £	13,177,643	13,737,678	22,096,843	18,082,449	17,464,258
Value of final output £	15,120,395	15,989,419	25,400,335	22,003,615	20,746,782
Value added in process of manufacture £	1,942,752	2,251,741	3,303,492	3,941,166	3,282,524

(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, 1922-23.

Particulars.	N.S.W. 1922-23.	Victoria. 1922-23.	Q'land. 1922.	S. Aust. 1922-23.	W. Aust. 1922.	Tasmania. 1922.	Australia.
MILK USED (,000 OMITTED).							
Butter factories .. gals.	155,721	180,998	104,949	21,550	3,188	9,168	475,574
Cheese " " "	5,183	3,349	9,765	3,191	..	747	22,235
Condensed milk factories ..	1,907	9,693	2,701	..	..	..	14,301

PRODUCTS (,000 OMITTED).

Butter lbs.	69,255	78,774	51,412	10,927	1,518	3,823	215,709
Cheese lbs.	4,978	3,336	10,553	3,261	..	741	22,869
Condensed and concentrated milk lbs.	1,444	28,700	9,602	..	..	..	39,746
Powdered milk	2,100	9,615	..	..	..	..	11,715

**BUTTER, CHEESE, AND CONDENSED MILK FACTORIES.—PRODUCTION,
1922-23—continued.**

Particulars.	N.S.W. 1922-23.	Victoria. 1922-23.	Q'land. 1922.	S. Aust. 1922-23.	W. Aust. 1922.	Tasmania. 1922.	Aus- tralia.
VALUE (,000 OMITTED).							
Butter	£ 6,131	6,220	4,001	803	119	249	17,523
Cheese	£ 239	145	415	121		26	946
Condensed and con- centrated milk ..	£ 59	879	380				1,318
Powdered milk ..	£ 169	456					625

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

12. Meat and Fish Preserving, Ice and Refrigerating 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.

The details given in the subjoined table include ice-making and freezing works, also meat-canning factories, separate particulars for each item for all the States not being available.

MEAT AND FISH PRESERVING, ICE AND REFRIGERATING WORKS, 1922-23.

Items.	N.S.W. 1922-23.	Victoria. 1922-23.	Q'land. 1922.	S. Aust. 1922-23.	W. Aust. 1922.	Tas. 1922.	Aus- tralia.
Number of factories	155	54	65	17	41	12	344
Number of employees	2,146	1,656	3,156	282	374	80	7,694
Actual horse-power of engines employed	10,374	8,110	11,702	1,820	3,447	250	35,703
Approximate value of land and buildings	£ 1,298,510	1,007,930	1,561,597	171,384	498,158	59,010	4,596,587
Approximate value of plant and machinery	£ 1,178,132	697,150	937,329	124,104	386,547	26,120	3,349,382
Total amount of wages paid dur- ing year	£ 404,795	369,872	534,589	55,599	82,261	11,145	1,458,261
Value of fuel used	£ 129,833	79,444	95,026	23,645	23,283	2,287	353,518
Value of raw material worked up ..	£ 4,888,688	1,853,822	957,048	42,896	159,508	5,302	7,907,265
Total value of output	£ 6,019,361	2,631,860	2,055,155	158,089	415,425	34,510	11,314,400
Value added in process of manu- facture	£ 1,130,673	778,037	1,098,107	115,193	255,917	29,208	3,407,135

Exclusive of Victoria, for which State particulars are not available, the returns show that 206,047 tons of ice, valued at £435,896, were manufactured in Australia in 1922-23.

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.

13. Biscuit Factories.—The following table gives particulars regarding establishments at which the manufacture of biscuits, cakes, etc., was carried on in each State during the year 1922-23 :—

BISCUIT, ETC., FACTORIES, 1922-23.

Items.	N.S.W. 1922-23.	Victoria. 1922-23.	Q'land. 1922.	S. Aust. 1922-23.	W. Aust. 1922.	Tas. 1922.	Aus- tralia.
Number of factories	11	8	21	3	14	3	60
Number of employees	1,993	1,364	569	183	273	137	4,519
Actual horse-power of engines employed	1,224	515	292	122	149	53	2,355
Approximate value of land and buildings £	192,860	105,095	85,237	31,138	30,326	23,300	466,956
Approximate value of plant and machinery £	118,508	96,920	51,179	14,810	18,374	9,800	309,591
Total amount of wages paid dur- ing year £	227,285	191,112	108,076	19,933	40,901	16,155	606,462
Value of fuel used £	25,908	22,244	5,018	2,963	4,754	1,358	62,245
Value of raw material worked up ..	763,206	662,725	195,023	60,510	127,861	46,594	1,855,919
Total value of output £	1,348,555	1,079,128	411,099	102,050	200,438	73,247	3,215,417
Value added in process of manu- facture £	535,349	416,403	216,076	42,440	72,577	26,653	1,359,498

14. Jam and Fruit Preserving, Pickles, Sauces, and Vinegar Factories.—(i) *Details for each State, 1922-23.* The subjoined table gives particulars of factories at which these industries were carried on in each State during the year 1922-23. Separate returns for the different branches of the industry are not available for most of the States.

JAM AND FRUIT PRESERVING, PICKLES, ETC., FACTORIES, 1922-23.

Items.	N.S.W. 1922-23.	Victoria. 1922-23.	Q'land. 1922.	S. Aust. 1922-23.	W. Aust. 1922.	Tas. 1922.	Aus- tralia.
Number of factories	46	47	19	20	13	25	170
Number of employees	1,785	2,200	417	549	124	908	5,983
Actual horse-power of engines employed	795	1,330	294	248	80	951	3,698
Approximate value of land and buildings £	343,710	217,905	78,776	101,356	15,966	137,800	895,513
Approximate value of plant and machinery £	214,960	173,915	65,012	73,751	13,023	66,055	606,716
Total amount of wages paid dur- ing year £	210,946	327,708	49,436	66,775	14,261	112,303	781,429
Value of fuel used £	14,262	22,779	4,230	6,111	1,292	8,044	56,718
Value of raw material worked up ..	890,546	986,127	152,078	255,825	57,118	353,662	2,704,356
Total value of output £	1,618,206	1,660,783	283,505	392,246	75,582	513,894	4,549,216
Value added in process of manu- facture £	718,660	674,656	131,427	136,421	18,464	165,232	1,844,860

(ii) *Development in Australia, 1918-19 to 1922-23.* 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,
1918-19 TO 1922-23.

