

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 to 1921-22.**—The following table gives the number of factories in each State for the years 1918 to 1921-22 :—

FACTORIES.—NUMBER IN EACH STATE, 1918 TO 1921-22.

Year.(a)	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tasmania.	Australia.
1918 ..	5,414	5,627	1,778	1,285	764	553	15,421
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

(a) See general note above.

3. **Classification of Factories, Australia, 1918 to 1921-22.**—The following table shows the number of factories in Australia for each year from 1918 to 1921-22, 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 TO 1921-22.

Class of Industry.	1918.	1918-19.	1919-20.	1920-21.	1921-22.
	(a)	(a)	(a)	(a)	(a)
I. Treating raw material, product of agricultural and pastoral pursuits, etc.	No. 798	No. 789	No. 799	No. 772	No. 762
II. Treating oils and fats, animal, vegetable, etc.	90	88	92	92	99
III. Processes in stone, clay, glass, etc.	616	643	670	707	736
IV. Working in wood	1,713	1,762	1,912	2,053	2,103
V. Metal Works, machinery, etc.	1,836	1,872	1,974	2,133	2,181
VI. Connected with food and drink, etc.	2,402	2,420	2,427	2,458	2,539
VII. Clothing and textile fabrics, etc.	3,177	3,155	3,311	3,499	3,893
VIII. Books, paper, printing and engraving	1,256	1,220	1,247	1,259	1,313
IX. Musical instruments, etc.	27	31	37	43	45
X. Arms and explosives	13	17	17	17	17
XI. Vehicles and fittings, saddlery and harness, etc.	1,423	1,449	1,514	1,634	1,776
XII. Ship and boat building and repairing	75	76	80	79	81
XIII. Furniture, bedding, and upholstery	722	743	817	916	927
XIV. Drugs, chemicals, and by-products	260	273	293	305	313
XV. Surgical and other scientific instruments	67	72	71	73	77
XVI. Jewellery, timepieces, and plated ware	187	164	215	233	247
XVII. Heat, light, and power	489	505	515	529	563
XVIII. Leatherware, n.e.l.	81	83	93	101	115
XIX. Minor wares, n.e.l.	184	106	207	215	234
Total	15,421	15,588	16,291	17,113	18,023

(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, but the expansion has been more marked during the past two years, when the annual additions amounted to 822 and 910 new establishments respectively. 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, 1921-22.—The following table shows the number of factories in each State during 1921-22, classified according to the nature of the industry :—

FACTORIES.—CLASSIFICATION, STATES, 1921-22.

Class of Industry.	N.S.W. 1921-22.	Vic. 1921-22.	Q'land. 1921.	S. Aust. 1921-22.	W. Aust. 1921.	Tas. 1921.	Aus.
I. Treating raw material, product of agricul. & pastoral pursuits, etc.	235	293	43	100	43	48	762
II. Treating oils and fats, animal, vegetable, etc.	39	28	11	11	7	3	99
III. Processes in stone, clay, glass, etc.	312	215	43	98	48	20	736
IV. Working in wood	792	587	311	91	147	175	2,103
V. Metal works, machinery, etc.	751	902	213	189	81	45	2,181
VI. Connected with food & drink, etc.	838	708	458	242	175	118	2,539
VII. Clothing and textile fabrics, etc.	1,305	1,818	254	268	149	99	3,893
VIII. Books, paper, printing & engraving	499	490	141	88	80	25	1,313
IX. Musical instruments, etc.	27	15	..	3	..	..	45
X. Arms and explosives	4	11	..	2	..	..	17
XI. Vehicles and fittings, saddlery and harness, etc.	571	726	146	160	103	72	1,778
XII. Ship and boat building & repairing	38	71	16	10	6	6	81
XIII. Furniture, bedding and upholstery	318	366	95	69	51	28	927
XIV. Drugs, chemicals, and by-products	136	124	3	17	22	11	313
XV. Surgical and other scientific instruments	16	37	11	6	7	..	77
XVI. Jewellery, timepieces & plated ware	80	109	17	21	10	10	247
XVII. Heat, light, and power	244	197	32	32	39	19	563
XVIII. Leatherware, n.e.i.	44	60	6	4	(a)	1	115
XIX. Minor wares, n.e.i.	107	66	16	21	(b) 18	6	234
Total	6,356	6,753	1,810	1,432	986	686	18,023

(a) included in Class XIX.

(b) Includes Class XVIII.

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

1. States, 1921-22.—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 1921-22 :—

FACTORIES.—CLASSIFICATION ACCORDING TO NUMBER OF EMPLOYEES, 1921-22.

No. of Persons Employed in each Factory.	N.S.W. 1921-22.	Victoria. 1921-22.	Q'land. 1921.	S. Aust. 1921-22.	W. Aust. 1921.	Tasmania. 1921.	Australia.
NUMBER OF FACTORIES.							
Under 4 ..	1,247	1,349	306	187	232	126	3,447
4 ..	572	675	188	138	114	96	1,783
5 to 10 ..	2,018	2,246	587	534	309	264	5,958
11 to 20 ..	1,121	1,098	321	258	149	76	3,023
21 to 50 ..	888	887	244	196	113	90	2,418
51 to 100 ..	270	273	66	74	39	23	745
Over 100 ..	240	225	98	45	30	11	649
Total ..	6,356	6,753	1,810	1,432	986	686	18,023

CLASSIFICATION OF FACTORIES ACCORDING TO NUMBER OF EMPLOYEES. 837

FACTORIES.—CLASSIFICATION ACCORDING TO NUMBER OF EMPLOYEES. 1921-22—continued.

No. of Persons Employed in each Factory.	N.S.W. 1921-22.	Victoria. 1921-22.	Q'land. 1921.	S. Aust. 1921-22.	W. Aust. 1921-22.	Tasmania. 1921.	Australia.
Under 4 ..	2,747	3,060	671	462	495	272	7,707
4 ..	2,288	2,700	752	552	456	384	7,132
5 to 10 ..	14,086	15,542	4,114	3,738	2,163	1,824	41,467
11 to 20 ..	16,251	16,035	4,736	3,770	2,158	1,045	43,995
21 to 50 ..	27,978	28,071	7,550	6,293	3,558	2,745	76,195
51 to 100 ..	18,758	18,744	4,668	5,240	2,526	1,561	51,497
Over 100 ..	66,768	60,724	19,757	11,116	6,771	2,296	167,432
Total ..	148,876	144,876	42,248	31,171	18,127	10,127	395,425

AVERAGE NUMBER OF HANDS EMPLOYED.

Under 4 ..	2,747	3,060	671	462	495	272	7,707
4 ..	2,288	2,700	752	552	456	384	7,132
5 to 10 ..	14,086	15,542	4,114	3,738	2,163	1,824	41,467
11 to 20 ..	16,251	16,035	4,736	3,770	2,158	1,045	43,995
21 to 50 ..	27,978	28,071	7,550	6,293	3,558	2,745	76,195
51 to 100 ..	18,758	18,744	4,668	5,240	2,526	1,561	51,497
Over 100 ..	66,768	60,724	19,757	11,116	6,771	2,296	167,432
Total ..	148,876	144,876	42,248	31,171	18,127	10,127	395,425

2. Australia, 1918 to 1921-22.—The following table shows that the proportionate number of hands employed in the larger establishments tends to increase, and that of the smaller factories to diminish. During the period under review, the ratio of hands in factories employing under 21 hands to total number of employees in all factories declined from 26.04 per cent. in 1918 to 25.37 in 1921-22. The larger establishments with 101 hands and upwards during the same period exhibited an increase from 40.80 to 42.34 per cent. of total employed. The average number of hands per establishment for all factories in 1918 was 21.27, and in 1921-22, 21.94.

FACTORIES.—CLASSIFICATION ACCORDING TO NUMBER OF EMPLOYEES. AUSTRALIA, 1918 TO 1921-22.

Year.(a)	Establishments Employing on the Average—							
	20 hands and under.		21 to 100 hands.		101 hands and upwards.		Total.	
	Es- tablish- ments.	Hands.	Es- tablish- ments.	Hands.	Es- tablish- ments.	Hands.	Es- tablish- ments.	Hands.
1918—								
Number ..	12,240	35,425	2,635	108,782	546	133,842	15,421	328,049
Average per establishment ..		6.08		41.28		245.13		21.27
Percentage on total ..	79.37	26.04	17.09	33.16	3.54	40.80	100.00	100.00
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	165,953	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	100,301	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

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

§ 3: Power used in Factories.

1. States, 1921-22.—The following table shows the number of factories using steam, gas, oil, electricity, or water, and the horse-power of engines or motors during 1921-22 :—

FACTORIES.—HORSE-POWER OF ENGINES USED, 1921-22.

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., 1921-22	5,470	886	6,356	201,806	13,211	2,365	122,352	50	339,784
Vict., 1921-22 ..	5,440	1,313	6,753	106,882	19,327	3,009	62,663	..	191,881
Q'land., 1921 ..	1,426	384	1,810	72,357	9,124	1,325	20,424	200	103,430
S. Aust., 1921-22	1,132	300	1,432	37,037	10,163	2,567	12,054	198	62,019
W. Aust., 1921 ..	182	163	345	37,387	5,668	870	10,495	..	54,420
Tas., 1921 ..	568	118	686	4,789	384	227	21,391	19,768	46,559
Australia ..	14,859	3,164	18,023	460,258	57,877	10,363	249,379	20,216	798,093

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 1921-22 using steam, gas, oil, electricity, or water was 14,859, or 82.44 per cent. of the total; 3,164 establishments, representing 17.56 per cent., used no mechanical power. The total actual horse-power in use was 798,093, distributed in the following proportions :—Steam, 57.67 per cent. ; gas, 7.25 per cent. ; oil, 1.30 per cent. ; electricity, 31.25 per cent. ; and water, 2.53 per cent.

2. Australia, 1918 to 1921-22.—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 TO 1921-22.

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 ..	12,250	3,171	15,421	384,794	56,137	8,576	148,732	12,087	610,326
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

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

From this table it appears that the number of manufacturing establishments using power rose from 12,250 in 1918 to 14,859 in 1921-22, an increase of 2,609, or 21.30 per cent. During the same period the number not using power fell from 3,171 to 3,164, a decrease of 7, or 0.22 per cent. The corresponding increase in the actual horse-power of engines used was 187,767, or 30.77 per cent.

3. Classes of Industry, States, 1921-22.—The following table gives a classification of the actual horse-power of engines used in factories of different descriptions in each State during 1921-22 :—

FACTORIES.—HORSE-POWER OF ENGINES USED IN EACH CLASS, 1921-22.

Class of Industry.	N.S.W. 1921-22.	Victoria. 1921-22.	Q'land. 1921.	S. Aust. 1921-22.	W. Aust. 1921.	Tas. 1921.	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. . . .	9,176	9,186	1,729	2,134	704	510	23,439
II. Treating oils and fats, animal, vegetable, etc. . . .	1,816	654	188	238	123	43	3,062
III. Processes in stone, clay, glass, etc. . . .	23,707	8,543	1,640	4,052	2,512	487	41,031
IV. Working in wood	19,491	15,031	10,109	2,510	8,701	2,835	58,677
V. Metal works, machinery, etc. . . .	77,661	19,172	10,717	9,426	3,977	14,737	135,690
VI. Connected with food and drink, etc. . . .	35,827	34,655	48,189	9,251	6,576	2,275	136,773
VII. Clothing and textile fabrics, etc. . . .	8,607	16,047	1,934	1,055	351	457	28,451
VIII. Books, paper, printing, and engraving	9,978	7,611	1,644	1,190	716	253	21,392
IX. Musical instruments, etc. . . .	333	241	..	16	..	..	590
X. Arms and explosives	775	912	..	4	..	..	1,691
XI. Vehicles and fittings, saddlery and harness, etc. . . .	2,680	2,099	583	1,073	338	217	6,990
XII. Ship and boat building and repairing	9,416	1,703	125	546	51	38	11,879
XIII. Furniture, bedding, and upholstery	3,032	2,668	1,162	1,173	598	290	8,923
XIV. Drugs, chemicals, and by-products	3,386	4,081	24	2,691	1,132	72	11,386
XV. Surgical and other scientific instruments	82	56	11	14	16	..	179
XVI. Jewellery, timepieces, and plated ware	361	428	35	87	23	11	945
XVII. Heat, light, and power	131,748	61,324	25,231	26,288	28,484	24,304	297,409
XVIII. Leatherware, n.e.i. . . .	209	418	20	3	(a)	1	651
XIX. Minor wares, n.e.i. . . .	1,409	7,052	59	268	(b) 118	29	8,935
Total	339,784	191,881	103,430	62,019	54,420	46,559	798,093

(a) Included with Class XIX.

(b) Includes Class XVIII.

4. Classes of Industry, Australia, 1918 to 1921-22.—The following table shows a similar classification of the actual horse-power of engines used in manufacturing industries in Australia during the years 1918 to 1921-22 inclusive :—

FACTORIES.—HORSE-POWER OF ENGINES USED, AUSTRALIA, 1918 TO 1921-22.

Class of Industry.	1918.	1918-19. (a)	1919-20. (a)	1920-21. (a)	1921-22. (a)
I. Treating raw material, product of agricultural and pastoral pursuits, etc. . . .	17,842	18,832	21,005	22,475	23,439
II. Treating oils and fats, animal, vegetable, etc. . . .	2,282	2,701	3,109	3,098	3,062
III. Processes in stone, clay, glass, etc. . . .	26,383	27,449	31,302	38,290	41,031
IV. Working in wood	47,560	48,499	53,656	60,363	58,677
V. Metal works, machinery, etc. . . .	94,434	99,681	106,792	122,744	135,690
VI. Connected with food and drink, etc. . . .	105,390	110,267	120,408	124,550	136,773
VII. Clothing and textile fabrics, etc. . . .	18,362	19,428	22,014	24,342	28,451
VIII. Books, paper, printing, and engraving	16,225	16,246	17,444	18,201	21,392
IX. Musical instruments, etc. . . .	664	501	540	704	590
X. Arms and explosives	1,547	1,725	2,192	1,446	1,691
XI. Vehicles and fittings, saddlery and harness, etc. . . .	4,851	5,292	5,770	6,410	6,990
XII. Ship and boat building and repairing	5,310	6,239	6,860	10,076	11,879
XIII. Furniture, bedding, and upholstery	6,576	6,691	7,667	8,227	8,923
XIV. Drugs, chemicals, and by-products	8,102	3,179	9,631	10,332	11,386
XV. Surgical and other scientific instruments	120	124	145	156	179
XVI. Jewellery, timepieces, and plated ware	635	672	839	885	945
XVII. Heat, light, and power	245,767	249,199	241,893	280,589	297,409
XVIII. Leatherware, n.e.i. . . .	512	599	571	616	651
XIX. Minor wares, n.e.i. . . .	7,784	7,622	8,178	8,977	8,935
Total	610,326	629,946	660,016	742,481	798,093

(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 71.40 per cent. of the total power used in 1921-22, increased their horse-power from 445,591 to 569,872 during the four years under review, and are mainly responsible for the development of mechanical power in factories since 1918.

§ 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 to 1921-22 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 TO 1921-22.

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

1918 ..	120,554	118,241	40,990	26,634	12,917	8,713	328,049
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

PERCENTAGE ON AUSTRALIAN TOTAL.

	%	%	%	%	%	%	%
1918 ..	36.75	36.04	12.49	8.12	3.94	2.66	100.00
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

PER 10,000 OF MEAN POPULATION.

1918 ..	628	834	586	596	420	439	657
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

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

2. **Rates of Increase, 1917 to 1921-22.**—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 to 1921-22. The figures for the earlier years are somewhat vitiated by the change in dates of collecting the statistics in New South Wales, Victoria, and South Australia :—

FACTORY EMPLOYEES.—PERCENTAGE OF INCREASE, 1918 TO 1921-22.

Years.(a)	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tas.	Australia.
	%	%	%	%	%	%	%
1917-18	2.17	1.09	1.35	2.40	6.16	7.85	1.98
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

NOTE.—The minus sign indicates decrease.

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

3. **Employees in Classes of Industry, Australia, 1918 to 1921-22.**—The following table gives the average numbers of persons employed in factories under each group in Australia during the years 1918 to 1921-22 inclusive :—

FACTORY EMPLOYEES.—CLASSES, AUSTRALIA, 1918 TO 1921-22.

Class of Industry.	1918.	1918-19. (a)	1919-20. (a)	1920-21. (a)	1921-22. (a)
I. Treating raw material, product of agricultural and pastoral pursuits, etc. ..	9,984	10,775	12,040	10,494	10,925
II. Treating oils and fats, animal, vegetable, etc. ..	2,726	2,604	3,075	2,848	3,103
III. Processes in stone, clay, glass, etc. ..	12,575	13,781	16,271	18,311	16,974
IV. Working in wood	24,112	25,825	29,865	31,042	32,393
V. Metal works, machinery, etc. ..	60,392	62,679	70,025	80,550	76,798
VI. Connected with food and drink, etc. ..	56,297	59,891	61,757	57,599	59,252
VII. Clothing and textile fabrics, etc. ..	82,002	81,441	89,424	88,577	97,194
VIII. Books, paper, printing and engraving ..	25,054	25,000	26,826	27,522	28,673
IX. Musical Instruments, etc. ..	677	714	902	1,065	1,154
X. Arms and explosives	2,225	1,986	1,662	1,504	1,372
XI. Vehicles and fittings, saddlery and harness, etc. ..	12,672	13,630	15,525	16,334	16,808
XII. Ship and boat building and repairing ..	4,569	6,119	8,343	6,702	7,035
XIII. Furniture, bedding, and upholstery ..	9,542	9,827	11,317	11,827	11,475
XIV. Drugs, chemicals, and by-products ..	5,564	5,861	6,436	6,805	6,933
XV. Surgical and other scientific instruments ..	415	453	495	548	570
XVI. Jewellery, timepieces, and plated ware ..	2,119	2,345	2,719	2,707	2,503
XVII. Heat, light, and power	10,714	10,912	11,991	12,770	13,431
XVIII. Leatherware, n.e.i.	1,647	1,799	2,233	2,191	2,414
XIX. Minor wares, n.e.i.	4,763	4,853	5,828	6,343	6,418
Total	328,049	340,475	376,734	386,639	395,425

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

The number of persons employed in factories has, in common with the number of establishments, increased annually since 1918. During the last four years the average annual increases in the number of factories was 651, and of employees 16,844.

4. Employees in Classes of Industry, States, 1921-22.—The following table shows a similar classification of employees in manufacturing industries in each State during 1921-22 :—

FACTORY EMPLOYEES.—CLASSES, STATES, 1921-22.

Class of Industry.	N.S.W. 1921-22.	Vic. 1921-22	Q'land. 1921.	S.A. 1921-22	W.A. 1921.	Tas. 1921.	Aus- tralia.
I. Treating raw material, product of agricul. and pastoral pursuits, etc.	4,182	4,329	741	968	340	365	10,925
II. Treating oils and fats, animal, vegetable, etc.	1,686	880	161	238	105	33	3,103
III. Processes in stone, clay, glass, etc.	7,610	5,391	838	1,876	976	283	16,974
IV. Working in wood	9,026	9,537	4,827	1,474	5,411	2,118	32,393
V. Metal works, machinery, etc.	34,263	23,089	6,641	8,193	3,000	1,612	76,798
VI. Connected with food and drink, etc.	19,140	17,974	14,522	3,996	2,084	1,536	59,252
VII. Clothing and textile fabrics, etc.	32,036	48,844	6,887	5,506	2,341	1,580	97,194
VIII. Books, paper, printing and engraving	11,282	10,151	3,093	2,044	1,244	859	28,673
IX. Musical instruments, etc.	724	390	..	40	..	..	1,154
X. Arms and explosives	612	756	..	4	..	..	1,372
XI. Vehicles and fittings, saddlery, and harness, etc.	5,617	6,173	1,306	2,375	750	587	16,808
XII. Ship and boat building and repairing	5,616	684	104	521	35	75	7,035
XIII. Furniture, bedding, and upholstery	4,352	3,709	1,357	1,047	595	415	11,475
XIV. Drugs, chemicals, and by-products..	2,809	2,558	113	891	529	33	6,933
XV. Surgical and other scientific instruments	198	203	86	47	36	..	570
XVI. Jewellery, timepieces, & plated ware	824	1,183	153	219	80	44	2,503
XVII. Heat, light, and power	5,076	5,090	1,082	1,292	361	530	13,481
XVIII. Leatherware, n.e.l.	1,113	1,065	131	92	(a)	13	2,414
XIX. Minor wares, n.e.l.	2,710	2,870	206	348	(b) 240	44	6,418
Total	148,876	144,876	42,248	31,171	18,127	10,127	395,425

(a) Included in Class XIX.

(b) Includes Class XVIII.

The largest number employed in any particular class in Australia during 1921-22 was in Class VII., in which there were 97,194 employees, or 24.58 per cent. of the total in all classes. The class affording employment to the smallest number of hands was Class XV., in which there were 570 hands, or 0.14 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 1921-22 are classified according to the nature of their employment :—

FACTORY EMPLOYEES.—NATURE OF EMPLOYMENT, 1921-22.

State.	Average Number of Persons Employed.						Total.
	Working Pro- priators.	Managers and Overseers.	Account- ants and Clerks.	Engine- drivers and Firemen.	Workers, Skilled & Unskilled in Factory Mill or Workshop. (a)	Carters, Messen- gers and Others.	
N.S. Wales, 1921-22	5,043	5,511	6,953	3,078	126,146	2,145	148,876
Victoria, 1921-22 ..	6,904	4,454	6,307	2,156	121,074	3,981	144,876
Queensland, 1921 ..	1,498	1,763	2,127	1,909	32,413	2,538	42,248
S. Australia, 1921-22	1,278	1,076	1,688	563	25,887	679	31,171
W. Australia, 1921	483	947	749	424	14,885	639	18,127
Tasmania, 1921 ..	550	438	583	321	7,919	316	10,127
Australia ..	15,756	14,189	18,407	8,451	328,324	10,298	395,425

(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 to 1921-22 inclusive :—

FACTORIES.—OUTWORKERS(a), 1918 TO 1921-22.

Year.(b)	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tasmania.	Australia.
1918	637	1,406	30	25	4	20	2,122
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

(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 the Chapter dealing with "Labour, Wages, and Prices."

§ 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 the Chapter dealing with "Labour, Wages, and Prices."

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 one to two. In South Australia the ratio at the latest date was one female employed to every four males, in Queensland and Tasmania about one to five, and in Western Australia one to six. 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 to 1921-22.* The following table shows the average number of male and female employees in factories in each State from 1918 to 1921-22 :—

FACTORIES.—MALES AND FEMALES EMPLOYED, 1918 TO 1921-22.

State.	1918.	1918-19.(a)	1919-20.(a)	1920-21.(a)	1921-22.(a)
MALES.					
New South Wales ..	90,025	96,884	109,836	112,187	112,362
Victoria ..	76,654	81,357	92,101	96,379	97,789
Queensland ..	33,597	33,597	33,851	36,011	35,050
South Australia ..	21,325	22,372	23,434	24,548	25,006
Western Australia ..	10,497	10,497	12,789	14,329	15,514
Tasmania ..	7,356	7,356	8,503	8,746	8,525
Australia ..	239,454	252,063	280,514	292,200	294,246
FEMALES.					
New South Wales ..	30,529	30,707	34,618	32,824	36,514
Victoria ..	41,587	40,992	44,421	44,364	47,087
Queensland ..	7,393	7,393	7,040	7,185	7,198
South Australia ..	5,309	5,543	6,008	5,882	6,165
Western Australia ..	2,420	2,420	2,620	2,705	2,613
Tasmania ..	1,357	1,357	1,513	1,479	1,602
Australia ..	88,595	88,412	96,220	94,439	101,179

(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 54,792, or an annual average of 13,698, whilst the number of female employees increased by 12,584, or an annual average of 3,146.

(iii) *Average Number of Males and Females Employed per 10,000 of Mean Population, 1918 to 1921-22.* 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 to 1921-22 :—

MALE AND FEMALE FACTORY EMPLOYEES PER 10,000 OF MEAN MALE AND FEMALE POPULATION RESPECTIVELY, 1918 TO 1921-22.

State.	1918.	1918-19.(a)	1919-20.(a)	1920-21.(a)	1921-22.(a)
MALES.					
New South Wales ..	938	984	1,054	1,051	1,037
Victoria ..	1,142	1,189	1,245	1,279	1,279
Queensland ..	931	931	895	910	869
South Australia ..	998	1,018	975	1,001	992
Western Australia ..	664	664	761	814	875
Tasmania ..	754	754	851	821	792
Australia ..	971	1,004	1,048	1,063	1,053

(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.	1918-19.(a)	1919-20.(a)	1920-21.(a)	1921-22.(a)
FEMALES.					
New South Wales ..	318	314	330	321	350
Victoria ..	557	544	582	573	599
Queensland ..	219	219	203	204	199
South Australia ..	228	233	249	239	246
Western Australia ..	161	161	173	176	168
Tasmania ..	135	135	148	142	152
Australia ..	350	345	370	356	374

(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 1917-18 to 1921-22 in the average number of males and females employed in factories are shown below :—

PERCENTAGES OF ANNUAL INCREASE, MALE AND FEMALE FACTORY EMPLOYEES, 1917 TO 1921-22.

State.	1917-18.	1918-1919. (a)	1918-19— 1919-20.(a)	1919-20— 1920-21.(a)	1920-21— 1921-22.(a)
MALES.					
New South Wales ..	1.25	7.62	13.37	2.14	0.16
Victoria ..	2.31	6.14	13.21	4.64	1.46
Queensland ..	2.55	(b) 2.55	0.76	6.38	-2.67
South Australia ..	2.53	4.91	4.75	4.75	1.87
Western Australia ..	8.17	(b) 8.17	21.83	12.04	8.27
Tasmania ..	7.23	(b) 7.23	15.59	2.86	-2.53
Total ..	2.35	5.27	11.29	4.17	0.70

FEMALES.					
New South Wales ..	4.96	0.58	12.74	-5.18	11.24
Victoria ..	-1.09	-1.43	8.37	-0.13	6.14
Queensland ..	-3.77	(b) -3.77	-4.77	2.06	0.18
South Australia ..	1.86	4.41	8.39	-2.10	4.81
Western Australia ..	-1.79	(b) -1.79	8.26	3.24	3.40
Tasmania ..	11.32	(b) 11.32	11.50	-2.25	8.32
Total ..	1.01	-0.21	8.83	-1.85	7.14

NOTE.—The minus sign indicates decrease.

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

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

It will be seen that by far the largest proportion of females are 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 1921-22.

Industry.	New South Wales. 1921-22.			Victoria. 1921-22.			Other States.		
	Males.	Females	Femi- ninity. (a)	Males.	Females	Femi- ninity. (a)	Males.	Females	Femi- ninity. (a)
Woollen and tweed mills	689	881	12.31	1,702	2,054	9.37	322	453	16.90
Boots and shoes	3,796	2,144	-27.98	6,849	4,865	-16.94	1,729	1,007	-26.39
Slop clothing	2,575	8,553	53.72	2,131	7,290	54.76	1,739	5,328	50.79
Clothing (tailoring)									
Dressmaking and millinery	116	4,074	94.46	408	8,935	91.27	26	3,013	98.35
Dyeworks and cleaning	175	129	-15.13	134	110	-9.84	65	44	-19.27
Furriers	61	109	28.24	143	240	25.33	2	4	33.33
Hats and caps	521	804	21.36	712	907	12.04	64	91	17.42
Waterproof and oilskin	36	71	32.71	52	118	38.82	2	2	..
Shirts, ties, and scarves	282	3,476	84.99	412	5,759	86.65	106	1,698	88.25
Hosiery and knitted goods	518	1,994	58.76	663	3,761	70.03	1	6	71.43
Rope and cordage	421	51	-78.39	655	466	-16.86	210	145	-18.31
Tents and tarpaulins	199	361	28.93	99	73	-15.12	109	66	-24.57
Other	..	..	..	56	250	63.40	27	55	34.15
Total, Class VII.	9,389	22,647	41.38	14,016	34,828	42.61	4,402	11,912	46.03

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 the Chapter dealing with "Labour, Wages, and Prices." 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 to 1921-22.**—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 to 1921-22 :—

CHILDREN EMPLOYED IN FACTORIES, 1918 TO 1921-22.

State.	1918.	1918-19.(a)	1919-20.(a)	1920-21.(a)	1921-22.(a)
MALES.					
New South Wales ..	2,584	2,586	3,824	3,673	3,911
Victoria ..	3,195	3,137	3,721	3,715	3,780
Queensland ..	1,171	1,171	1,214	1,266	1,077
South Australia ..	779	834	866	991	996
Western Australia ..	407	407	447	448	401
Tasmania ..	244	244	327	315	287
Australia ..	8,380	8,379	10,399	10,408	10,452

FEMALES.					
New South Wales ..	2,492	2,561	3,764	3,610	4,150
Victoria ..	2,447	2,389	2,872	2,798	3,120
Queensland ..	711	711	645	738	774
South Australia ..	567	545	765	679	714
Western Australia ..	307	307	307	311	235
Tasmania ..	105	105	186	193	135
Australia ..	6,629	6,618	8,539	8,329	9,128

TOTAL.					
New South Wales ..	5,076	5,147	7,588	7,283	8,061
Victoria ..	5,642	5,526	6,593	6,513	6,900
Queensland ..	1,882	1,882	1,859	2,004	1,851
South Australia ..	1,346	1,379	1,631	1,670	1,710
Western Australia ..	714	714	754	759	636
Tasmania ..	349	349	513	508	422
Australia ..	15,009	14,997	18,938	18,737	19,580

(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 2,499 and 2,072. Examined in conjunction with the total number of persons employed the percentage of children increased very little since 1918 :—

**PERCENTAGE OF CHILDREN ON TOTAL NUMBER OF FACTORY EMPLOYEES,
1918 TO 1921-22.**

State.	1918.	1918-19.(a)	1919-20.(a)	1920-21.(a)	1921-22.(a)
	%	%	%	%	%
New South Wales ..	4.21	4.03	5.25	5.02	5.41
Victoria ..	4.77	4.52	4.83	4.63	4.76
Queensland ..	4.59	4.59	4.55	4.64	4.38
South Australia ..	5.05	4.94	5.54	5.49	5.49
Western Australia ..	5.53	5.53	4.89	4.46	3.51
Tasmania ..	4.01	4.01	5.12	4.97	4.17
Australia ..	4.58	4.40	5.03	4.85	4.95

(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 1921-22 in the several industries indicated.

CHILDREN EMPLOYED.—VARIOUS INDUSTRIES, 1921-22.