Items.	1918-19.	1919-20.	1920-21.	1921-22.	1922-23.
Number of factories	143	152	154	164	170
Number of employees	6,174	6,974	6,243	5,958	5,983
Actual horse-power of engines employed ..	1,945	2,526	2,996	3,257	3,698
Approx. value of land and buildings .. £	528,572	576,302	760,855	830,484	895,513
Approx. value of plant and machinery ..	284,085	348,549	516,348	556,801	606,716
Total amount of wages paid £	570,291	731,473	749,980	685,017	781,429
Value of fuel used £	44,477	57,848	58,737	48,987	56,718
Value of raw material worked up £	3,326,546	3,757,611	3,465,562	2,541,268	2,704,356
Total value of output £	4,663,026	5,487,960	5,262,608	3,975,779	4,549,216
Value added in process of manufacture ..	1,336,480	1,730,349	1,797,046	1,434,511	1,844,860

The progress of the jam industry was very marked during the war years, when an important export trade was built up. During the past four years, however, the exports have declined to insignificant proportions, and the production of jams and jellies fell from 135,737,756 lbs. in 1918-19 to 66,971,456 lbs. in 1922-23. The output of preserved fruit and sauce has, however, increased during the same period.

(iii) *Production.* The following table shows the quantity and value of jams, pickles, and sauces manufactured in each State during 1922-23 :—

JAMS, PRESERVED FRUIT, PICKLES AND SAUCES.—OUTPUT, 1922-23.

Particulars.	N.S.W. 1922-23.	Victoria. 1922-23.	Q'land. 1922.	S. Aust. 1922-23.	W. Aust. 1922.	Tasmania. 1922.	Aus- tralia.
QUANTITY (,000 OMITTED).							
Jams lbs.	23,259	23,180	4,034	7,101	371	9,026	66,971
Pulp "	834	12,837	41	2,726	..	10,834	27,272
Fruit, preserved "	10,886	24,770	5,129	3,134	..	521	44,440
Pickles pints	2,152	2,107	478	266	122	10	5,135
Sauces "	7,357	8,439	899	2,414	177	25	19,311
VALUE.							
Jams £	781,785	779,147	138,001	181,080	10,989	263,068	2,154,070
Pulp £	4,004	231,923	296	17,246	..	195,735	449,204
Fruit, preserved £	278,506	633,680	86,341	62,046	..	13,389	1,073,962
Pickles £	77,067	75,466	17,105	11,501	4,310	500	185,949
Sauces £	242,399	278,055	18,326	88,343	5,673	850	633,646

15. Confectionery Factories.—(i) *Details for each State, 1922-23.* 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 1922-23 are given hereunder :—

CONFECTIONERY FACTORIES, 1922-23.

Items.	N.S.W. 1922-23.	Victoria. 1922-23.	Q'land. 1922.	S. Aust. 1922-23.	W. Aust. 1922.	Tas. 1922.	Aus- tralia.
Number of factories	97	116	10	20	6	9	258
Number of employees	2,782	3,442	610	534	266	311	7,945
Actual horse-power of engines employed	1,729	3,435	206	393	277	394	6,434
Approximate value of land and buildings £	773,057	424,475	66,914	68,909	43,249	216,742	1,593,346
Approximate value of plant and machinery £	704,611	711,445	28,091	68,093	48,368	186,130	1,746,738
Total amount of wages paid during year £	414,893	530,550	74,254	56,184	33,960	50,139	1,159,980
Value of fuel used £	36,461	63,612	2,673	6,649	2,478	3,074	114,947
Value of raw material worked up £	1,487,961	1,386,511	112,693	175,963	99,462	73,759	3,336,349
Total value of output £	2,682,667	2,454,519	261,625	307,339	144,529	91,012	5,941,691
Value added in process of manufacture £	1,194,706	1,068,008	148,932	131,376	45,067	17,253	2,605,342

(ii) *Development in Australia, 1918-19 to 1922-23.* The growth of the confectionery industry during the past four years is exhibited in the following table :—

CONFECTIONERY FACTORIES.—AUSTRALIA, 1918-19 TO 1922-23.

Items.	1918-19.	1919-20.	1920-21.	1921-22.	1922-23.
Number of factories	156	181	200	223	258
Number of employees	6,710	7,323	7,137	7,399	7,945
Actual horse-power of engines employed	3,503	4,067	4,862	5,313	6,434
Approx. value of land and buildings £	775,670	878,305	1,041,380	1,185,539	1,593,346
Approx. value of plant and machinery £	562,475	664,452	1,278,882	1,419,984	1,746,738
Total amount of wages paid during year £	654,818	755,238	937,536	1,046,797	1,159,980
Value of fuel used £	74,995	75,084	93,975	105,479	114,947
Value of raw material worked up £	2,354,062	2,897,859	3,421,474	3,220,680	3,336,349
Total value of output £	3,597,143	4,559,437	5,410,985	5,597,920	5,941,691
Value added in process of manufacture £	1,242,186	1,661,578	1,998,511	2,377,240	2,605,342

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 7,945 persons in 1922-23, and the value of the output amounted to £5,941,691, or more than 65 per cent. greater than the value of the production in 1918-19. The Australian market has been captured, and an export trade has been built up.

16. *Flour Mills.*—(i) *Details for States, 1922-23.* The following table shows the position of the flour-milling industry in each State in 1922-23 :—

FLOUR MILLS, 1922-23.