Class.	Industry.	N.S.W. 1921-22.		Victoria. 1921-22.		Q'land. 1921.		S. Aust. 1921-22.		W. Aust. 1921.		Tas. 1921.		Australia.	
		M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
III.	Bricks, tiles, pottery, and earthenware ..	172	..	73	9	16	..	25	..	7	1	15	..	308	10
IV.	Joinery, boxes, cases, etc.	86	..	156	..	26	1	23	..	12	..	11	..	314	1
V.	Saw mills ..	65	2	19	..	47	5	6	..	17	..	23	..	177	7
..	Engineering, ironworks, and foundries ..	349	20	400	1	78	1	85	..	52	..	11	..	975	22
..	Galvanized ironwork- ing and tinsmithing ..	162	15	175	23	41	..	66	..	..	..	2	..	446	38
..	Railway carriage, rail- way and tramway workshops ..	37	3	124	..	3	..	70	..	8	..	3	..	245	3
VI.	Meat & fish preserving ..	7	..	11	1	52	..	..	..	..	..	..	..	70	1
..	Biscuits ..	259	164	73	45	11	12	11	13	19	6	11	5	384	245
..	Confectionery ..	70	173	48	52	35	66	10	42	5	13	2	1	170	347
..	Jams, pickles, sauces, etc.	19	27	45	40	6	7	23	12	6	7	47	11	146	104
..	Tobacco, cigars, etc. ..	63	103	112	15	..	3	2	1	3	2	..	..	180	124
VII.	Woollen, cotton, and tweed mills ..	54	97	190	194	5	35	13	9	..	..	2	10	264	345
..	Boots and shoes ..	217	320	353	411	42	81	45	45	17	22	13	18	687	897
..	Clothing (tailoring and slop) ..	132	766	85	356	35	202	16	192	10	50	7	29	285	1,595
..	Dressmaking and mil- linery ..	6	540	14	630	..	129	..	142	1	56	1	38	22	1,535
..	Hats and caps ..	41	119	37	61	1	6	3	5	..	..	..	..	82	191
..	Shirts, ties, scarves, etc.	18	514	18	378	8	123	2	88	..	32	..	9	46	1,144
VIII.	Electrotyping, printing and binding ..	399	212	371	112	172	33	59	30	60	13	34	7	1,095	407
..	Paper making, paper boxes, etc. ..	76	181	31	71	4	16	19	57	2	5	..	..	132	330
XI.	Coach and wagon building ..	65	..	84	..	23	..	26	..	9	..	22	..	229	..
..	Cycles and motors ..	102	9	137	..	23	1	82	2	23	..	13	..	380	12
XIII.	Billiard tables, cabinet making and furniture	113	2	155	..	61	4	43	..	15	..	31	2	418	8
XIV.	Chemicals, drugs, and medicines ..	65	91	18	34	..	6	6	27	3	4	..	..	92	162

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. The subject is referred to at greater length in the Chapter dealing with "Labour, Wages, and Prices."

§ 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 1921–22 was £320,331,765, of which amount the sum of £190,410,265 represents the value of the raw materials used. The difference between these two amounts, viz., £129,921,500, 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 1921–22 was £68,050,861.

2. **Salaries and Wages Paid.**—(i) *Total Amount, 1921–22.* The total amount of salaries and wages paid during the year 1921–22 in various classes of factories in Australia is shown in the following table:—

SALARIES AND WAGES PAID IN FACTORIES, 1921–22.

Class of Industry.	N.S.W. 1921–22.	Victoria. 1921–22.	Q'land. 1921.	S. Aust. 1921–22.	W. Aust. 1921.	Tas. 1921.	Australia.
	£	£	£	£	£	£	£
I. Treating raw material, product of agricultural and pastoral pursuits, etc.	858,659	770,203	122,973	155,654	47,927	36,615	1,992,031
II. Treating oils and fats, animal, vegetable, etc.	279,631	169,320	27,470	44,108	15,737	5,406	541,672
III. Processes in stone, clay, glass, etc.	1,578,040	1,040,047	145,408	376,808	179,237	51,600	3,371,140
IV. Working in wood . .	1,622,924	1,819,745	816,109	281,934	1,151,052	344,740	6,036,504
V. Metal works, machinery, etc.	7,604,653	4,768,964	1,347,881	1,657,937	633,285	297,773	16,310,493
VI. Connected with food and drink, etc.	3,303,147	3,237,705	2,058,609	651,090	377,641	199,963	10,428,155
VII. Clothing and textile fabrics, etc.	3,833,428	5,797,914	746,710	574,998	261,959	152,693	11,367,702
VIII. Books, paper, printing, and engraving	2,051,368	1,844,474	570,765	339,310	249,867	153,155	5,208,939
IX. Musical instruments, etc.	160,195	78,742	..	5,122	..	..	244,059
X. Arms and explosives	154,641	129,785	..	358	..	..	284,784
XI. Vehicles and fittings, saddlery and harness, etc.	914,542	985,592	194,931	382,938	117,351	77,260	2,672,614
XII. Ship and boat building and repairing	1,360,333	164,957	16,160	134,314	5,498	13,276	1,694,538
XIII. Furniture, bedding, and upholstery . .	752,327	573,160	220,197	166,101	113,386	59,660	1,884,831
XIV. Drugs, chemicals, and by-products	493,153	459,866	13,705	161,038	100,860	3,826	1,232,448
XV. Surgical and other scientific instruments . .	34,221	27,811	13,708	6,898	6,012	..	88,650
XVI. Jewellery, time-pieces, and plated ware . .	148,966	181,633	26,735	30,483	11,926	4,845	404,588
XVII. Heat, light & power	1,124,166	1,162,412	260,353	286,059	84,210	97,070	3,014,270
XVIII. Leatherware, n.e.i.	152,152	149,677	14,184	9,993	(a)	1,056	327,062
XIX. Minor wares, n.e.i.	356,696	484,488	21,875	48,784	(b)30,602	3,936	946,381
Total . .	26,783,242	23,846,495	7,217,773	5,313,927	3,886,550	1,502,874	68,050,861

(a) Included in Class XIX.

(b) Includes Class XVII.

The maximum amount of salaries and wages paid in any particular class during 1921–22 was in Class V., the amount being £16,310,493, or 23.97 per cent. on the total amount; the minimum amount was in Class XV., £88,650, or 0.13 per cent. on the total. The State in which the largest amount was paid was New South Wales.

(ii) *Totals and Averages, 1918 to 1921-22.* 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 to 1921-22. 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 TO 1921-22.

Year. (a)	Particulars.	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tas.	Australia.
		£	£	£	£	£	£	£
1918 ..	Total amount paid ..	14,701,255	12,502,601	5,121,188	3,359,354	1,730,896	963,974	38,379,268
	Average per employee ..	126.18	110.77	129.45	131.94	138.55	115.57	121.75
1918-19	Total amount paid ..	16,957,919	14,080,403	5,121,188	3,651,718	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 ..	21,681,106	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	177.76	191.94	156.93	179.24

(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.

There has been a continual increase in the average wage paid per employee in each of the States during the period under review. Taking Australia as a whole, during the period 1918 to 1921-22 there has been an increase of 77.31 per cent. in the total amount of wages paid, and 47.22 per cent. in the average paid per employee.

(iii) *Earnings of Males and Females, 1921-22.* 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 1921-22 :—

SALARIES AND WAGES.—MALE AND FEMALE FACTORY EMPLOYEES, 1921-22.

Class of Industry.	N.S.W. 1921-22.	Victoria. 1921-22.	Q'land. 1921.	S. Aust. 1921-22.	W. Aust. 1921.	Tas. 1921.	Australia.
MALES.							
I. Treating raw material product of agricultural and pastoral pursuits, etc. . .	£ 839,348	£ 766,817	£ 122,032	£ 154,737	£ 47,862	£ 36,555	£ 1,967,351
II. Treating oils and fats, animal, vegetable, etc. . .	246,019	155,154	26,172	41,334	15,136	4,957	488,772
III. Processes in stone, clay, glass, etc. . .	1,565,916	1,027,575	144,158	375,585	178,026	51,142	3,342,402
IV. Working in wood . .	1,605,453	1,801,621	808,366	278,245	1,150,026	343,428	5,987,139
V. Metal works, machinery, etc. . .	7,536,113	4,720,200	1,340,230	1,647,774	629,673	296,821	16,170,811

SALARIES AND WAGES.—MALE AND FEMALE FACTORY EMPLOYEES,
1921-22—continued.

Class of Industry.	N.S.W. 1921-22.	Victoria. 1921-22.	Q'land. 1921.	S. Aust. 1921-22.	W. Aust. 1921.	Tas. 1921.	Australia.
MALES—continued.							
VI. Connected with food and drink, etc. . .	£ 2,812,443	£ 2,801,520	£ 2,576,241	£ 603,060	£ 352,067	£ 187,184	£ 9,332,515
VII. Clothing and textile fabrics, etc. . .	1,721,341	2,622,027	325,737	240,889	104,107	73,703	5,087,804
VIII. Books, paper, printing and engraving . .	1,775,578	1,558,766	506,647	291,861	224,976	141,610	4,499,438
IX. Musical Instruments, etc. . .	155,099	76,650	..	5,122	..	..	236,871
X. Arms and explosives	154,184	95,714	..	358	..	..	250,256
XI. Vehicles and fittings, saddlery and harness, etc. . .	894,219	964,616	187,301	373,954	114,501	73,488	2,608,079
XII. Ship and boat building and repairing . .	1,354,676	164,283	16,160	134,314	5,488	13,276	1,688,197
XIII. Furniture, bedding, and upholstery . .	699,699	535,055	211,491	162,031	110,150	57,652	1,776,078
XIV. Drugs, chemicals, and by-products . .	408,392	395,033	8,299	152,745	96,393	3,514	1,064,376
XV. Surgical and other scientific instruments . .	31,175	26,359	13,115	6,471	5,499	..	82,619
XVI. Jewellery, timepieces, and plated ware . .	139,311	168,769	24,901	29,283	11,513	4,793	378,570
XVII. Heat, light, and power	1,116,775	1,092,910	255,200	279,207	84,064	96,162	2,924,327
XVIII. Leatherware, n.e.i.	122,616	112,897	11,048	5,582	(a)	803	252,946
XIX. Minor wares, n.e.i. . .	288,209	411,476	19,003	45,060	(b) 25,610	3,653	793,011
Total . .	23,466,566	19,497,451	6,596,101	4,827,612	3,155,091	1,388,741	58,931,562
FEMALES.							
I. Treating raw material product of agricultural and pastoral pursuits, etc. . .	19,311	3,386	941	917	65	60	24,680
II. Treating oils and fats, animal, vegetable, etc. . .	33,612	14,166	1,298	2,774	601	449	52,900
III. Processes in stone, clay, glass, etc. . .	12,124	12,472	1,250	1,223	1,211	458	28,738
IV. Working in wood . .	17,471	18,124	7,743	3,689	1,026	1,312	49,365
V. Metal works, machinery, etc. . .	68,540	48,764	7,651	10,163	3,612	952	139,682
VI. Connected with food and drink, etc. . .	490,704	436,185	82,368	48,030	25,574	12,779	1,095,640
VII. Clothing and textile fabrics, etc. . .	2,112,087	3,175,887	420,973	334,109	157,852	78,990	6,279,898
VIII. Books, paper, printing and engraving . .	275,790	285,708	64,118	47,449	24,891	11,545	709,501
IX. Musical instruments, etc. . .	5,096	2,092	..	..	..	..	7,188
X. Arms and explosives	457	34,071	..	..	..	..	34,528
XI. Vehicles and fittings, saddlery and harness, etc. . .	20,323	20,976	7,630	8,984	2,850	3,772	64,535
XII. Ship and boat building and repairing . .	5,657	674	..	..	10	..	6,341
XIII. Furniture, bedding, and upholstery . .	52,628	38,105	8,706	4,070	3,236	2,008	108,753
XIV. Drugs, chemicals, and by-products . .	84,761	64,833	5,406	8,293	4,467	312	168,072
XV. Surgical and other scientific instruments . .	3,046	1,452	593	427	513	..	6,031
XVI. Jewellery, timepieces, and plated ware . .	9,655	12,864	1,834	1,200	413	52	26,018
XVII. Heat, light, and power	7,391	69,493	5,153	6,852	146	908	89,943
XVIII. Leatherware, n.e.i.	29,536	36,780	3,136	4,411	(a)	253	74,116
XIX. Minor wares, n.e.i. . .	68,487	73,012	2,872	3,724	(b) 4,992	283	153,370
Total . .	3,316,676	4,349,044	621,672	486,315	231,459	114,133	9,119,299

(a) Included in Class XIX.

(b) Includes Class XVIII.

(iv) *Total and Average Earnings of Males and Females, 1918 to 1921-22.* Similar information for the last five years is given in the table hereunder:—

**SALARIES AND WAGES.—MALE AND FEMALE FACTORY EMPLOYEES,
1918 TO 1921-22.**

Particulars.	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tas.	Australia.
MALES.							
1918. Amount paid .. £	12,848,017	10,141,750	4,710,717	3,087,063	1,578,600	892,743	33,258,890
Per cent. on total ..	87.39	81.12	91.98	91.89	91.20	92.61	86.66
Average per employee .. £	148.93	141.12	146.19	152.89	156.41	127.75	146.11
1918-19. 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. 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. Amount paid .. £	22,766,216	17,668,917	6,168,744	4,480,269	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. 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

FEMALES.

1918. Amount paid .. £	1,853,238	2,360,851	410,471	272,291	152,296	71,231	5,120,378
Per cent. on total ..	12.61	18.88	8.02	8.11	8.80	7.39	13.34
Average per employee .. £	61.27	57.57	55.95	51.67	63.46	52.65	58.45
1919-20. 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. 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. 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. 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

(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, 1921-22.**

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.	£ 223,856	£ 9,806	£ 1,743,493	£ 14,874	£ 1,967,351	£ 24,680	£ 1,992,031
II. Treating oils and fats, animal, vegetable, etc.	99,131	10,665	389,641	42,235	488,772	52,900	541,672
III. Processes in stone, clay, glass, etc.	331,436	16,352	3,010,966	12,386	3,342,402	28,738	3,371,140
IV. Working in wood	641,189	38,248	5,345,950	11,117	5,987,139	49,365	6,036,504
V. Metal works, machinery, etc.	1,624,503	80,630	14,546,308	59,052	16,170,811	139,682	16,310,493
VI. Connected with food and drink, etc.	1,676,032	153,200	7,656,483	942,440	9,332,515	1,095,640	10,428,155
VII. Clothing and textile fabrics, etc.	804,664	321,019	4,283,140	5,958,879	5,087,804	6,279,898	11,367,702
VIII. Books, paper, printing and engraving	872,726	133,931	3,626,712	575,570	4,499,438	709,501	5,208,939
IX. Musical instruments, etc.	23,633	2,893	213,238	4,295	236,871	7,188	244,059
X. Arms and explosives	33,927	1,170	216,329	33,358	250,256	34,528	284,784

**SALARIES AND WAGES.—MANAGERS, OVERSEERS, AND OTHER
FACTORY EMPLOYEES, AUSTRALIA, 1921-22—continued.**

Class of Industry.	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. . .	261,370	41,837	2,346,709	22,698	2,608,079	64,535	2,672,614
XII. Ship and boat building and repairing . .	175,880	5,449	1,512,317	892	1,688,197	6,341	1,694,538
XIII. Furniture, bedding, and upholstery . .	148,340	20,737	1,627,738	88,016	1,776,078	108,753	1,884,831
XIV. Drugs, chemicals, and by-products . .	238,549	35,414	825,827	132,658	1,064,376	168,072	1,232,448
XV. Surgical and other scientific instruments . .	12,884	2,256	69,735	3,775	82,619	6,031	88,650
XVI. Jewellery, timepieces, and plated ware . .	35,448	9,790	343,122	16,228	378,570	26,018	404,588
XVII. Heat, light, and power . .	580,734	38,941	2,343,593	51,002	2,924,327	89,943	3,014,270
XVIII. Leatherware, n.e.i. . .	41,678	7,613	211,268	66,503	252,946	74,116	327,062
XIX. Minor wares, n.e.i. . .	111,263	14,014	681,748	139,356	793,011	153,370	946,381
Total . .	7,937,243	943,965	50,994,319	8,175,334	58,931,562	9,119,299	68,050,861
Average paid per employee . .	313.92	129.10	200.54	88.11	210.79	91.11	179.24

3. Value of Fuel and Light Used.—(i) *Total Amount, 1921-22.* The expenditure in factories on fuel and light is of considerable importance; in 1921-22 it amounted to £8,256,381. The classes of industry in which fuel was most extensively used were Class V., Metal Works, Machinery, etc., £2,345,988; Class VI., Connected with Food, Drink, etc., £1,700,556; Class XVII., Heat, Light, Power, etc., £1,636,934, of which amount £1,441,320 was expended on generating electric light and power; and Class III., £1,021,632. The following table shows the value of fuel and light used in the different classes of industry during 1921-22 :—

VALUE OF FUEL AND LIGHT USED IN FACTORIES, 1921-22.