Items.	N.S.W. 1922-23.	Victoria. 1922-23.	Q'land. 1922. a	S. Aust. 1922-23. a	W. Aust. 1922. a	Tas. 1922.	Australia.
Number of factories ..	60	47	11	39	17	10	184
Number of employees ..	1,146	1,089	273	598	386	134	3,626
Actual horse-power of engines employed ..	6,724	5,593	1,141	3,185	2,788	444	19,875
Approximate value of land and buildings .. £	591,180	287,750	83,038	148,505	158,628	23,000	1,292,101
Approximate value of plant and machinery .. £	752,301	418,985	105,131	211,225	159,967	27,705	1,675,314
Total amount of wages paid during year .. £	281,317	244,436	64,251	118,566	77,525	21,896	807,991
Value of fuel used .. £	64,615	53,518	8,436	26,348	18,093	2,459	173,469
Value of raw material worked up .. £	4,634,882	4,476,424	768,002	1,389,166	1,167,135	403,318	12,838,727
Total value of output .. £	5,412,427	5,415,067	922,870	1,688,444	1,442,662	442,187	15,323,657
Value added in process of manufacture .. £	777,745	938,643	154,868	299,278	275,527	38,869	2,484,930

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

(ii) *Production of Flour and By-products, 1918-19 to 1922-23.* The production of flour by the mills in each State for the years 1918-19 to 1922-23 was as follows :—

FLOUR MILLS.—PRODUCTION OF FLOUR, 1918-19 TO 1922-23.

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
1918-19 ..	377,107	347,841	45,589	138,734	119,876	17,121	1,046,268
1919-20 ..	348,691	353,683	49,300	134,727	141,516	22,311	1,050,228
1920-21 ..	244,818	260,032	54,383	98,557	120,125	23,596	801,511
1921-22 ..	336,572	308,532	54,694	108,893	82,148	20,613	911,452
1922-23 ..	354,704	352,002	51,476	103,761	94,316	23,220	985,479

(a) Tons of 2,000 lbs.

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

The total production of flour in Australia for the last year, viz., 985,479 tons, was valued at £11,820,800. In addition, 402,336 tons of bran and pollard, valued at £3,290,892, were made. The total quantity of wheat ground was 47,035,086 bushels.

17. *Sugar Mills.*—(i) *Details for 1922-23.* The following table shows the position of the cane-crushing branch of the sugar-making industry in Queensland and New South Wales in 1922-23. 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, 1922-23.

Items.	N.S.W. 1922-23.	Queensland. 1922.	Australia.
Number of factories	3	38	41
Number of employees	446	5,589	6,035
Actual horse-power of engines employed	1,921	29,978	31,899
Approximate value of land and buildings	£ 108,672	506,389	615,061
Approximate value of plant and machinery	£ 434,688	3,889,331	4,324,019
Total amount of wages paid during year	£ 68,980	1,081,020	1,150,000
Value of fuel used	£ 10,223	147,452	157,675
Value of raw material worked up	£ 366,600	5,883,478	6,250,078
Total value of output	£ 563,562	8,720,056	9,283,618
Value added in course of manufacture	£ 196,962	2,836,578	3,033,540

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 1918-19 :—

SUGAR MILLS.—NEW SOUTH WALES, 1918-19 TO 1922-23.

Items.	1918-19.	1919-20.	1920-21.	1921-22.	1922-23.
Number of factories ..	3	3	3	3	3
Number of employees ..	432	419	437	428	446
Cane crushed .. tons	105,234	91,321	131,313	149,474	147,992
Sugar produced .. tons	12,278	10,837	15,124	17,806	18,580
Molasses produced .. gals.	586,925	494,600	649,800	940,700	816,720

The number of New South Wales mills 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. On the north coast of New South Wales some land formerly devoted to sugar-cane has been turned into pasture in connexion with the dairying industry, but a revival in cane-growing in this district has led to a movement for the erection of additional mills to treat the increased production.

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

SUGAR MILLS.—QUEENSLAND, 1911 TO 1922.

Items.	1911.	1919.	1920.	1921.	1922.
Number of factories ..	49	32	34	43	38
Number of employees ..	4,295	4,098	4,851	6,091	5,589
Cane crushed .. tons	1,534,451	1,258,760	1,339,455	2,287,416	2,167,990
Sugar produced .. tons	173,296	162,136	167,401	282,198	287,785
Molasses—					
Sold to distillers and others .. gals.	2,393,669	916,291	985,951	2,738,795	1,774,224
Used as fodder .. gals.	789,564	1,517,167	1,381,041	2,053,338	1,916,393
Used as manure .. gals.	223,000	141,175	24,000	78,720	322,113
Run to waste or burnt a .. gals.	1,847,333	3,347,655	3,050,901	4,866,272	5,503,099
In Stock .. gals.	1,197,626	933,542	733,974	997,274	803,050
Total Molasses a .. gals.	6,451,192	6,855,830	6,175,867	10,734,399	10,318,879

(a) Quantity recorded; large quantities run to waste of which no record is kept.

18. **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 1922–23 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 returns for the individual States cannot be disclosed.

In the six refineries, an average number of 1,709 hands was employed during the year. The approximate value of land and buildings was £686,548, of plant and machinery, £1,344,548; and the total amount of wages paid during the year was £341,212. The value of all materials used in sugar refineries was £9,577,739, while the total output reached £11,802,413. The amount of crude sugar used was 286,154 tons, and of refined sugar produced 279,084 tons, valued at £11,720,674.

19. **Breweries.**—(i) *Details for each State, 1922–23.* The following table gives particulars concerning breweries in each State :—

BREWERIES, 1922–23.

Items.	N.S.W. 1922–23.	Vic. 1922–23.	Q'land. 1922.	S. Aust. 1922–23.	W. Aust. 1922.(a)	Tas. 1922.	Australia.
Number of breweries	16	14	9	8	10	4	61
Number of employees	1,230	1,091	498	381	447	127	3,774
Actual horse-power of engines employed	3,389	3,809	1,753	1,098	1,196	247	11,492
Approximate value of land and buildings	£ 744,460	435,135	180,799	104,590	183,887	61,450	1,710,321
Approximate value of plant and machinery	£ 925,979	630,425	202,959	154,462	176,209	50,620	2,140,654
Total amount of wages paid during year	£ 344,794	291,935	126,115	107,355	127,429	30,061	1,027,689
Value of fuel used	£ 74,708	61,049	18,338	18,328	17,493	4,408	194,324
Value of raw material worked up ..	£ 1,161,652	977,949	195,299	240,420	260,679	77,410	2,913,409
Total value of output	£ 2,559,523	2,322,814	683,991	510,442	543,236	252,676	6,872,682
Value added in process of manufacture	£ 1,397,871	1,344,865	488,692	270,022	282,557	175,266	3,959,273

(a) Includes malting.