Class of Industry.	N.S.W. 1921-22.	Victoria. 1921-22.	Q'land. 1921.	S. Aust. 1921-22.	W. Aust. 1921.	Tas. 1921.	Australia.
I. Treating raw material, product of agricultural and pastoral pursuits, etc. . .	£ 126,183	£ 110,294	£ 16,270	£ 20,053	£ 5,978	£ 2,547	£ 281,325
II. Treating oils and fats, animal, vegetable, etc. . .	57,158	46,314	4,487	5,924	2,370	647	116,900
III. Processes in stone, clay, glass, etc. . .	465,043	325,356	26,827	138,478	53,130	12,798	1,021,632
IV. Working in wood . .	51,177	40,642	18,643	7,995	8,824	3,273	130,554
V. Metal works, machinery, etc. . .	1,570,508	321,496	91,313	243,610	38,607	80,454	2,345,988
VI. Connected with food and drink, etc. . .	557,338	553,135	372,502	133,681	61,177	22,723	1,700,556
VII. Clothing and textile fabrics, etc. . .	85,167	204,464	15,684	16,412	4,830	4,366	330,923
VIII. Books, paper, printing, engraving . .	74,978	104,588	21,195	11,552	7,306	3,538	223,157
IX. Musical instruments, etc. . .	2,916	1,444	..	141	..	..	4,501
X. Arms and explosives . .	3,118	16,443	..	13	..	..	19,574
XI. Vehicles and fittings, saddlery and harness, etc. . .	24,617	30,413	4,486	11,979	5,129	2,764	79,388
XII. Ship and boat building and repairing . .	47,572	6,675	260	7,793	86	144	62,530
XIII. Furniture, bedding, and upholstery . .	18,005	16,926	6,633	4,870	2,842	1,251	50,527
XIV. Drugs, chemicals, and by-products . .	38,653	53,714	730	24,338	8,055	235	131,225
XV. Surgical and other scientific instruments . .	735	1,065	408	286	125	..	2,619
XVI. Jewellery, timepieces, and plated ware . .	3,914	6,059	974	1,780	267	213	13,207
XVII. Heat, light, and power . .	834,504	406,170	87,164	167,594	124,949	16,553	1,636,934
XVIII. Leatherware, n.e.i. . .	1,616	4,899	285	238	(a)	9	7,947
XIX. Minor wares, n.e.i. . .	20,528	74,663	363	1,258	(b) 944	38	97,794
Total . .	3,983,730	2,329,760	668,224	798,495	324,619	151,553	8,256,381

(a) Included with Class XIX.

(b) Includes Class XVIII.

(ii) *Total Amount, 1918 to 1921-22.* 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 TO 1921-22.

Year.(a)	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tas.	Australia.
	£	£	£	£	£	£	£
1918	2,060,076	1,248,186	424,099	683,187	211,950	105,392	4,732,890
1918-19	2,298,041	1,457,124	424,099	644,687	211,950	105,892	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	766,590	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

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

4. Value of Raw Materials Used.—(i) *Total Amount, 1921-22.* The value of raw materials worked up (i.e., exclusive of fuel, lubricants, etc.) in factories in Australia during 1921-22 was £190,410,265, which represents 59.44 per cent. of the total value of the finished products. (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, 1921-22.

Class of Industry.	N.S.W. 1921-22.	Victoria. 1921-22.	Q'land. 1921.	S. Aust. 1921-22.	W. Aust. 1921.	Tas. 1921.	Australia.
	£	£	£	£	£	£	£
I. Treating raw material, product of agricultural and pastoral pursuits, etc. ..	5,759,104	3,783,063	1,517,594	714,549	408,364	255,525	12,438,199
II. Treating oils and fats, animal, vegetable, etc. ..	1,805,006	824,602	123,612	235,349	91,756	12,019	3,092,344
III. Processes in stone, clay, glass, etc. ..	1,264,562	462,436	133,847	298,434	76,525	22,278	2,258,082
IV. Working in wood ..	3,839,940	2,284,663	1,305,952	1,034,865	240,041	159,727	8,865,188
V. Metal works, machinery, etc. ..	17,047,240	6,602,053	1,356,001	3,228,442	814,244	594,669	29,642,649
VI. Connected with food and drink, etc. ..	32,605,295	23,533,580	17,235,915	5,093,712	2,672,407	1,309,913	82,450,822
VII. Clothing and textile fabrics, etc. ..	7,866,213	12,584,591	1,633,666	1,113,081	599,327	238,781	24,035,659
VIII. Books, paper, printing, and engraving ..	3,251,264	2,811,629	616,576	549,927	331,930	145,359	7,706,685
IX. Musical instruments, etc. ..	171,265	98,883	..	5,070	..	..	275,218
X. Arms and explosives ..	39,266	309,887	..	1,147	..	..	350,300
XI. Vehicles and fittings, saddlery and harness, etc. ..	1,023,635	1,076,226	281,998	557,779	141,264	98,031	3,178,933
XII. Ship and boat building and repairing ..	708,142	213,566	16,734	157,930	3,689	5,927	1,105,988
XIII. Furniture, bedding, and upholstery ..	1,269,590	981,472	330,955	203,225	140,582	50,133	2,975,957
XIV. Drugs, chemicals, and by-products ..	2,284,523	1,662,195	29,599	565,039	440,707	25,247	5,007,310
XV. Surgical and other scientific instruments ..	38,596	26,572	9,673	8,278	8,380	..	91,499
XVI. Jewellery, timepieces, and platedware ..	140,821	253,976	20,505	29,003	17,486	2,953	464,744
XVII. Heat, light, and power ..	1,910,124	1,291,568	143,263	188,333	60,429	57,122	3,650,839
XVIII. Leatherware, n.e.i. ..	362,795	396,368	27,859	23,341	(a)	2,539	812,902
XIX. Minor wares, n.e.i. ..	703,015	1,155,231	24,671	80,426	(b) 40,562	3,042	2,006,947
Total	82,090,396	60,352,561	24,808,420	14,087,930	6,087,693	2,983,265	190,410,265

(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 £82,450,822. The next in order of importance was Class V., "Metal Works, Machinery, etc.," in which raw materials valued at £29,642,649 were used. The minimum value appears in Class XV., "Surgical and other Scientific Instruments," the total being only £91,499.

(ii) *Total Amount, 1918 to 1921-22.* 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 TO 1921-22.

Year.(a)	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tasmania.	Australia.
	£	£	£	£	£	£	£
1918 ..	64,618,261	42,133,636	19,693,043	12,442,803	3,963,470	3,230,188	146,081,401
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	2,983,265	190,410,265

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

5. *Total Value of Output.* (i) *Total, 1921-22.* The value of the output of new goods manufactured and of repairs effected in factories of various classes in each State during 1921-22 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, 1921-22.

Class of Industry.	N.S.W. 1921-22.	Victoria. 1921-22.	Q'land. 1921.	S. Aust. 1921-22.	W. Aust. 1921.	Tas. 1921.	Australia.
	£	£	£	£	£	£	£
I. Treating raw material, product of agricultural and pastoral pursuits, etc. ..	7,457,931	5,319,870	1,793,691	1,008,045	538,273	332,750	16,450,560
II. Treating oils and fats, animal, vegetable, etc. ..	2,613,765	1,372,478	218,505	353,021	128,009	17,345	4,703,123
III. Processes in stone, clay, glass, etc. ..	4,232,519	2,462,840	457,145	1,047,150	342,931	100,767	8,713,352
IV. Working in wood ..	6,224,312	5,233,711	2,601,900	1,540,623	1,661,715	626,214	17,938,475
V. Metal works, machinery, etc. ..	30,013,172	13,019,924	3,061,641	5,812,929	1,593,196	1,141,171	55,542,033
VI. Connected with food and drink, etc. ..	41,633,322	32,511,172	24,890,172	6,860,550	3,563,498	1,918,657	111,377,371
VII. Clothing and textile fabrics, etc. ..	14,136,157	22,988,369	2,917,840	2,031,746	971,208	521,084	43,566,384
VIII. Books, paper, printing, and engraving ..	6,660,334	6,359,164	1,705,553	1,108,344	760,445	376,271	16,970,611
IX. Musical instruments, etc. ..	423,009	209,955	..	13,394	..	..	646,358
X. Arms and explosives ..	270,756	519,760	..	2,020	..	..	792,236
XI. Vehicles and fittings, saddlery and harness, etc. ..	2,392,877	2,619,570	632,363	1,191,125	319,202	211,671	7,868,808
XII. Ship and boat building and repairing ..	2,264,385	429,637	37,772	322,158	10,700	23,959	3,088,611
XIII. Furniture, bedding, and upholstery ..	2,349,631	1,902,929	687,137	444,251	284,960	139,335	5,808,293
XIV. Drugs, chemicals, and hy-products ..	3,869,625	2,852,657	66,867	885,271	603,982	33,194	8,311,596
XV. Surgical and other scientific instruments ..	96,552	73,548	32,289	24,583	16,701	..	243,673
XVI. Jewellery, timepieces, and plated ware ..	362,819	554,278	58,417	77,187	32,984	12,108	1,097,793
XVII. Heat, light, and power ..	5,905,834	4,274,975	1,005,118	942,416	379,813	330,017	12,838,173
XVIII. Leatherware, n.e.i. ..	644,992	710,903	52,813	40,946	(a)	3,886	1,453,540
XIX. Minor wares, n.e.i. ..	1,198,873	1,927,441	55,025	149,098	(b) 84,122	8,216	3,422,775
Total ..	132,811,065	106,243,181	40,334,298	23,854,857	11,291,739	5,796,625	320,331,765

(a) Included in Class XIX.

(b) Includes Class XVI.

New South Wales far exceeds the other States in respect of the total value of output, the value being £132,811,065, or 41.46 per cent. on the total for all States. Next in order of value is Victoria, which produced 33.17 per cent.; the value of the output of Queensland was 12.59 per cent.; of South Australia 7.44 per cent.; of Western Australia 3.53 per cent.; and of Tasmania 1.81 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) *Total and Averages, 1918 to 1921-22.* 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 1921-22 :—

TOTAL VALUE OF OUTPUT OF FACTORIES, 1918 TO 1921-22.

Year.(a)	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tasmania.	Australia.
TOTAL.							
	£	£	£	£	£	£	£
1918	96,178,191	67,066,715	30,559,839	19,261,142	7,003,505	5,684,219	225,753,611
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	132,811,065	106,243,181	40,334,298	23,854,857	11,291,739	5,796,625	320,331,765

PER EMPLOYEE.

	£	£	£	£	£	£	£
1918	798	567	746	723	542	652	688
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

PER HEAD OF MEAN POPULATION.

	£	£	£	£	£	£	£
1918	50.10	47.32	43.72	43.11	22.75	28.67	45.19
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	62.43	68.50	52.75	47.46	33.88	27.17	58.26

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

6. *Value Added in Process of Manufacture.*—(i) *Total in Classes, 1921-22.* 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 1921-22 in each State for the various classes of factories :—

VALUE ADDED IN PROCESS OF MANUFACTURE, 1921-22.

Class of Industry.	N.S.W. 1921-22.	Victoria. 1921-22.	Q'land. 1921.	S. Aust. 1921-22.	W. Aust. 1921.	Tas. 1921.	Australia.
I. Treating raw material, product of agricultural and pastoral pursuits, etc. . .	£ 1,698,827	£ 1,536,807	£ 276,097	£ 293,496	£ 129,909	£ 77,225	£ 4,012,361
II. Treating oils and fats, animal, vegetable, etc. . .	808,759	547,876	94,893	117,672	36,253	5,326	1,610,779
III. Processes in stone, clay, glass, etc. . .	3,027,957	2,000,404	333,298	748,716	266,406	78,489	6,455,270
IV. Working in wood . .	2,384,372	2,949,048	1,345,948	505,758	1,421,674	466,487	9,073,287
V. Metal works, machinery, etc. . .	12,965,932	7,317,871	1,705,640	2,584,487	778,952	546,502	25,899,384
VI. Connected with food and drink, etc. . .	9,028,027	8,977,592	7,654,257	1,766,838	891,091	608,744	28,926,549
VII. Clothing and textile fabrics, etc. . .	6,269,944	10,403,778	1,284,174	918,665	371,881	282,283	19,530,725
VIII. Books, paper, printing, and engraving . .	3,409,570	3,547,535	1,088,977	558,417	428,515	230,912	9,263,926
IX. Musical instruments, etc. . .	251,744	111,072	..	8,324	..	..	371,140
X. Arms and explosives. .	231,190	209,873	..	873	..	..	441,936
XI. Vehicles and fittings, saddlery and harness, etc. . .	1,369,242	1,543,344	350,365	633,346	177,938	113,640	4,187,875
XII. Ship and boat building and repairing . .	1,556,243	216,071	21,038	164,228	7,011	18,032	1,982,623
XIII. Furniture, bedding, and upholstery . .	1,080,041	921,457	356,232	241,026	144,378	89,202	2,832,336
XIV. Drugs, chemicals, and by-products . .	1,585,102	1,190,462	37,268	320,232	163,275	7,947	3,304,286
XV. Surgical & other scientific instruments . .	57,956	46,976	22,616	16,305	8,321	..	152,174
XVI. Jewellery, timepieces, and plated ware . .	221,998	300,302	37,912	48,184	15,498	9,155	633,049
XVII. Heat, light, and power . .	3,995,710	2,983,407	861,855	754,083	319,384	272,895	9,187,334
XVIII. Leatherware, n.e.i. . .	232,197	314,535	24,954	17,605	(b)	1,347	640,638
XIX. Minor wares, n.e.i. . .	495,858	772,210	30,354	68,672	(a)43,560	5,174	1,415,828
Total . .	50,720,669	43,890,620	15,525,878	9,766,927	5,204,046	2,813,360	129,921,500

(a) Includes Class XVIII.

(b) Included in Class XIX.

(ii) *Totals and Averages, 1918 to 1921-22.* 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 to 1921-22 :—

FACTORIES.—VALUE ADDED IN PROCESS OF MANUFACTURE,
1918 TO 1921-22.

Year.(a)	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tasmania.	Australia.
VALUE.							
1918 . .	£ 31,559,930	£ 24,933,079	£ 10,866,796	£ 6,818,339	£ 3,040,035	£ 2,454,031	£ 79,672,210
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 . .	50,720,669	45,890,620	15,525,878	9,766,927	5,204,046	2,813,360	129,921,500

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

FACTORIES.—VALUE ADDED IN PROCESS OF MANUFACTURE, 1918 TO 1921-22—continued.

Year (a).	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tasmania.	Australia.
PER EMPLOYEE.							
	£	£	£	£	£	£	£
1918.. ..	262	211	265	256	235	282	243
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

PER HEAD OF MEAN POPULATION.							
	£	£	£	£	£	£	£
1918.. ..	16.44	17.59	15.55	15.26	9.88	12.38	15.95
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 ..	23.84	29.59	20.30	19.43	15.62	13.19	23.63

(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 1921-22 was estimated at £320,331,765, there remained, after payment of £190,410,265, the value of the raw materials used, of £68,050,861 for salaries and wages, and of £8,256,381 for fuel, the sum of £53,614,258 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 1921-22 :—

FACTORIES.—VALUE OF OUTPUT AND COST OF PRODUCTION, 1921-22.

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, 1921-22	82,090,396	3,983,730	26,783,242	19,953,697	132,811,065
Victoria, 1921-22 ..	60,352,561	2,329,760	23,846,495	19,714,365	106,243,181
Queensland, 1921 ..	24,808,420	668,224	7,217,773	7,639,881	40,334,298
South Australia, 1921-22 ..	14,087,930	798,495	5,313,927	3,654,505	23,854,857
Western Australia, 1921 ..	6,087,693	324,619	3,386,550	1,492,877	11,291,739
Tasmania, 1921 ..	2,983,265	151,553	1,502,874	1,158,933	5,796,625
 Australia	 190,410,265	 8,256,381	 68,050,861	 53,614,258	 320,331,765

PERCENTAGE OF COSTS, ETC., ON TOTAL VALUE.					
	%	%	%	%	%
New South Wales, 1921-22	61.81	3.00	20.17	15.02	100.00
Victoria, 1921-22 ..	56.81	2.19	22.45	18.55	100.00
Queensland, 1921 ..	61.51	1.66	17.89	18.94	100.00
South Australia, 1921-22 ..	59.06	3.35	22.28	15.31	100.00
Western Australia, 1921 ..	53.91	2.87	29.99	13.23	100.00
Tasmania, 1921 ..	51.47	2.61	25.93	19.99	100.00
 Australia	 59.44	 2.58	 21.24	 16.74	 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 to 1921–22 by £48,820,129, *i.e.*, from £96,588,009 to £145,408,138, or at the rate of £12,205,032 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 1921–22 :—

VALUE OF LAND, BUILDINGS, PLANT, AND MACHINERY, 1921–22.