(ii) *Development in Australia, 1918–19 to 1922–23.* The following table shows the progress of this industry during the past four years :—

BREWERIES.—AUSTRALIA, 1918–19 TO 1922–23.

Items.	1918–19.	1919–20.	1920–21.	1921–22.	1922–23.
Number of breweries	68	68	67	64	61
Number of employees	3,355	3,710	3,752	3,814	3,774
Actual horse-power of engines used ..	9,922	18,091	10,833	12,132	11,492
Approx. value of land and buildings ..	£ 1,692,220	1,109,813	1,619,027	1,676,471	1,710,321
Approx. value of plant and machinery ..	£ 1,654,600	1,243,272	1,882,956	1,993,699	2,140,654
Total amount of wages paid	£ 668,579	831,779	937,563	1,032,430	1,027,689
Value of fuel used	£ 128,650	160,609	195,135	214,803	194,324
Value of raw material worked up	£ 2,215,487	2,760,601	3,341,707	3,087,460	2,913,409
Value of final output	£ 5,184,649	6,631,409	6,991,770	6,798,223	6,872,682
Value added in process of manufacture ..	£ 2,960,162	3,870,808	3,650,063	3,710,763	3,959,273

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 amalgamations. The total value of output of breweries in Australia increased from £5,184,649 in 1918–19 to £6,872,682 in 1922–23, but the increase was mainly due to higher

prices, for the quantity of ale and stout brewed varies little from year to year, the respective totals for the years 1918-19 and 1922-23 being 64,821,400 and 66,491,395 gallons. The consumption of ale and stout per head of the population declined slightly in Australia during the past four years, and for 1922-23 the quantity consumed amounted to about 11½ gallons.

(iii) *Materials Used and Production.* The table below shows the quantity of raw materials used and the quantity and value of ale and stout brewed in each State during the year 1922-23.

BREWERIES.—MATERIALS USED AND PRODUCTION, 1922-23.

Particulars.	N.S.W. 1922-23.	Victoria. 1922-23.	Q'land. 1922.	S. Aust. 1922-23.	W. Aust. 1922.	Tasmania. 1922.	Australia.
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RAW MATERIALS USED.

Malt .. bushels	826,804	723,511	201,436	169,152	159,489	58,559	2,138,951
Hops .. lbs.	780,015	768,870	250,146	189,398	165,340	88,998	2,242,767
Sugar .. cwt.	101,975	110,051	32,147	26,669	24,511	5,791	301,144

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

Malt .. bushels	33.84	31.17	29.25	30.57	31.97	40.74	32.16
Hops .. lbs.	31.92	33.12	36.32	34.22	33.14	61.92	33.73
Sugar .. cwt.	4.17	4.74	4.67	4.82	4.91	4.03	4.53

ALE AND STOUT BREWED.

Quantity	gallons	24,432,133	23,212,004	6,887,772	5,534,112	4,988,140	1,437,234	66,491,395
Value(a)	£	2,529,750	2,322,814	684,132	506,888	532,543	252,231	6,828,358

(a) Exclusive of excise duty.

20. *Distilleries.*—The subjoined table gives particulars of distilleries in four States. There are no distilleries in Western Australia or Tasmania.

DISTILLERIES, 1922-23.

Items.	N.S.W. 1922-23.	Vic. 1922-23.	Q'land. 1922.	S. Aust. 1922-23.	Australia.
Number of distilleries	5	10	4	27	46
Number of employees	39	113	65	159	376
Actual horse-power of engines employed ..	199	326	185	521	1,231
Approx. value of land and buildings ..	£ 26,542	170,525	13,553	92,436	303,056
Approx. value of plant and machinery ..	£ 84,669	109,330	149,783	93,512	437,294
Total amount of wages paid during year ..	£ 10,568	24,957	16,371	21,466	73,362
Value of fuel used	£ 5,106	7,533	5,344	12,036	30,019
Value of raw materials worked up	£ 77,994	81,256	25,721	187,495	372,466
Total value of output	£ 119,704	140,345	66,094	263,695	589,838
Value added in process of manufacture ..	£ 41,710	59,089	40,373	76,200	217,372

The total quantity of spirit distilled during the year was 3,925,761 proof gallons, while the materials used comprised 530,472 cwt. of molasses, and 6,536,692 gallons of wine.

21. *Tobacco, etc., Factories.*—(i) *Details for each State, 1922-23.* During the year 1922-23 there were twenty-nine 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, 1922-23.

Items.	N.S.W. 1922-23.	Vic. 1922-23.	Q'land. 1922.	S.A. 1922-23.	W.A. 1922.	Tas. 1922.	Australia.
Number of factories	12	13	..	1	3	..	29
Number of employees	2,311	1,920	..	26	62	..	£ 4,319
Actual horse-power and engines employed	722	739	..	..	5	..	1,466
Approx. value of land and buildings £	299,913	186,040	..	a	a	..	6493,597
Approx. value of plant and machinery £	272,389	151,040	..	a	a	..	6427,825
Total amount of wages paid during year £	378,032	317,686	..	a	a	..	6734,070
Value of fuel used	14,369	6,053	..	a	a	..	620,612
Value of raw material worked up £	3,070,568	1,520,060	..	a	a	..	64,603,218
Total value of output	4,246,014	2,418,996	..	a	a	..	66,690,701
Value added in process of manufacture £	1,175,448	898,936	..	a	a	..	62,087,483

(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 lbs. 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 1922-23 comprised—manufactured tobacco 616,736 lbs., cigars 102,923 lbs., and cigarettes 220,622 lbs., while the quantities manufactured in Australian factories were respectively 14,636,184 lbs., 483,433 lbs., and 4,384,352 lbs. The following tables show the development of the tobacco manufacturing industry in Australia during recent years :—

TOBACCO, CIGAR, AND CIGARETTE FACTORIES.—AUSTRALIA,
1918-19 TO 1922-23.