Value of—	N.S.W. 1921–22.	Victoria. 1921–22.	Q'land. 1921.	S. Aust. 1921–22.	W. Aust. 1921.	Tasmania. 1921.	Australia.
	£	£	£	£	£	£	£
Land and buildings	32,052,303	19,810,170	6,373,504	4,711,022	3,206,295	1,160,164	67,322,458
Plant and machinery	35,229,530	21,182,110	10,253,104	4,896,264	3,596,877	2,927,795	78,085,680
Total	67,281,833	40,992,280	16,626,608	9,607,286	6,803,172	4,096,959	145,408,138

The total capital invested in land, buildings, plant, and machinery in manufacturing industries in Australia during the year 1921–22 was approximately £145,408,138 (or £26 8s. 11d. per head of population); of that sum £67,322,458 was invested in land and buildings occupied as manufactories, the remaining £78,085,680 being the value of the plant and machinery used in connexion therewith.

2. *Value of Land and Buildings*.—(i) *Total, Australia, 1918 to 1921–22*. 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 to 1921–22 inclusive :—

VALUE OF LAND AND BUILDINGS.—AUSTRALIA, 1918 TO 1921–22.

Class of Industry.	1918.	1918–19.a	1919–20.a	1920–21.a	1921–22.a
	£	£	£	£	£
I. Treating raw material, product of agricultural and pastoral pursuits, etc.	1,237,117	1,415,725	1,588,513	1,811,005	1,910,816
II. Treating oils and fats, animal, vegetable, etc.	573,005	610,573	614,877	680,763	741,683
III. Processes in stone, clay, glass, etc.	1,739,247	1,943,848	2,216,901	2,814,447	3,067,776
IV. Working in wood	2,283,985	2,349,500	2,622,071	3,061,888	3,359,738
V. Metal works, machinery, etc.	7,961,012	8,163,051	8,997,496	10,409,753	10,607,622
VI. Connected with food and drink, etc.	11,640,843	12,403,204	13,411,552	14,218,716	15,306,571
VII. Clothing and textile fabrics, etc.	5,695,268	6,059,980	6,876,671	8,265,497	10,122,483
VIII. Books, paper, printing, and engraving	4,028,048	4,029,014	4,270,008	4,748,597	5,158,723
IX. Musical instruments, etc.	98,680	121,885	134,462	195,072	226,751
X. Arms and explosives	260,550	257,520	260,420	275,482	277,562
XI. Vehicles and fittings, saddlery and harness, etc.	1,955,096	2,156,572	2,467,633	3,093,034	3,576,519
XII. Ship and boat building and repairing	1,009,201	1,059,529	1,122,468	1,391,113	1,860,720
XIII. Furniture, bedding, and upholstery	1,103,679	1,189,103	1,325,762	1,663,270	1,839,005
XIV. Drugs, chemicals, and by-products	1,318,731	1,393,237	1,446,721	1,687,207	2,059,410
XV. Surgical and other scientific instruments	94,524	106,225	104,628	132,161	156,048
XVI. Jewellery, timepieces, and plated ware	336,289	369,050	425,214	487,763	578,963
XVII. Heat, light, and power	3,873,224	3,999,806	4,342,913	4,867,348	5,138,371
XVIII. Leatherware, n.e.l.	165,835	178,444	231,073	304,506	310,904
XIX. Minor wares, n.e.l.	421,370	472,639	554,588	733,756	1,022,793
Total	45,795,704	48,278,905	53,017,571	60,831,468	67,322,458

(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 £21,526,754, or an annual average of £5,381,638. The largest increases were in Classes VII., VI., V., XI., and IV., and amounted to £4,427,215, £3,665,728, £2,646,610, £1,621,423, and £1,328,529 respectively.

(ii) *Value in each State, 1921-22.* The following table gives similar information for each State for the past year :—

VALUE OF LAND AND BUILDINGS.—STATES, 1921-22.

Class of Industry.	N.S.W. 1921-22.	Vic. 1921-22.	Q'land. 1921.	S. Aust. 1921-22.	W. Aust. 1921.	Tas. 1921.	Australia.
	£	£	£	£	£	£	£
I. Treating raw material, product of agricultural and pastoral pursuits, etc.	866,411	748,030	113,111	109,902	53,329	20,033	1,910,816
II. Treating oils and fats, animal, vegetable, etc.	458,632	182,285	34,677	41,287	18,413	6,389	741,683
III. Processes in stone, clay, glass, etc.	1,764,215	693,555	120,511	288,252	167,280	33,963	3,067,776
IV. Working in wood	1,554,847	671,435	343,498	224,092	470,583	95,283	3,359,738
V. Metal works, machinery, etc.	5,510,268	2,582,365	744,927	964,682	631,349	174,031	10,607,622
VI. Connected with food and drink, etc.	5,974,576	4,264,535	3,068,498	1,065,550	588,027	345,385	15,306,571
VII. Clothing and textile fabrics, etc.	4,341,854	4,298,955	555,089	499,358	264,585	162,642	10,122,483
VIII. Books, paper, printing, and engraving	2,464,299	1,414,435	579,717	376,400	259,262	64,610	5,158,723
IX. Musical instruments, etc.	136,091	84,010	..	6,650	..	..	226,751
X. Arms and explosives	75,522	197,946	..	4,100	..	..	277,562
XI. Vehicles and fittings, saddlery and harness, etc.	1,621,397	1,002,880	238,971	395,240	201,869	116,162	3,576,519
XII. Ship and boat building and repairing	1,538,776	249,180	10,487	49,737	5,390	7,150	1,860,720
XIII. Furniture, bedding, and upholstery	802,602	586,625	173,167	134,555	107,566	34,490	1,839,005
XIV. Drugs, chemicals, and by-products	1,133,922	572,340	12,814	198,475	132,249	9,550	2,059,410
XV. Surgical and other scientific instruments	58,085	35,940	31,903	13,845	16,275	..	156,048
XVI. Jewellery, timepieces, and plated ware	263,326	210,890	33,695	34,495	22,815	13,742	578,963
XVII. Heat, light, and power	2,978,500	1,326,455	270,798	255,893	226,023	80,702	5,138,371
XVIII. Leatherware, n.e.i.	151,947	134,667	16,590	7,470	(a)	232	310,904
XIX. Minor wares, n.e.i.	359,973	553,650	25,051	41,039	(b) 41,280	4,800	1,022,793
Total	32,052,303	19,810,170	6,373,504	4,711,022	3,206,295	1,169,164	67,322,458

(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 £15,306,571, or 22.74 per cent. on the total value. The next in order of importance were Classes V., VII., VIII., and XVII., in which the values were £10,607,622, £10,122,483, £5,158,723, and £5,138,371 respectively. The sum of the values for the five classes mentioned amounted to £46,333,770, or 68.82 per cent. on the total value for all classes.

(iii) *Value in each State, 1918 to 1921-22.* The total value of factory land and buildings at the end of each year from 1918 to 1921-22 is given hereunder.

VALUE OF LAND AND BUILDINGS, 1918 TO 1921-22.

Year.(a)	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tasmania.	Australia.
	£	£	£	£	£	£	£
1918	20,533,171	12,847,485	5,519,316	3,564,366	2,487,967	843,399	45,795,704
1918-19	22,081,877	13,673,515	5,519,316	3,672,831	2,487,967	843,399	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	4,495,667	3,350,608	981,660	60,831,468
1921-22	32,052,303	19,810,170	6,373,504	4,711,022	3,206,295	1,169,164	67,322,458

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

Since 1918 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 £2,879,783, £1,740,671, and £286,664 respectively.

3. Value of Plant and Machinery.—(i) *Total, Australia, 1918 to 1921-22.* The following table shows for Australia as a whole the approximate value of plant and machinery used in factories during each year from 1918 to 1921-22 inclusive :—

VALUE OF PLANT AND MACHINERY.—AUSTRALIA, 1918 TO 1921-22.

Class of Industry.	1918.	1918-19.(a)	1919-20.(a)	1920-21.(a)	1921-22.(a)
	£	£	£	£	£
I. Treating raw material, product of agricultural and pastoral pursuits, etc.	1,216,281	1,382,538	1,668,023	1,823,119	1,915,266
II. Treating oils and fats, animal, vegetable, etc.	634,936	688,737	712,583	829,390	881,060
III. Processes in stone, clay, glass, etc.	2,172,225	2,414,539	2,853,294	3,565,083	4,281,438
IV. Working in wood	2,015,781	3,063,111	3,398,146	4,083,711	4,543,992
V. Metal works, machinery, etc.	10,259,553	10,702,907	11,959,693	14,658,625	15,333,262
VI. Connected with food and drink, etc.	13,026,771	13,648,102	14,532,708	16,472,128	18,037,602
VII. Clothing and textile fabrics, etc.	2,006,983	2,255,623	3,059,732	3,781,164	4,840,385
VIII. Books, paper, printing, and engraving	3,124,559	3,225,151	3,684,858	4,246,439	4,800,224
IX. Musical instruments, etc.	26,827	26,532	31,302	58,078	66,274
X. Arms and explosives	323,073	345,880	327,700	304,800	271,845
XI. Vehicles and fittings, saddlery and harness, etc.	477,472	532,361	627,087	853,259	941,849
XII. Ship and boat building and repairing	1,477,247	1,627,143	1,711,746	1,520,756	2,161,809
XIII. Furniture, bedding, and upholstery	281,229	306,833	369,738	466,952	505,870
XIV. Drugs, chemicals, and by-products	1,055,262	1,091,229	1,264,703	1,497,619	1,646,119
XV. Surgical and other scientific instruments	19,813	23,333	28,257	32,299	36,542
XVI. Jewellery, timepieces, and plated ware	75,437	84,453	103,690	114,892	125,764
XVII. Heat, light, and power	11,274,492	12,025,382	13,127,358	13,515,725	16,032,361
XVIII. Leatherware, n.e.c.	37,103	40,477	48,136	66,544	76,251
XIX. Minor wares, n.e.c.	387,256	413,457	490,840	734,687	997,767
Total	50,792,305	53,897,808	59,999,594	68,655,270	78,085,680

(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 £27,293,375, or an annual average of £6,823,344. All classes of industry participated, the largest increase being in Class V., "Metal Works, Machinery etc.," where it amounted to £5,573,704, while the next in order were Class VI., "Connected with Food and Drink, etc.," with an increase of £5,010,831, and Class XVII., "Heat, Light, and Power," £4,757,869.

(ii) *Value in each State, 1918 to 1921-22.* 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., £13,489,791; while Victoria comes next with £8,569,313.

VALUE OF PLANT AND MACHINERY.—STATES, 1918 TO 1921-22.

Year.(a)	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tasmania.	Total.
	£	£	£	£	£	£	£
1918	21,739,739	12,612,707	8,391,480	3,389,719	2,742,386	1,916,184	50,792,305
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	18,179,365	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

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

(iii) *Value according to Industry, 1921-22.* The following table shows the value of plant and machinery used in factories in each State during 1921-22, classified according to the nature of the industry in which used:—

VALUE OF PLANT AND MACHINERY.—INDUSTRIES, 1921-22.

Class of Industry.	N.S.W. 1921-22.	Vic. 1921-22.	Q'land. 1921.	S. Aust. 1921-22.	W. Aust. 1921.	Tas. 1921.	Australia.
	£	£	£	£	£	£	£
I. Treating raw material, product of agricultural and pastoral pursuits, etc.	985,907	665,655	166,711	91,939	56,419	48,635	1,915,266
II. Treating oils and fats, animal, vegetable, etc.	547,156	208,595	58,723	52,906	14,417	1,263	881,060
III. Processes in stone, clay, glass, etc.	2,518,534	814,015	172,062	457,897	287,387	31,543	4,281,438
IV. Working in wood	1,251,549	985,165	688,869	122,601	1,251,621	244,287	4,543,992
V. Metal works, machinery, etc.	9,500,679	2,754,560	1,126,694	872,366	433,931	1,145,032	15,833,262
VI. Connected with food and drink, etc.	6,262,806	4,373,595	5,724,920	959,500	490,346	226,435	18,037,602
VII. Clothing and textile fabrics, etc.	1,487,170	2,870,235	183,481	168,542	49,654	81,303	4,840,385
VIII. Books, paper, printing, and engraving	2,241,029	1,711,570	381,383	266,380	212,024	77,838	4,890,224
IX. Musical instruments, etc.	42,343	22,275	..	1,656	..	..	66,274
X. Arms and explosives	54,935	216,460	..	450	..	..	271,845
XI. Vehicles and fittings, saddlery and harness, etc.	401,991	298,480	58,805	122,324	34,674	25,575	941,849
XII. Ship and boat building and repairing	1,936,849	115,755	30,615	72,540	3,030	3,020	2,161,809
XIII. Furniture, bedding and upholstery	203,217	144,215	70,003	43,294	31,226	13,915	505,870
XIV. Drugs, chemicals, and by-products	721,595	431,195	7,854	342,471	140,431	2,573	1,646,119
XV. Surgical and other scientific instruments	14,608	10,930	5,060	4,164	1,780	..	36,542
XVI. Jewellery, timepieces, and plated ware	43,104	59,390	7,016	11,310	2,674	2,270	125,764
XVII. Heat, light, and power	6,780,895	4,820,200	1,563,857	1,270,722	573,620	1,023,067	16,032,361
XVIII. Leatherware, n.e.i.	32,913	39,600	2,433	965	(a)	340	76,251
XIX. Minor wares, n.e.i.	302,250	642,220	4,618	34,237	(b)13,743	699	997,767
Total ..	35,229,530	21,182,110	10,253,104	4,896,264	3,596,877	2,927,795	78,085,680

(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 £18,037,602, or 23.10 per cent. on the total for all classes. The next in order of importance is Class XVII., "Heat, Light, and Power," amounting to £16,032,361, or 20.53 per cent. on the total, followed by Class V., "Metal Works, Machinery, etc.," which amounts to £15,833,262, or 20.28 per cent. on the total value. The total for these three classes amounts to £49,903,225, or 63.91 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, 1921-22.* In Class I. the most important industry is tanning. Until recent years, the production of tanneries in Australia was confined to the coarser class of leathers, but lately the tanning of the finer skins has been undertaken with satisfactory results. The position of the industry in the several States is as follows :—

TANNERIES, 1921-22.

Items.	N.S.W. 1921-22.	Vic. 1921-22.	Q'land. 1921.	S. Aust. 1921-22.	W.A. 1921.	Tas. 1921.	Aus- tralia.
Number of factories	80	48	17	9	7	3	164
Number of employees	1,333	2,384	334	200	105	82	4,438
Actual horse-power of engines employed	2,974	3,568	416	331	249	158	7,697
Approx. value of land and buildings £	274,946	357,500	22,240	29,156	25,476	12,384	721,699
Approx. value of plant and machinery £	186,079	319,015	28,634	17,710	20,990	8,580	581,008
Total amount of wages paid during year £	294,948	501,604	53,168	47,276	21,908	16,107	935,009
Value of fuel used	21,516	41,296	3,181	4,316	1,544	726	72,581
Value of raw material worked up	1,373,056	1,779,166	256,258	127,399	74,871	73,248	3,684,000
Total value of output	1,891,201	2,740,421	395,796	203,436	120,471	100,263	5,451,596
Value added in process of manufacture £	518,141	961,261	139,538	76,037	45,606	27,015	1,767,596

(ii) *Development in Australia, 1918 to 1921-22.* The development of the tanning industry during the period 1918 to 1921-22 is shown in the following table :—

TANNERIES.—AUSTRALIA, 1918 TO 1921-22.

Items.	1918.	1918-19.	1919-20.	1920-21.	1921-22.
Number of factories	153	153	160	164	164
Number of employees	3,396	3,688	4,147	4,026	4,438
Actual horse-power of engines used	4,884	5,247	6,367	6,868	7,697
Approx. value of land and buildings £	441,737	459,163	552,521	684,892	721,699
Approx. value of plant and machinery £	328,927	360,682	422,976	520,400	581,008
Total amount of wages paid	493,880	577,043	777,368	825,751	935,009
Value of fuel used	40,558	45,957	60,981	62,247	72,581
Value of raw materials worked up	3,831,180	4,423,092	6,837,835	4,596,271	3,684,000
Value of final output	4,990,412	5,762,741	8,772,336	6,179,417	5,451,596
Value added in process of manufacture £	1,159,232	1,339,649	1,934,501	1,583,146	1,767,596

The above table shows increases in all items, except materials used, in the tanning industry during the past four years. Owing to the decline in prices during the latest year under review, monetary increases do not accurately reflect the measure of growth, but the production of leather increased from 42,200,138 lbs. in 1918 to 49,846,838 lbs. in 1921-22, while the number of basils turned out increased by 1,440,744 during the period.

(iii) *Raw Materials Used, 1921-22.* The quantities of raw materials used in tanneries in each State are shown in the following table :—

TANNERIES.—RAW MATERIALS USED, 1921-22.

Particulars.	N.S.W. 1921-22.	Victoria. 1921-22.	Q'land. 1921.	S. Aust. 1921-22.	W. Aust. 1921.	Tas. 1921.	Australia.
Hides and calf skins .. No. ..	744,678	1,305,489	143,914	66,898	39,277	28,810	2,329,066
Sheep pelts	3,912,006	1,626,450	76,580	73,359		98,811	5,787,206
Other skins	247,684	416,367	323,732	7,035	31,473	920	1,027,211
Bark Tons ..	11,836	13,852	2,411	1,329	924	460	30,821

3. **Fellmongering and Wool-scouring Works.**—(i) *Details for each State, 1921–22.* 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, 1921–22.

Items.	N.S.W. 1921–22.	Vic. 1921–22.	Q'land. 1921.	S. Aust. 1921–22.	W.A. 1921.	Tas. 1921.	Australia.
Number of factories	45	30	17	2	3	..	97
Number of employees	1,531	611	321	60	48	..	2,571
Actual horse-power of engines used	3,616	1,773	1,035	99	134	..	6,657
Approx. value of land and buildings £	260,065	183,345	77,545	a	a	..	541,561b
Approx. value of plant and machinery £	393,769	185,340	117,875	a	a	..	720,972b
Total amount of wages paid	330,210	123,839	57,171	a	a	..	533,705b
Value of fuel used	52,269	31,827	10,451	a	a	..	99,741b
Value of raw material worked up	3,148,888	967,034	1,237,429	a	a	..	5,660,278b
Value of final output	3,786,718	1,212,620	1,347,707	a	a	..	6,699,452b
Value added in process of manufacture £	637,830	245,586	110,278	a	a	..	1,039,174b

(a) Information not available for publication.

(b) Including South Australia and Western Australia.

(ii) *Development in Australia, 1918 to 1921–22.* 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 TO 1921–22.

Items.	1918.	1918–19.	1919–20.	1920–21.	1921–22.
Number of factories	102	107	110	97	97
Number of employees	3,191	3,392	3,610	2,707	2,571
Actual horse-power of engines used	4,991	5,707	6,025	6,278	6,657
Approx. value of land and buildings £	348,170	466,658	514,499	548,084	541,561
Approx. value of plant and machinery £	488,301	584,343	683,227	681,366	720,972
Total amount of wages paid	404,079	517,161	652,842	510,286	533,705
Value of fuel used	66,113	84,478	99,981	84,833	99,741
Value of raw materials worked up	10,290,131	11,213,481	12,279,135	6,682,138	5,660,278
Value of final output	12,105,929	13,126,314	14,745,652	7,913,477	6,699,452
Value added in process of manufacture £	1,815,798	1,912,833	2,466,517	1,231,339	1,039,174

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 68,703,325 lbs. in 1921–22, which is, however, equal to the average pre-war output.

4. **Soap and Candle Factories.**—(i) *Details for each State, 1921–22.* 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 1921–22 :—

SOAP AND CANDLE FACTORIES, 1921–22.

Items.	N.S.W. 1921–22.	Victoria. 1921–21.	Q'land. 1921.	S. Aust. 1921–22.	W.A. 1921. (c)	Tas. 1921.	Australia.
Number of factories	27	17	11	6	7	1	69
Number of employees	1,122	742	161	178	105	21	2,329
Actual horse-power of engines employed	1,021	493	188	180	123	10	2,015
Approx. value of land and buildings £	238,452	155,640	34,677	28,525	a	a	479,872b
Approx. value of plant and machinery £	330,403	174,460	58,723	32,002	a	a	610,418b
Total amount of wages paid during year £	170,925	139,519	27,470	37,010	a	a	394,567b
Value of fuel used	44,093	37,878	4,487	4,884	a	a	94,204b
Value of raw material worked up	721,702	625,335	123,612	189,843	a	a	1,755,252b
Total value of output	1,264,540	1,096,955	218,505	282,547	a	a	3,007,286b
Value added in process of manufacture £	542,838	471,620	94,893	101,704	a	a	1,252,034b

(a) Particulars not available for publication.

(b) Including Western Australia and Tasmania.

(c) Includes barkmilling and oil establishments.

(ii) *Development in Australia, 1918 to 1921-22.* The following table gives similar particulars for the last five years as regards Australia as a whole :—

SOAP AND CANDLE FACTORIES.—AUSTRALIA, 1918 TO 1921-22.

Items.	1918. <i>a</i>	1918-19. <i>a</i>	1919-20. <i>b</i>	1920-21. <i>b</i>	1921-22. <i>c</i>
Number of factories	62	60	61	62	69
Number of employees	2,128	1,902	2,163	2,008	2,329
Actual horse-power of engines used	1,083	1,568	1,749	1,782	2,015
Approx. value of land and buildings	£ 400,517	426,909	428,824	426,339	479,872
Approx. value of plant and machinery	£ 444,219	488,402	486,187	537,534	610,418
Total amount of wages paid	£ 242,960	251,762	296,352	326,449	394,567
Value of fuel used	£ 67,639	65,469	81,938	88,728	94,204
Value of raw material worked up	£ 1,762,408	1,830,417	2,389,706	2,119,957	1,755,252
Value of final output	£ 2,550,562	2,618,806	3,377,783	2,941,833	3,007,986
Value added in process of manufacture	£ 788,154	788,389	988,077	821,876	1,252,034

(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.

(iii) *Raw Materials Used, 1918 to 1921-22.* The following statement shows the quantity of certain raw materials used in soap and candle factories in Australia during the years 1918 to 1921-22 :—

SOAP AND CANDLE FACTORIES.—RAW MATERIALS USED, AUSTRALIA, 1918 TO 1921-22.

Particulars.	1918. <i>a</i>	1918-19. <i>a</i>	1919-20. <i>a</i>	1920-21. <i>a</i>	1921-22. <i>a</i>
Tallow cwt.	423,021	431,638	390,267	353,001	460,164
Alkali	144,112	126,981	123,101	120,882	134,994
Coconut oil gal.	533,685	624,802	469,549	459,013	591,117

(a) Exclusive of Western Australia.

(iv) *Production of Soap and Candles, 1918 to 1921-22.* The subjoined statement furnishes particulars of the output of soap and candles during the past five years :—

SOAP AND CANDLE FACTORIES.—PRODUCTION, AUSTRALIA, 1918 TO 1921-22.

Particulars.	1918. <i>a</i>	1918-19. <i>a</i>	1919-20. <i>a</i>	1920-21. <i>a</i>	1921-22. <i>a</i>
Soap cwt.	746,166	694,456	788,478	692,192	824,002
Candles	101,098	97,692	104,676	87,304	91,116

(a) Exclusive of Western Australia.

5. Saw-mills, etc.—(i) *Details for States, 1921–22.* 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., 1921–22.

Items.	N.S.W. 1921–22.	Victoria. 1921–22.	Q'land. 1921.	S. Aust. 1921–22.	W. Aust. 1921.	Tas. 1921.	Australia.
Number of factories	702	547	293	84	147	170	1,943
Number of employees	8,183	8,836	4,588	1,437	5,411	2,067	30,522
Actual horse-power of engines employed	18,351	14,174	9,601	2,461	8,701	2,758	56,046
Approximate value of land and buildings £	1,351,391	592,135	315,325	217,947	470,583	89,063	3,036,444
Approximate value of plant and machinery £	1,121,064	904,245	633,435	120,761	1,251,521	240,199	4,271,225
Total amount of wages paid during year £	1,485,435	1,680,211	774,893	273,863	1,151,052	336,077	5,701,531
Value of fuel used £	44,525	35,148	15,728	7,834	8,824	2,990	115,049
Value of raw material worked up £	3,596,810	2,131,563	1,213,828	1,013,347	240,041	153,030	8,348,619
Total value of output £	5,716,590	4,860,148	2,479,158	1,505,541	1,661,715	608,958	16,832,110
Value added in process of manufacture £	2,119,780	2,728,585	1,265,330	492,194	1,421,674	455,928	8,483,491

(ii) *Development in Australia, 1918 to 1921–22.* The development of forest and other saw-mills, etc., since 1918 is shown in the following table :—

SAW-MILLS, FOREST AND OTHER ; JOINERY, ETC.—AUSTRALIA,
1918 TO 1921–22.

Items.	1918.	1918–19.	1919–20.	1920–21.	1921–22.
Number of establishments	1,575	1,621	1,766	1,897	1,943
Number of employees	22,756	24,427	28,171	30,074	30,522
Actual horse-power of engines used	45,756	46,641	51,691	57,947	56,046
Approx. value of land and buildings £	2,086,166	2,132,509	2,376,011	2,773,952	3,036,444
Approx value of plant and machinery £	2,784,355	2,937,691	3,253,706	3,868,390	4,271,225
Total amount of wages paid £	2,870,214	3,189,087	4,052,707	5,248,331	5,701,531
Value of fuel used £	69,506	78,294	91,341	102,195	115,049
Value of raw material worked up £	5,159,691	5,773,999	7,624,110	9,344,674	8,348,619
Value of final output £	9,829,872	10,890,530	14,276,983	17,446,035	16,832,110
Value added in process of manufacture £	4,670,181	5,116,531	6,652,873	8,101,361	8,483,491

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 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, 1921-22.* The following table gives particulars of the agricultural implement works in each State for the year 1921-22 :—

AGRICULTURAL IMPLEMENT WORKS, 1921-22.

Items.	N.S.W. 1921-22.	Vic. 1921-22.	Q'land. 1921.	S. Aust. 1921-22.	W. Aust. 1921.	Tas. 1921.	Aus- tralia.
Number of factories	25	58	8	44	5	..	140
Number of employees	461	2,916	187	916	216	..	4,696
Actual horse-power of engines employed ..	294	1,601	237	946	234	..	3,512
Approx. value of land and buildings £	126,602	180,320	26,970	73,001	28,340	..	435,233
Approx. value of plant and machinery £	51,102	290,500	25,043	83,696	22,555	..	478,896
Total amount of wages paid during year £	97,698	643,874	36,730	158,249	51,059	..	987,610
Value of fuel used	£ 3,480	43,794	1,171	9,523	3,442	..	60,410
Value of raw material worked up	£ 103,317	806,066	39,838	192,230	246,120	..	1,387,571
Total value of output	£ 259,675	1,767,843	98,848	412,727	324,082	..	2,863,875
Value added in process of manufacture £	156,358	961,777	58,810	220,497	78,862	..	1,476,804

(iii) *Development in Australia, 1918 to 1921-22.* The Agricultural Implement industry declined considerably during and immediately after the war, but since 1919-20 the number of employees increased by more than 50 per cent., while the value of the finished product was more than doubled in the two years. Details for the past five years are as follows :—

AGRICULTURAL IMPLEMENT WORKS.—AUSTRALIA, 1918 TO 1921-22.

Items.	1918.	1918-19.a	1919-20.a	1920-21.a	1921-22.
Number of factories	142	138	141	141	140
Number of employees	3,336	2,914	3,116	4,209	4,696
Actual horse-power of engines used	2,566	2,333	2,505	2,576	3,512
Approx. value of land and buildings £	355,830	367,951	368,897	392,870	435,233
Approx. value of plant and machinery £	360,621	350,754	372,040	431,152	478,896
Total amount of wages paid	£ 428,522	420,750	465,558	794,554	987,610
Value of fuel used	£ 30,011	26,755	30,096	55,709	60,410
Value of raw material worked up	£ 762,969	531,766	586,048	1,064,611	1,387,571
Value of final output	£ 1,415,375	1,149,121	1,282,931	2,288,713	2,863,875
Value added in process of manufacture £	652,406	617,355	696,883	1,224,102	1,476,804

(a) Excluding three establishments in Western Australia.

7. *Engineering Works, Ironworks, and Foundries.*—(i) *Details for States, 1921-22.* 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, 1921-22.

Items.	N.S.W. 1921-22.	Victoria. 1921-22.	Q'land. 1921.	S. Aust. 1921-22.	W. Aust. 1921.	Tas. 1921.	Australia.
Number of factories	449	571	99	72	67	23	1,281
Number of employees	13,885	10,906	2,317	1,992	1,080	448	30,628
Actual horse-power of engines employed ..	33,996	12,591	1,805	1,586	1,431	371	51,780
Approximate value of land and buildings	£ 2,430,999	1,180,685	217,565	183,525	142,425	41,815	4,197,014
Approximate value of plant and machinery	£ 3,834,112	1,413,355	263,237	232,866	137,889	52,208	5,933,667
Total amount of wages paid during year	£ 2,919,245	2,188,095	465,859	388,285	216,898	87,217	6,265,599
Value of fuel used	£ 334,997	204,821	24,517	38,192	15,146	5,600	623,273
Value of raw materials worked up	£ 7,620,536	2,709,952	470,625	629,989	236,244	60,061	11,727,407
Total value of output	£ 12,011,000	6,329,503	1,150,995	1,240,782	544,811	191,504	21,468,595
Value added in process of manufacture	£ 4,390,464	3,619,551	680,370	610,793	308,567	131,443	9,741,188

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 to 1921-22.* The development of engineering works, ironworks, and foundries in Australia since 1918 is shown in the following table :—

**ENGINEERING WORKS, IRONWORKS, AND FOUNDRIES.—AUSTRALIA,
1918 TO 1921-22.**

Items.	1918.a	1918-19a.	1919-20a.	1920-21a.	1921-22.
Number of factories	1,012	1,058	1,141	1,248	1,281
Number of employees	23,783	25,834	31,050	33,914	30,628
Actual horse-power of engines used ..	44,317	47,078	53,410	48,852	51,780
Approx. value of land and buildings £	2,910,881	3,139,984	3,527,933	4,108,640	4,197,014
Approx. value of plant and machinery £	4,744,750	5,120,625	6,339,285	5,702,388	5,933,667
Total amount of wages paid £	3,365,045	3,821,623	5,161,441	6,523,651	6,265,599
Value of fuel used	493,116	649,119	1,037,012	631,032	623,273
Value of raw material worked up £	7,520,930	9,942,386	11,928,660	14,247,190	11,727,407
Value of final output £	13,322,705	16,291,175	20,209,329	24,361,080	21,468,595
Value added in process of manufacture £	5,801,865	6,348,780	8,280,669	10,113,890	9,741,188

(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 the number of establishments has increased by more than 26 per cent., the number of employees by 28 per cent., the amount of wages paid 86 per cent., the amount of capital invested in land, buildings, plant, and machinery 32 per cent., and the output by 61 per cent. 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, 1921-22.* 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, 1921-22.