Items.	1918-19.	1919-20.	1920-21.	1921-22.	1922-23.
Number of factories	37	37	40	36	29
Number of employees	3,908	4,480	4,525	4,340	4,319
Actual horse-power of engines used ..	948	1,144	1,186	1,203	1,466
Approx. value of land and buildings £	420,124	432,247	490,494	490,414	493,597
Approx. value of plant and machinery £	270,953	313,619	369,287	413,119	427,825
Total amount of wages paid	490,172	633,694	706,218	724,919	734,070
Value of fuel used	13,147	16,200	18,201	20,354	20,612
Value of raw material worked up ..	3,110,373	4,559,110	5,091,272	4,925,066	4,603,218
Value of final output	4,306,140	6,466,649	6,709,298	6,710,757	6,690,701
Value added in process of manufacture £	1,195,767	1,907,539	1,618,026	1,785,691	2,087,483

LEAF USED AND PRODUCTION.

Leaf used 1,000 lbs.	a13,351	16,137	16,636	16,867	17,104
Tobacco made	a10,991	13,158	13,268	14,216	14,636
Cigars	a441	552	544	508	483
Cigarettes	a3,726	4,837	5,324	4,907	4,384

(a) Incomplete.

Though 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. The respective quantities of Australian and imported leaf used during 1922-23 were 1,250,028 and 15,853,910 lbs.

22. *Woollen, Cotton, and Tweed Mills.*—(i) *Details for each State, 1922-23.* 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. There are no woollen mills in Western Australia. The following table, which gives particulars for 1922-23 shows that the industry is now well established :—

WOOLLEN, COTTON, AND TWEED MILLS, 1922-23.

Items.	N.S.W. 1922-23.	Victoria. 1922-23.	Q'land. 1922.	S. Aust. 1922-23.	W.A. 1922.	Tas. 1922.	Australia.
Number of factories	9	23	2	2	..	4	40
Number of employees	1,536	4,601	307	210	..	274	6,928
Actual horse-power of engines employed	2,422	9,072	134	289	..	430	12,347
Approx. value of land and buildings £	306,624	742,470	a	a	..	32,300	1,131,396b
Approx. value of plant and machinery	£ 488,187	1,754,525	a	a	..	78,600	2,428,133b
Total amount of wages paid during year	£ 234,636	657,367	a	a	..	30,469	991,801b
Value of fuel used	£ 26,769	90,034	a	a	..	2,146	127,573b
Value of raw material worked up	£ 508,205	1,824,362	a	a	..	58,071	2,511,204b
Total value of output	£ 1,068,073	3,264,025	a	a	..	131,913	4,712,964b
Value added in process of manufacture	£ 559,868	1,439,663	a	a	..	73,842	2,201,760b

(a) Information not available for publication.

(b) Including Queensland and South Australia.

(ii) *Development in Australia, 1918-19 to 1922-23.* The progress of woollen and tweed milling in Australia during the last four years is shown in the following table :—

WOOLLEN, COTTON, AND TWEED MILLS.—AUSTRALIA, 1918-19 TO 1922-23.

Items.	1918-19.	1919-20.	1920-21.	1921-22.	1922-23.
Number of factories	25	29	34	36	40
Number of employees	4,087	5,029	5,783	6,101	6,928
Actual horse-power of engines used	7,212	8,705	9,617	11,630	12,347
Approx. value of land and buildings	£ 434,735	626,822	751,858	940,578	1,131,396
Approx. value of plant and machinery	£ 721,418	1,192,913	1,378,903	1,849,919	2,428,133
Total amount of wages paid	£ 398,641	560,149	762,131	842,683	991,801
Value of fuel used	£ 50,818	75,722	93,691	109,514	127,573
Value of raw material worked up	£ 1,249,094	1,865,477	2,060,892	1,940,050	2,511,204
Value of final output	£ 2,330,253	3,290,511	4,241,964	4,096,808	4,712,964
Value added in process of manufacture	£ 1,081,159	1,425,034	2,151,072	2,156,758	2,201,760

(iii) *Quantity and Value of Production.* The production consists chiefly of tweed cloths, flannels, and blankets, 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 1922-23 was 5,043,494 yards. In New South Wales 1,929,916 yards of tweed and cloth, and in Victoria 1,714,460 yards were manufactured. The production of flannel amounted to 7,828,943 yards, while blankets, shawls, and rugs to the number of 1,028,981 were manufactured.

In addition to the woollen* and tweed factories there were 240 hosiery and knitting mills operating throughout Australia during 1922-23. These establishments provided employment for 7,475 persons, of whom 6,279 were females, and the value of their output amounted to £3,731,062.

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.

23. **Boot Factories.**—(i) *Details for each State, 1922-23.* Among the manufacturing of Australia the boot and shoe industry holds an important place in regard to employment afforded and extent of output. The following table gives particulars of this industry for each State during 1922-23 :—

BOOT AND SHOE FACTORIES, 1922-23.

Items.	N.S.W. 1922-23.	Vic. 1922-23.	Q'land. 1922.	S. Aust. 1922-23.	W. Aust. 1922.	Tas. 1922.	Australia.
Number of factories	387	371	36	63	25	14	896
Number of employees	5,982	12,434	1,443	941	419	288	21,487
Actual horse-power of engines employed	1,939	2,994	345	327	152	80	5,837
Approx. value of land and buildings	£ 859,659	£ 874,435	(a)	(a)	62,162	18,598	1,975,873b
Approx. value of plant and machinery	£ 309,606	£ 464,120	(a)	(a)	17,014	10,089	881,298b
Total amount of wages paid during year	£ 944,241	£ 1,922,345	(a)	(a)	56,672	38,318	3,302,811b
Value of fuel used	£ 16,038	£ 34,131	(a)	(a)	1,122	439	56,636b
Value of raw material worked up	£ 1,590,321	£ 3,059,789	(a)	(a)	102,723	56,379	5,263,889b
Total value of output	£ 3,001,714	£ 6,157,132	(a)	(a)	183,849	120,533	10,486,294b
Value added in process of manufacture	£ 1,471,393	£ 3,097,363	(a)	(a)	81,126	64,154	5,222,405b

(a) Information not available for publication.

(b) Including Queensland and South Australia.

(ii) *Development in Australia, 1918-19 to 1922-23.* The progress of the industry in the last four years is shown in the following table :—

BOOT AND SHOE FACTORIES.—AUSTRALIA, 1918-19 TO 1922-23.