Items.	N.S.W. 1921-22.	Victoria. 1921-22.	Q'land. 1921.	S. Aust. 1921-22.	W. Aust. 1921.	Tas. 1921.	Australia.
Number of factories	39	18	12	19	6	7	101
Number of employees	10,831	5,415	2,588	2,938	1,657	373	23,802
Actual horse-power of engines employed	6,672	2,658	2,943	1,136	2,264	216	15,889
Approximate value of land and buildings £	1,376,809	734,520	351,020	363,829	454,140	7,075	3,287,393
Approximate value of plant and machinery £	1,586,953	668,400	253,809	240,939	271,440	90,248	3,111,789
Total amount of wages paid during year £	2,604,366	1,282,617	619,907	656,424	357,177	89,466	5,609,957
Value of fuel used £	48,963	35,853	10,407	24,231	20,782	3,121	143,357
Value of raw material worked up £	1,904,000	1,574,766	364,816	324,584	313,330	36,562	4,518,058
Total value of output £	4,591,907	3,182,559	892,017	1,118,314	683,474	142,391	10,610,662
Value added in process of manufacture £	2,687,907	1,607,793	527,201	793,730	370,144	105,829	6,092,604

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 to 1921-22.* The following table shows the development of railway and tramway workshops in Australia since 1918 :—

RAILWAY AND TRAMWAY WORKSHOPS.—AUSTRALIA, 1918 TO 1921-22.

Items.	1918.	1918-19.	1919-20.	1920-21.	1921-22.
Number of factories	95	94	94	103	101
Number of employees	18,071	19,036	21,488	23,670	23,802
Actual horse-power of engines used	12,874	13,434	15,626	16,142	15,889
Approx. value of land and buildings £	2,904,419	2,944,626	2,976,838	3,123,818	3,287,393
Approx. value of plant and machinery £	2,614,127	2,636,591	2,616,001	2,810,282	3,111,789
Total amount of wages paid	2,839,827	3,106,829	3,977,702	5,273,942	5,609,957
Value of fuel used	81,487	90,818	104,496	132,956	143,357
Value of raw material worked up	1,934,645	2,082,557	2,829,907	3,808,850	4,518,058
Value of final output	5,037,255	5,418,996	7,116,984	9,488,649	10,610,662
Value added in process of manufacture £	3,102,610	3,336,439	4,287,077	5,679,799	6,092,604

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 the rate of expansion has been rapid. The number of employees has risen from 18,071 to 23,802, and the value of the output has been 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, 1921-22.

Items.	N.S.W. 1921-22.	Victoria. 1921-22.	Q'land. 1921.	S. Aust. 1921-22.	W.A. 1921. (a)	Tas. 1921.	Australia.
Number of factories	21	12	8	2	..	4	47
Number of employees	3,611	110	600	1,166	..	675	6,162
Actual horse-power of engines employed	27,957	101	5,420	5,346	..	14,124	52,948
Approx. value of land and buildings £	591,590	18,820	26,019	b	..	b	c 1,005,351
Approx. value of plant and machinery £	2,926,311	27,005	489,390	b	..	b	c 4,694,528
Total amount of wages paid during year £	944,476	18,996	81,707	b	..	b	c 1,417,875
Value of fuel used	1,094,907	3,799	52,555	b	..	b	c 1,386,455
Value of raw material worked up	4,624,382	125,361	152,837	b	..	b	c 7,125,665
Total value of output	8,591,560	172,948	345,705	b	..	b	c 12,270,376
Value added in process of manufacture £	3,967,178	47,587	192,868	b	..	b	c 5,144,711

(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 twenty-one smelting works; those for Victoria include four cyanide works, five metallurgical, one pyrites, and two smelting works; Queensland smelting and cyaniding works; South Australia two smelting works; and Tasmania four smelting works.

The figures for the base metal industry during 1921-22 show a decrease of 1,235 employees on the previous year's totals, but there was an addition of 7,705 to the horse-power of machinery employed, while the value of the output was practically identical with that of 1920-21.

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, 1921-22.* The following table gives particulars of factories engaged in bacon-curing in each State during the past year :—

BACON-CURING FACTORIES, 1921-22.

Items.	N.S.W. 1921-22.	Victoria. 1921-22.	Q'land. 1921.	S. Aust. 1921-22.	W. Aust. 1921.	Tas. 1921.	Aus- tralia.
Number of factories ..	19	22	6	10	6	4	67
Number of employees ..	266	477	400	127	70	21	1,361
Actual horse-power of engines employed ..	527	1,424	523	206	229	70	2,979
Approximate value of land and buildings ..	£ 106,581	178,940	90,903	21,072	29,038	4,379	430,913
Approximate value of plant and machinery ..	£ 50,596	110,900	47,188	12,408	15,044	1,886	238,022
Total amount of salaries and wages paid ..	£ 65,288	103,783	88,747	23,500	14,668	3,313	299,299
Value of fuel used ..	£ 11,519	17,785	10,231	2,108	2,217	476	44,336
Value of raw material worked up ..	£ 713,688	1,089,984	724,963	226,144	124,312	61,467	2,940,558
Total value of output ..	£ 938,418	1,366,832	1,093,292	277,680	149,143	68,231	3,893,596
Value added in process of manufacture ..	£ 224,730	276,848	368,329	51,536	24,831	6,764	953,038

(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 1921-22 :—

BACON-CURING FACTORIES.—PIGS KILLED, AND PRODUCTION, 1921-22.

Particulars.	N.S.W. 1921-22.	Victoria. 1921-22.	Q'land. 1921.	S. Aust. 1921-22.	W. Aust. 1921.	Tasmania. 1921.	Aus- tralia.
PIGS KILLED.							
Number ..	180,331	163,917	151,735	45,659	(a)18,872	8,995	569,509
PRODUCTS (,000 OMITTED).							
Bacon and ham ..	lbs. 18,544	15,584	11,974	4,169	1,729	841	52,841
Lard ..	771	765	800	247	192	57	2,832
VALUE.							
Bacon and ham ..	£ 869,818	1,187,271	772,194	221,297	116,507	60,263	3,227,350
Lard ..	£ 22,934	25,512	31,867	9,380	10,381	3,149	103,223
Other products ..	£ 65,868	154,049	289,231	47,003	b	4,819	560,970

(a) In Western Australia, a portion of the bacon and ham treated in factories is imported and subsequently smoked in that State. (b) Not available.

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, 1921-22.* The subjoined table gives particulars of butter, cheese and condensed milk factories in each State during the year 1921-22 :—

BUTTER, CHEESE, AND CONDENSED MILK FACTORIES, 1921-22.

Items.	N.S.W. 1921-22.	Victoria. 1921-22.	Q'land. 1921.	S. Aust. 1921-22.	W.A. 1921.	Tas. 1921.	Australia.
Number of factories	183	188	134	46	7	33	591
Number of employees	1,417	2,326	1,198	262	37	128	5,368
Actual horse-power of engines employed	4,047	4,369	2,478	572	216	265	11,947
Approximate value of land and buildings £	394,428	596,315	182,190	119,665	17,279	25,883	1,335,760
Approximate value of plant and machinery £	481,597	799,110	298,223	87,264	17,362	27,613	1,711,169
Total amount of wages paid £	308,891	492,446	240,860	42,986	7,987	16,690	1,109,860
Value of fuel used £	84,373	128,784	39,999	6,787	1,501	2,141	263,585
Value of raw material worked up £	6,100,401	5,953,832	4,895,529	679,109	96,768	336,720	18,062,449
Total value of output £	7,105,654	7,115,642	6,504,630	765,220	121,141	391,328	22,003,615
Value added in process of manufacture £	1,005,253	1,161,810	1,609,101	86,021	24,373	54,608	3,941,166

(ii) *Development in Australia, 1918 to 1921-22.* The following table shows the progress of the factories in this industry during the past four years :—

**BUTTER, CHEESE, AND CONDENSED MILK FACTORIES.—AUSTRALIA,
1918 TO 1921-22.**

Items.	1918.	1918-19.	1919-20.	1920-21.	1921-22.
Number of factories	557	558	563	579	591
Number of employees	4,075	4,369	4,544	4,981	5,368
Actual horse-power of engines used	9,279	9,491	10,102	11,920	11,947
Approx. value of land and buildings £	823,176	907,148	1,060,544	1,229,964	1,335,760
Approx. value of plant and machinery £	998,841	1,107,127	1,262,706	1,491,974	1,711,169
Total amount of wages paid £	576,548	633,076	742,341	944,783	1,109,860
Value of fuel used £	116,228	140,125	167,142	225,356	263,585
Value of raw material worked up £	12,642,071	13,177,643	13,737,678	22,096,843	18,062,449
Value of final output £	14,322,025	15,120,395	15,989,419	25,400,335	22,003,615
Value added in process of manufacture £	1,679,954	1,942,752	2,251,741	3,303,492	3,941,166

(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, 1921-22.

Particulars.	N.S.W. 1921-22.	Victoria. 1921-22.	Q'land. 1921.	S. Aust. 1921-22.	W. Aust. 1921.	Tasmania. 1921.	Aus- tralia.
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MILK USED (,000 OMITTED).

Butter factories .. gals.	208,400	175,853	117,412	21,073	3,253	8,355	534,346
Cheese	7,377	5,327	13,265	3,270	..	728	29,967
Condensed milk factories ..	2,372	10,738	3,986	..	..	..	17,096

PRODUCTS (,000 OMITTED).

Butter lbs.	95,695	77,501	58,550	10,658	1,532	3,476	247,412
Cheese	7,044	5,360	15,189	3,392	..	724	31,709
Condensed and concentrated milk lbs.	6,022	36,556	15,168	..	..	..	57,746

**BUTTER, CHEESE, AND CONDENSED MILK FACTORIES.—PRODUCTION,
1921–22—continued.**

Particulars.	N.S.W. 1921–22.	Victoria. 1921–22.	Q'land. 1921.	S. Aust. 1921–22.	W. Aust. 1921.	Tasmania. 1921.	Aus- tralia.
VALUE (,000 OMITTED).							
Butter	£ 6,528	4,790	4,029	664	134	361	17,406
Cheese	£ 281	192	794	101	..	31	1,399
Condensed and con- centrated milk ..	£ 256	1,365	782	..	..	..	2,403

In addition to the condensed and concentrated milk made in Australia during 1921–22, 12,636,906 lbs. of powdered milk, valued at £701,472, were manufactured, principally in Victoria.

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, 1921–22.

Items.	N.S.W. 1921–22.	Victoria. 1921–22.	Q'land. 1921.	S. Aust. 1921–22.	W. Aust. 1921.	Tas. 1921.	Aus- tralia.
Number of factories	137	47	59	14	27	12	296
Number of employees	1,865	1,120	3,573	207	160	68	6,993
Actual horse-power of engines employed	9,316	7,934	12,199	1,698	1,159	247	32,553
Approximate value of land and buildings	£ 1,263,044	877,750	1,648,818	<i>a</i>	52,732	<i>a</i>	64,059,598
Approximate value of plant and machinery	£ 1,069,476	726,525	979,309	<i>a</i>	65,670	<i>a</i>	62,981,151
Total amount of wages paid dur- ing year	£ 342,713	258,373	678,417	<i>a</i>	31,286	<i>a</i>	61,367,325
Value of fuel used	£ 105,805	60,837	116,436	22,839	14,378	2,605	322,900
Value of raw material worked up ..	£ 5,292,721	1,213,949	2,535,616	56,162	79,129	1,840	9,179,417
Total value of output	£ 6,063,025	1,684,134	3,609,654	140,556	146,085	31,553	11,675,007
Value added in process of manu- facture	£ 770,304	470,185	1,074,038	84,394	66,956	29,713	2,495,590

(a) Information not available for publication.

(b) Including South Australia and Tasmania.

Exclusive of Victoria, for which State particulars are not available, the returns show that 168,882 tons of ice, valued at £381,272, were manufactured in Australia in 1921–22.

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 1921–22 :—

BISCUIT, ETC., FACTORIES, 1921–22.

Items.	N.S.W. 1921–22.	Victoria. 1921–22.	Q'land. 1921.	S. Aust. 1921–22.	W. Aust. 1921.	Tas. 1921.	Aus- tralia.
Number of factories	12	8	21	3	14	3	61
Number of employees	1,953	1,311	580	183	258	91	4,376
Actual horse-power of engines employed	1,198	465	295	110	149	84	2,301
Approximate value of land and buildings £	173,612	101,000	82,426	a	30,751	a	b 440,647
Approximate value of plant and machinery £	121,663	94,685	40,502	a	16,326	a	b 298,688
Total amount of wages paid during year £	221,892	181,386	107,528	a	34,021	a	b 572,033
Value of fuel used £	26,880	21,335	4,696	2,809	4,507	1,328	61,555
Value of raw material worked up .. £	857,588	588,563	254,347	70,807	116,876	25,882	1,914,063
Total value of output £	1,395,505	942,440	478,964	106,707	181,383	46,294	3,151,273
Value added in process of manufacture £	537,917	353,877	224,617	35,900	64,487	20,412	1,237,210

(a) Information not available for publication.

(b) Including South Australia and Tasmania.

14. Jam and Fruit Preserving, Pickles, Sauces, and Vinegar Factories.—(i) *Details for each State, 1921–22.* The subjoined table gives particulars of factories at which these industries were carried on in each State during the year 1921–22. Separate returns for the different branches of the industry are not available for most of the States.

JAM AND FRUIT PRESERVING, PICKLES, ETC., FACTORIES, 1921–22.

Items.	N.S.W. 1921–22.	Victoria. 1921–22.	Q'land. 1921.	S. Aust. 1921–22.	W. Aust. 1921.	Tas. 1921.	Aus- tralia.
Number of factories	41	50	16	20	13	24	164
Number of employees	1,834	2,272	336	563	140	813	5,958
Actual horse-power of engines employed	779	1,045	281	202	186	764	3,257
Approximate value of land and buildings £	309,873	230,115	66,247	96,869	16,281	111,099	830,484
Approximate value of plant and machinery £	184,101	168,015	62,289	64,411	19,790	58,195	556,801
Total amount of wages paid during year £	193,922	299,072	40,476	55,905	11,864	83,778	685,017
Value of fuel used £	12,391	22,185	2,010	5,316	1,526	5,559	48,987
Value of raw material worked up .. £	897,731	943,821	118,254	223,408	70,878	287,176	2,541,268
Total value of output £	1,285,095	1,538,230	194,363	353,200	93,505	511,386	3,975,779
Value added in process of manufacture £	387,364	594,409	76,109	129,792	22,627	224,210	1,434,511

(ii) *Development in Australia, 1918 to 1921–22.* 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 TO 1921–22.

Items.	1918.	1918–19.	1919–20.	1920–21.	1921–22.
Number of factories	146	143	152	154	164
Number of employees	6,024	6,174	6,974	6,243	5,958
Actual horse-power of engines employed	1,991	1,945	2,526	2,996	3,257
Approx. value of land and buildings £	516,113	528,572	576,302	760,855	830,484
Approx. value of plant and machinery £	274,555	284,085	348,549	516,348	556,801
Total amount of wages paid £	538,344	570,291	731,473	749,980	685,017
Value of fuel used £	36,995	44,477	57,848	58,737	48,987
Value of raw material worked up £	2,930,403	3,326,546	3,757,611	3,465,562	2,541,268
Total value of output £	4,047,912	4,663,026	5,487,960	5,262,608	3,975,779
Value added in process of manufacture £	1,117,509	1,336,480	1,730,349	1,797,046	1,434,511

The progress of the jam industry was very marked during the war years, when an important export trade was built up. During the past three years, however, the exports

have declined, and the production of jams and jellies fell from 135,737,756 lbs. in 1918-19 to 57,195,815 lbs. in 1921-22. The output of preserved fruit and sauce has, however, increased during the past four years.

(iii) *Production.* The following table shows the quantity and value of jams, pickles, and sauces manufactured in each State during 1921-22 :—

JAMS, PRESERVED FRUIT, PICKLES AND SAUCES.—OUTPUT, 1921-22.