Items.	1918-19.	1919-20.	1920-21.	1921-22.	1922-23.
Number of factories	438	532	592	744	896
Number of employees	15,960	17,987	16,573	20,390	21,487
Actual horse-power of engines used	3,898	4,462	4,746	5,130	5,837
Approx. value of land and buildings	£ 849,759	£ 1,017,437	£ 1,258,361	£ 1,612,781	£ 1,975,873
Approx. value of plant and machinery	£ 475,883	£ 530,327	£ 617,721	£ 711,449	£ 881,298
Total amount of wages paid	£ 1,792,001	£ 2,232,746	£ 2,198,586	£ 3,050,125	£ 3,302,811
Value of fuel used	£ 31,852	£ 41,206	£ 41,077	£ 49,244	£ 56,636
Value of raw material worked up	£ 4,451,458	£ 6,661,483	£ 5,208,027	£ 5,291,027	£ 5,263,889
Value of final output	£ 7,120,164	£ 10,206,065	£ 8,895,411	£ 10,241,279	£ 10,486,294
Value added in process of manufacture	£ 2,668,706	£ 3,545,482	£ 3,686,784	£ 4,950,252	£ 5,222,405

The above table shows consistent progress in the manufacture of boots and shoes in Australia from 1918-19 to 1922-23. During this period the number of employees increased by 5,527, and the value of the final output rose from £7,120,164 to £10,486,294, while the increase in the number of boots and shoes made amounted to 2,020,942 pairs.

(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, 1922-23.

Particulars.	N.S.W. 1922-23.	Vic. 1922-23.	Q'land. 1922.	S. Aust. 1922-23.	W. Aust. 1922.	Tas. 1922.	Australia.
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QUANTITY (,000 OMITTED).

Boots and shoes .. pairs	3,810	7,592	862	576	315	198	13,353
Slippers pairs	424	851	21	32	1	3	1,332
Uppers(a) pairs	48	22	3	10	2	5	90

VALUE.

Boots and shoes .. £	2,564,583	5,110,143	576,481	328,673	154,608	111,214	8,845,702
Slippers £	76,327	153,490	5,935	8,527	373	1,319	245,971
Uppers(a) £	17,433	8,034	1,573	4,503	1,132	1,414	34,089

(a) Made for other than factory use.

24. Clothing (Tailoring and Slop) Factories.—(i) *Details for each State, 1922-23.*
The importance of this industry in the several States is shown in the following table :—

CLOTHING (TAILORING AND SLOP) FACTORIES, 1922-23.

Items.	N.S.W. 1922-23.	Victoria. 1922-23.	Q'land. 1922.	S. Aust. 1922-23.	W. Aust. 1922.	Tas. 1922.	Australia.
Number of factories ..	487	531	136	143	77	44	1,418
Number of employees ..	11,071	10,017	3,329	2,532	1,183	690	23,822
Actual horse-power of engines employed ..	698	541	162	123	66	27	1,617
Approximate value of land and buildings ..	£ 1,590,759	983,355	339,498	271,715	156,437	103,709	3,445,473
Approximate value of plant and machinery ..	£ 127,472	108,765	41,699	30,282	13,088	7,041	328,347
Total amount of wages paid during year ..	£ 1,366,364	1,178,820	347,290	265,465	139,931	72,388	3,370,258
Value of fuel used ..	£ 19,464	21,345	5,315	6,386	2,750	934	56,194
Value of raw material worked up ..	£ 2,039,854	2,132,059	603,339	379,204	255,739	111,301	5,521,496
Total value of output ..	£ 4,111,625	3,914,120	1,196,813	797,884	467,701	231,757	10,719,900
Value added in process of manufacture ..	£ 2,071,771	1,782,061	593,474	418,680	211,962	120,456	5,198,404

(ii) *Development in Australia, 1918-19 to 1922-23.* The development in the tailoring and slop branch of the clothing industry during the past four years, despite the high range of prices, may be accepted as an indication of the general prosperity of the community. The number of employees increased by 3,809, and the value of the output rose from £7,807,130 in 1918-19 to £10,719,900 in 1922-23. The number of persons engaged in the industry during 1922-23, however, was still 2,000 less than the highest point reached before the war. Details for the past five years are as follows :—

CLOTHING (TAILORING AND SLOP) FACTORIES.—AUSTRALIA,
1918-19 TO 1922-23.

Items.	1918-19.	1919-20.	1920-21.	1921-22.	1922-23.
Number of factories ..	1,206	1,219	1,272	1,379	1,418
Number of employees ..	25,013	26,190	25,803	27,616	23,822
Actual horse-power of engines used ..	1,313	1,287	1,408	1,386	1,617
Approx. value of land and buildings ..	£ 2,224,646	2,402,571	2,753,171	3,230,794	3,445,473
Approx. value of plant and machinery ..	£ 202,868	220,903	263,067	290,453	328,347
Total amount of wages paid ..	£ 2,007,826	2,556,112	2,859,971	3,189,402	3,370,258
Value of fuel used ..	£ 37,181	40,941	44,042	49,525	56,194
Value of raw material worked up ..	£ 4,451,166	5,566,172	6,020,891	5,978,992	5,521,496
Total value of output ..	£ 7,807,130	9,957,672	10,679,919	10,782,182	10,719,900
Value added in process of manufacture ..	£ 3,355,964	4,391,500	4,659,028	4,803,190	5,198,404

25. Dressmaking and Millinery Establishments.—(i) *Details for each State, 1922-23.*
Particulars of dressmaking and millinery establishments are given in the following table :—

DRESSMAKING AND MILLINERY ESTABLISHMENTS, 1922-23.

Items.	N.S.W. 1922-23.	Victoria. 1922-23.	Q'land. 1922.	S. Aust. 1922-23.	W. Aust. 1922.	Tas. 1922.	Australia.
Number of factories ..	228	505	49	43	70	27	922
Number of employees ..	3,859	9,152	1,136	995	744	327	16,213
Actual horse-power of engines employed ..	152	448	45	8	34	6	693
Approximate value of land and buildings ..	£ 630,912	893,740	57,030	63,330	78,643	9,210	1,732,865
Approximate value of plant and machinery ..	£ 32,080	94,930	9,654	4,750	7,657	1,171	150,242
Total amount of wages paid during year ..	£ 358,815	824,802	87,860	74,408	66,443	23,557	1,435,885
Value of fuel used ..	£ 3,400	12,154	972	786	654	286	13,252
Value of raw material worked up ..	£ 522,852	1,618,128	123,846	113,383	110,407	25,524	2,514,140
Total value of output ..	£ 1,099,326	3,000,713	246,101	223,654	189,005	56,642	4,815,441
Value added in process of manufacture ..	£ 576,474	1,382,585	122,255	110,271	78,598	31,118	2,301,901

(ii) *Development in Australia, 1918-19 to 1922-23.* 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,
1918-19 TO 1922-23.**

Items.	1918-19.	1919-20.	1920-21.	1921-22.	1922-23.
Number of factories	876	854	860	910	922
Number of employees	17,683	17,954	16,856	16,572	16,213
Actual horse-power of engines used ..	623	636	673	709	693
Approximate value of land and buildings ..	£ 1,159,550	£ 1,167,568	£ 1,392,998	£ 1,579,428	£ 1,732,865
Approximate value of plant and machinery ..	£ 116,093	£ 128,646	£ 150,475	£ 146,814	£ 150,242
Total amount of wages paid	£ 1,044,263	£ 1,237,811	£ 1,350,596	£ 1,467,066	£ 1,435,885
Value of fuel used	£ 14,125	£ 15,070	£ 15,864	£ 17,207	£ 18,252
Value of raw material worked up	£ 2,051,177	£ 2,685,382	£ 2,782,042	£ 2,695,834	£ 2,614,140
Value of final output	£ 3,634,695	£ 4,882,988	£ 4,961,519	£ 5,000,412	£ 4,815,441
Value added in process of manufacture ..	£ 1,583,518	£ 2,197,606	£ 2,169,477	£ 2,304,575	£ 2,301,301

Though the number of persons engaged in dressmaking and millinery establishments decreased by more than 1,400, the value of the output rose from £3,634,695 in 1918-19 to £4,815,441 in 1922-23, and notwithstanding price variations during the years quoted, the volume of output has also increased.

26. *Electrotyping, Stereotyping, Printing, and Binding Works.*—(i) *Details for each State, 1922-23.* Printing ranks high in importance among the industries of Australia. It affords employment for nearly 26,000 employees, and pays over £5,000,000 in salaries and wages. During 1922-23 the total value of the output amounted to £15,382,659.

The following table gives particulars of these industries in each State for the year 1922-23 :—

**ELECTROTYPING, STEREOTYPING, PRINTING, AND BINDING ESTABLISHMENTS,
1922-23.**

Items.	N.S.W. 1922-23.	Vic. 1922-23.	Q'land. 1922.	S. Aust. 1922-23.	W. Aust. 1922.	Tas. 1922.	Australia.
Number of factories	452	436	131	79	80	25	1,203
Number of employees	9,947	9,189	3,074	1,587	1,193	867	25,857
Actual horse-power of engines employed	6,052	5,320	1,531	1,115	922	322	15,262
Approximate value of land and buildings	£ 2,314,947	£ 1,548,990	£ 587,499	£ 332,005	£ 278,933	£ 72,294	£ 5,134,668
Approximate value of plant and machinery	£ 1,968,964	£ 1,649,260	£ 391,835	£ 244,766	£ 266,529	£ 92,015	£ 4,613,369
Total amount of wages paid during year	£ 2,032,918	£ 1,862,234	£ 578,686	£ 302,424	£ 255,005	£ 151,594	£ 5,182,861
Value of fuel used	£ 56,163	£ 48,621	£ 20,637	£ 10,824	£ 7,229	£ 3,415	£ 146,889
Value of raw materials worked up	£ 2,189,372	£ 2,254,202	£ 499,213	£ 342,153	£ 233,120	£ 140,934	£ 5,658,994
Total value of output	£ 6,053,467	£ 5,752,302	£ 1,632,957	£ 831,697	£ 725,505	£ 386,731	£ 15,382,659
Value added in process of manufacture	£ 3,864,095	£ 3,498,100	£ 1,133,744	£ 489,544	£ 492,385	£ 245,797	£ 9,723,665

(ii) *Development in Australia, 1918-19 to 1922-23.* The development of electrotyping, stereotyping, printing, and binding in Australia since 1918-19 is shown in the following table :—

**ELECTROTYPING, STEREOTYPING, PRINTING AND BINDING ESTABLISHMENTS.—
AUSTRALIA, 1918-19 TO 1922-23.**

Items.	1918-19.	1919-20.	1920-21.	1921-22.	1922-23.
Number of establishments	1,101	1,125	1,132	1,175	1,203
Number of employees	20,662	22,149	23,053	23,992	25,857
Actual horse-power of engines used	11,444	12,022	12,534	13,257	15,262
Approximate value of land and buildings ..	£ 3,474,345	£ 3,661,054	£ 3,976,321	£ 4,219,547	£ 5,134,668
Approximate value of plant and machinery ..	£ 2,722,729	£ 3,087,143	£ 3,392,044	£ 3,849,895	£ 4,613,369
Total amount of wages paid	£ 2,861,412	£ 3,327,409	£ 4,083,732	£ 4,557,165	£ 5,182,861
Value of fuel used	£ 94,257	£ 105,093	£ 126,657	£ 135,188	£ 146,889
Value of raw materials worked up	£ 4,386,620	£ 5,003,681	£ 6,526,081	£ 6,434,932	£ 5,658,994
Value of final output	£ 9,381,799	£ 10,906,244	£ 13,845,574	£ 14,408,689	£ 15,382,659
Value added in process of manufacture ..	£ 4,995,170	£ 5,902,563	£ 7,319,493	£ 7,073,757	£ 9,723,665

Since 1918-19 the expansion in this industry has necessitated the employment of 5,005 additional workers and 3,818 extra horse-power units, while the salaries bill increased by £2,321,449, and the value of the fuel by £52,632. The value of the final output increased by £6,000,860, or nearly 64 per cent.

27. Coach and Wagon Building Works.—This industry forms the principal branch of manufacture in Class XI. The particulars given in the subjoined table include establishments for the manufacture of wheels, spokes, etc.

COACH AND WAGON BUILDING WORKS, 1922-23.

Items.	N.S.W. 1922-23.	Vic. 1922-23.	Q'land. 1922.	S. Aust. 1922-23.	W. Aust. 1922.	Tas. 1922.	Australia.
Number of factories	196	305	61	80	55	24	721
Number of employees	1,654	2,696	450	626	398	212	6,036
Actual horse-power of engines employed	1,240	1,128	271	485	205	93	3,422
Approximate value of land and buildings £	311,147	336,305	69,963	97,800	71,646	29,878	916,739
Approximate value of plant and machinery £	109,004	104,975	23,958	31,548	20,327	6,733	296,545
Total amount of wages paid during year £	265,773	444,856	72,383	89,208	62,279	25,833	960,332
Value of fuel used £	12,846	15,451	1,498	6,750	4,279	1,515	42,339
Value of raw material worked up £	332,816	522,060	79,576	118,187	75,610	44,168	1,172,417
Total value of output £	754,402	1,210,539	192,088	267,656	171,607	93,295	2,689,587
Value added in process of manufacture £	421,586	688,479	112,512	149,469	95,997	49,127	1,517,170

28. 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, 1922-23.

Items.	N.S.W. 1922-23.	Vic. 1922-23.	Q'land. 1922.	S. Aust. 1922-23.	W. Aust. 1922.	Tas. 1922.	Australia.
Number of factories	250	310	87	53	43	19	762
Number of employees	3,477	3,334	1,155	950	510	327	9,753
Actual horse-power of engines employed	2,871	2,416	1,050	998	565	280	8,180
Approximate value of land and buildings £	645,440	535,845	147,999	100,403	96,790	26,976	1,553,453
Approximate value of plant and machinery £	183,704	123,980	59,620	37,584	28,280	11,359	444,527
Total amount of wages paid during year £	624,644	529,634	195,365	157,698	98,596	45,654	1,651,591
Value of fuel used £	16,057	14,925	5,587	4,376	2,298	973	44,216
Value of raw material used £	862,337	700,433	279,283	142,763	113,434	39,053	2,143,303
Total value of output £	1,754,813	1,531,609	574,518	378,165	246,865	107,535	4,593,805
Value added in process of manufacture £	892,476	831,176	295,235	229,702	133,431	68,482	2,450,502

29. Electric Light and Power Works.—Particulars of the electric light and power works of Australia are given in the subjoined table. In 1918-19 there were 266 establishments employing 3,557 hands, whose salaries and wages amounted to £640,017; in 1922-23 the figures had increased to 278 establishments, 4,698 hands, salaries and wages £1,211,243, while the production of electric light and power rose during the four years from 487,290,730 to 792,913,314 British units. The figures relating to the amount of electric light and power produced are, except for small quantities, exclusive of electricity generated by the Victorian Railway Commissioners. The amount so produced in 1922-23 was 221,775,000 units, of which only 30,000,000 units are included above.

ELECTRIC LIGHT AND POWER WORKS, 1922-23.

Items.	N.S.W. 1922-23.	Vic. 1922-23.	Q'land. 1922.	S. Aust. 1922-23.	W. Aust. 1922.	Tas. 1922.	Australia.
Number of factories	121	88	16	12	27	14	278
Number of employees	1,532	1,451	508	781	222	204	4,698
Actual horse-power of engines employed	139,604	72,106	25,327	26,361	27,308	36,303	327,009
Approximate value of land and buildings £	1,715,678	593,295	103,955	207,779	163,456	11,234	2,795,397
Approximate value of plant and machinery £	3,805,953	4,042,910	711,423	798,388	473,573	785,247	10,677,494
Total amount of wages paid during year £	408,723	377,048	125,036	196,424	55,175	48,837	1,211,243
Value of fuel used £	845,724	398,393	73,631	176,759	123,082	7,319	1,624,908
Total value of output £	2,745,831	1,614,139	408,562	520,266	284,475	193,179	5,766,452

30. Gas and Coke Works.—(i) *Details for each State, 1922-23.* Gas works are in operation in nearly all the chief towns in Australia. In New South Wales there are fourteen 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 1922-23 :—

GAS AND COKE WORKS, 1922-23.

Items.	N.S.W. 1922-23.	Vic. 1922-23.	Q'land. 1922.	S. Aust. 1922-23.	W. Aust. 1922.	Tas. 1922.	Australia.
Number of factories	62	47	18	6	4	3	140
Number of employees	2,580	2,457	592	548	70	298	6,545
Actual horse-power of engines employed	6,649	2,047	555	1,051	72	4,041	14,415
Approximate value of land and buildings £	1,013,849	502,725	191,447	a	30,591	a	61,827,274
Approximate value of plant and machinery £	3,408,148	1,507,050	1,076,698	a	66,304	a	66,850,840
Total amount of wages paid during year £	497,231	642,262	140,878	a	18,622	a	61,488,394
Value of fuel used £	145,583	5,899	9,375	a	6,463	a	6 215,899
Value of raw material used £	1,387,133	891,286	138,623	a	33,860	a	62,680,898
Total value of output £	3,025,011	1,955,124	465,477	a	79,852	a	66,221,672
Value added in process of manu- facture £	1,637,878	1,063,838	326,854	a	45,992	a	63,540,774

(a) Information not available for publication. (b) Including South Australia and Tasmania.

(ii) *Coal Used and Production, 1922-23.* The following table shows the quantity and value of the production of gas and coke works in each State during the year 1922-23 :—

GAS AND COKE WORKS.—COAL USED AND PRODUCTION, 1922-23.

Particulars.	N.S.W. 1922-23.	Victoria. 1922-23.	Q'land. 1922.	S. Aust. 1922-23.	W. Aust. 1922.	Tas. 1922.	Australia.
COAL USED.							
Coal tons	1,146,005	402,537	97,456	a	11,764	a	61,752,632
PRODUCTS.							
Gas .. 1,000 cubic feet	8,932,941	5,443,993	1,215,052	a	182,380	a	617,005,977
Coke tons	725,363	260,526	54,229	a	5,719	a	6 1,104,639
VALUE.							
Gas £	1,795,349	1,498,328	364,500	a	64,179	a	64,160,591
Coke £	851,472	260,526	48,654	a	9,364	a	61,273,432

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

In order to cope with the general expansion, the production of gas increased from 15,653,815 cubic feet in 1918-19 to 17,005,977 cubic feet in 1922-23. Owing to the suspension of activities at the Newcastle Steel Works the output of coke in coke works declined during 1922-23.