Particulars.	N.S.W. 1921-22.	Victoria. 1921-22.	Q'land. 1921.	S. Aust. 1921-22.	W. Aust. 1921.	Tasmania. 1921.	Aus- tralia.
QUANTITY (,000 OMITTED).							
Jams lbs.	19,719	17,664	2,879	6,251	419	10,264	57,196
Pulp "	35	11,236				8,816	20,087
Fruit, preserved "	7,968	26,841	2,670	3,412		956	41,847
Pickles pints	2,161	1,057	385	250	56	11	3,920
Sauces "	6,170	6,601	690	2,249	199	51	15,960
VALUE.							
Jams £	584,781	523,825	78,211	175,568	12,707	305,832	1,680,924
Pulp £	355	187,000				155,420	342,775
Fruit, preserved £	207,823	700,104	60,974	63,689		19,755	1,052,345
Pickles £	72,818	35,593	14,705	9,564	2,743	550	135,973
Sauces £	198,533	212,371	15,518	75,038	6,768	1,516	509,744

15. *Confectionery Factories.*—(i) *Details for each State, 1921-22.* 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 1921-22 are given hereunder :—

CONFECTIONERY FACTORIES, 1921-22.

Items.	N.S.W. 1921-22.	Victoria. 1921-22.	Q'land. 1921.	S. Aust. 1921-22.	W. Aust. 1921.	Tas. 1921.	Aus- tralia.
Number of factories	92	95	9	14	6	7	223
Number of employees	2,765	3,149	705	502	235	43	7,399
Actual horse-power of engines employed	1,649	2,897	170	300	263	34	5,313
Approximate value of land and buildings £	636,642	375,540	51,576	53,218	60,063	8,500	1,185,539
Approximate value of plant and machinery £	662,243	635,720	26,486	49,585	42,350	3,600	1,419,984
Total amount of wages paid during year £	421,260	464,173	79,261	49,755	27,029	5,319	1,046,797
Value of fuel used £	36,509	57,270	2,607	5,584	3,028	483	105,479
Value of raw material worked up £	1,533,692	1,275,932	109,008	180,411	92,480	29,157	3,220,680
Total value of output £	2,611,156	2,289,555	239,064	279,389	134,386	44,370	5,597,920
Value added in process of manufacture £	1,077,464	1,013,623	130,056	98,978	41,906	15,213	2,377,240

(ii) *Development in Australia, 1918 to 1921-22.* The growth of the confectionery industry during the past four years is exhibited in the following table :—

CONFECTIONERY FACTORIES.—AUSTRALIA, 1918 TO 1921-22.

Items.	1918.	1918-19.	1919-20.	1920-21.	1921-22.
Number of factories	147	156	181	200	223
Number of employees	5,856	6,710	7,323	7,137	7,399
Actual horse-power of engines employed	3,277	3,503	4,067	4,862	5,313
Approx. value of land and buildings £	554,099	775,670	878,305	1,041,380	1,185,539
Approx. value of plant and machinery £	419,986	562,475	664,452	1,278,882	1,419,984
Total amount of wages paid during year £	515,774	654,818	755,238	937,536	1,046,797
Value of fuel used £	63,674	74,995	75,084	93,975	105,479
Value of raw material worked up £	1,894,187	2,354,962	2,897,659	3,421,474	3,220,680
Total value of output £	2,969,573	3,597,143	4,559,437	5,419,985	5,597,920
Value added in process of manufacture £	1,075,386	1,242,186	1,661,378	1,998,511	2,377,240

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 7,399 persons in 1921-22, and the value of the output amounted to £5,597,920, or double the value of the production in 1918. The Australian market has been captured, and a growing export trade has been built up.

16. Flour Mills.—(i) *Details for States, 1921-22.* The following table shows the position of the flour-milling industry in each State in 1921-22 :—

FLOUR MILLS, 1921-22.

Items.	N.S.W. 1921-22.	Victoria. 1921-22.	Q'land. 1921. a	S. Aust. 1921-22. a	W. Aust. 1921.	Tas. 1921.	Australia.
Number of factories ..	62	45	11	39	17	9	183
Number of employees ..	1,204	997	288	549	322	122	3,482
Actual horse-power of engines employed ..	6,789	5,017	1,141	2,903	2,722	498	19,070
Approximate value of land and buildings .. £	568,959	249,295	83,259	151,185	141,885	24,950	1,219,533
Approximate value of plant and machinery .. £	714,796	360,540	104,137	201,159	126,526	28,775	1,535,933
Total amount of wages paid during year .. £	272,647	228,195	66,923	109,093	68,552	23,481	768,891
Value of fuel used .. £	57,828	49,459	9,207	26,408	12,319	2,882	158,103
Value of raw material worked up .. £	5,442,051	4,951,120	1,176,757	1,617,849	1,649,981	470,620	15,308,378
Total value of output .. £	6,227,607	5,759,281	1,334,677	1,951,624	1,826,038	534,882	17,634,109
Value added in process of manufacture .. £	785,556	808,161	157,920	333,775	176,057	64,262	2,325,731

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

(ii) *Production of Flour and By-products, 1918 to 1921-22.* The production of flour by the mills in each State for the years 1918 to 1921-22 was as follows :—

FLOUR MILLS.—PRODUCTION OF FLOUR, 1918 TO 1921-22.

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 ..	355,343	311,450	45,589	135,882	119,876	17,121	985,761
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

(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., 911,452 tons, was valued at £14,735,785. In addition, 367,935 tons of bran and pollard, valued at £2,665,144, were made. The total quantity of wheat ground was 43,430,976 bushels.

17. Sugar Mills.—(i) *Details for 1921-22.* The following table shows the position of the cane-crushing branch of the sugar-making industry in Queensland and New South Wales in 1921-22. 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, 1921-22.

Items.	N.S.W. 1921-22.	Queensland. 1921.	Australia.
Number of factories	3	40	43
Number of employees	428	5,663	6,091
Actual horse-power of engines employed	1,324	27,716	29,040
Approximate value of land and buildings	£ 107,734	490,773	598,507
Approximate value of plant and machinery	£ 430,937	3,501,812	3,932,749
Total amount of wages paid during year	£ 74,452	1,063,507	1,137,959
Value of fuel used	£ 11,194	134,219	145,413
Value of raw material worked up	£ 343,932	5,828,854	6,172,786
Total value of output	£ 540,115	8,622,621	9,162,736
Value added in course of manufacture	£ 196,183	2,793,767	2,989,950

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 1917-18 :—

SUGAR MILLS.—NEW SOUTH WALES, 1917-18 TO 1921-22.

Items.	1917-18.	1918-19.	1919-20.	1920-21.	1921-22.
Number of factories ..	3	3	3	3	3
Number of employees ..	367	432	419	437	428
Cane crushed .. tons	174,881	105,234	91,321	131,313	149,474
Sugar produced .. tons	19,875	12,278	10,837	15,124	17,806
Molasses produced .. gals.	975,770	586,925	494,600	649,800	940,700

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 towards 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 1921.

Items.	1911.	1918.	1919.	1920.	1921.
Number of factories ..	49	42	32	34	43
Number of employees ..	4,295	5,214	4,098	4,851	6,091
Cane crushed .. tons	1,534,451	1,674,829	1,258,760	1,339,455	2,287,416
Sugar produced .. tons	173,296	189,978	162,136	167,401	282,198
Molasses—					
Sold to distillers and others .. gals.	2,393,669	1,662,454	916,291	985,951	2,738,795
Used as fodder .. gals.	789,564	1,602,962	1,517,167	1,381,041	2,053,338
Used as manure .. gals.	223,000	109,000	141,175	24,000	78,720
Run to waste or burnt a .. gals.	1,847,333	3,501,668	3,347,655	3,050,901	4,866,272
In Stock .. gals.	1,197,626	923,307	933,542	733,974	997,274
Total Molasses .. gals.	6,451,192	7,799,391	6,855,830	6,175,867	10,734,399

(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 1921-22 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 1,740 hands was employed during the year. The approximate value of land and buildings was £654,548, of plant and machinery, £1,306,085; and the total amount of wages paid during the year was £374,653. The value of all materials used in sugar refineries was £9,803,676, while the total output reached £12,121,857. The amount of crude sugar used was 271,810 tons, and of refined sugar produced 261,189 tons, valued at £11,946,290.

19. **Breweries.**—(i) *Details for each State, 1921-22.* The following table gives particulars concerning breweries in each State:—

BREWERIES, 1921-22.

Items.	N.S.W. 1921-22.	Vic. 1921-22.	Q'land. 1921.	S. Aust. 1921-22.	W. Aust. 1921.(a)	Tas. 1921.	Australia.
Number of breweries	17	15	10	8	10	4	64
Number of employees	1,225	1,053	536	376	488	136	3,814
Actual horse-power of engines employed	3,432	4,494	1,659	1,125	1,208	214	12,132
Approximate value of land and buildings £	755,191	402,445	181,372	103,706	172,307	61,450	1,676,471
Approximate value of plant and machinery £	914,667	514,760	212,095	155,972	143,204	53,001	1,993,699
Total amount of wages paid during year £	346,599	278,319	138,272	105,992	133,582	29,666	1,032,430
Value of fuel used £	81,621	67,391	20,495	19,978	19,256	6,062	214,803
Value of raw material worked up £	1,230,097	982,425	228,127	274,673	308,322	63,816	3,087,460
Total value of output £	2,492,122	2,200,882	714,889	512,748	661,488	216,094	6,798,223
Value added in process of manufacture £	1,262,025	1,218,457	486,762	238,075	353,166	152,278	3,710,763

(a) Includes malting.

(ii) *Development in Australia, 1918 to 1921-22.* The following table shows the progress of this industry during the past four years:—

BREWERIES.—AUSTRALIA, 1918 TO 1921-22.

Items.	1918.	1918-19.	1919-20.	1920-21.	1921-22.
Number of breweries	72	68	68	67	64
Number of employees	3,268	3,355	3,710	3,752	3,814
Actual horse-power of engines used	9,602	9,922	18,091	10,833	12,132
Approx. value of land and buildings £	1,676,567	1,692,220	1,109,813	1,619,027	1,676,471
Approx. value of plant and machinery £	1,600,734	1,654,600	1,243,272	1,882,956	1,993,699
Total amount of wages paid £	632,076	668,579	831,779	937,563	1,032,430
Value of fuel used £	120,381	128,650	160,609	195,135	214,803
Value of raw material worked up £	1,959,232	2,215,487	2,760,601	3,341,707	3,087,460
Value of final output £	4,741,744	5,184,649	6,631,409	6,991,770	6,798,223
Value added in process of manufacture £	2,782,512	2,969,162	3,870,808	3,650,063	3,710,763

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 £4,741,744 in 1918 to £6,798,223 in 1921-22, while the quantity of ale and stout brewed during the same period increased from 62,828,518 to 67,331,541 gallons. The average production per head of mean population decreased slightly from 12.58 gallons per head in 1918 to 12.25 gallons in 1921-22.

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 1921-22.

BREWERIES.—MATERIALS USED AND PRODUCTION, 1921-22.

Particulars.	N.S.W. 1921-22.	Victoria. 1921-22.	Q'land. 1921.	S. Aust. 1921-22.	W. Aust. 1921.	Tasmania. 1921.	Australia
RAW MATERIALS USED.							
Malt .. bushels	837,267	688,094	225,748	167,468	169,944	68,750	2,157,271
Hops .. lbs.	796,258	717,952	289,283	181,737	187,224	103,630	2,276,084
Sugar .. cwt.	101,240	107,160	35,675	27,784	27,927	6,850	306,636
RAW MATERIALS USED PER 1,000 GALLONS OF ALE AND STOUT PRODUCED.							
Malt .. bushels	33.82	30.74	30.19	29.75	30.72	44.33	32.04
Hops .. lbs.	32.16	32.07	38.69	32.29	33.84	66.83	35.80
Sugar .. cwt.	4.09	4.79	4.77	4.94	5.05	4.42	4.55

ALE AND STOUT BREWED.

Quantity	gallons	24,756,286	22,387,672	7,476,595	5,628,276	5,531,954	1,550,758	67,331,541
Value(a)	£	2,478,946	2,200,882	714,889	508,272	643,122	212,409	6,758,520

(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, 1921-22.

Items.	N.S.W. 1921-22.	Vic. 1921-22.	Q'land. 1921.	S. Aust. 1921-22.	Australia.
Number of distilleries	5	10	4	25	44
Number of employees	45	118	71	154	388
Actual horse-power of engines employed	255	369	180	349	1,153
Approx. value of land and buildings	£ 24,468	171,070	13,553	57,069	266,160
Approx. value of plant and machinery	£ 80,705	111,840	101,597	68,904	363,046
Total amount of wages paid during year	£ 10,312	21,672	16,422	21,996	70,402
Value of fuel used	£ 4,824	8,803	5,589	7,761	26,977
Value of raw materials worked up	£ 64,425	59,310	23,689	153,815	301,239
Total value of output	£ 102,468	113,645	81,401	220,159	517,673
Value added in process of manufacture	£ 38,043	54,335	57,712	66,344	216,434

The quantity of rum distilled during the year was 108,787, of whisky 103,001, of brandy 155,478, of gin 37,995, of methylated spirits 1,146,496, and of other spirits, including rum distilled in Queensland separate particulars for which are not available, 1,962,315 proof gallons. The materials used comprised 540,592 cwt. of molasses, and 4,321,617 gallons of wine.

21. *Tobacco, etc., Factories.*—(i) *Details for each State, 1921-22.* During the year 1921-22 there were thirty-six establishments in which the manufacture of tobacco, cigars, and cigarettes was carried on. There were no factories engaged in this industry in Tasmania.

TOBACCO, CIGAR, AND CIGARETTE FACTORIES, 1921-22.

Items.	N.S.W. 1921-22.	Vic. 1921-22.	Q'land. 1921.	S.A. 1921-22.	W.A. 1921.	Tas. 1921.	Australia.
Number of factories	15	15	2	1	3	..	36
Number of employees	2,299	1,935	42	..	44	..	4,340
Actual horse-power and engines employed	684	495	22	20	2	..	1,203
Approx. value of land and buildings	£ 286,735	191,730	a	a	4,361	..	649,414
Approx. value of plant and machinery	£ 259,798	145,530	a	a	1,400	..	6413,119
Total amount of wages paid during year	£ 369,854	344,398	a	a	3,561	..	6724,919
Value of fuel used	£ 13,814	6,221	a	a	18	..	820,354
Value of raw material worked up	£ 3,338,418	1,568,891	a	a	6,200	..	64,925,066
Total value of output	£ 4,319,584	2,351,720	a	a	13,004	..	66,710,757
Value added in process of manufacture	£ 981,166	782,829	a	a	6,804	..	61,785,691

(a) Not available for publication.

(b) Including Queensland and South 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 1921-22 comprised—manufactured tobacco 948,586 lbs., cigars 54,557 lbs., and cigarettes 122,806 lbs., while the quantities manufactured in Australian factories were respectively 14,216,120 lbs., 507,541 lbs., and 4,907,422 lbs. The following tables show the development of the tobacco manufacturing industry in Australia during recent years :—

**TOBACCO, CIGAR, AND CIGARETTE FACTORIES.—AUSTRALIA,
1918 TO 1921-22.**

Items.	1918.	1918-19.	1919-20.	1920-21.	1921-22.
Number of factories	37	37	37	40	36
Number of employees	3,920	3,908	4,489	4,525	4,340
Actual horse-power of engines used ..	934	948	1,144	1,186	1,203
Approx. value of land and buildings £	413,167	420,124	432,247	490,494	490,414
Approx. value of plant and machinery £	265,150	270,953	313,619	369,267	413,119
Total amount of wages paid	£ 466,520	490,172	633,694	706,218	724,919
Value of fuel used	£ 12,347	13,147	16,200	18,201	20,354
Value of raw material worked up ..	£ 2,578,758	3,110,373	4,559,110	5,091,272	4,925,066
Value of final output	£ 3,694,246	4,306,140	6,466,649	6,709,298	6,710,757
Value added in process of manufacture £	1,115,488	1,195,767	1,907,539	1,618,026	1,785,691

LEAF USED AND PRODUCTION.

Leaf used 1,000 lbs.	a12,957	a13,351	16,137	16,636	16,867
Tobacco made "	a11,011	a10,991	13,158	13,268	14,216
Cigars "	a427	a441	552	544	508
Cigarettes "	a3,301	a3,726	4,837	5,324	4,907

(a) Incomplete.

(iii) *Quantities of Leaf Used and Production.* The following table shows the quantities of imported and Australian-grown leaf used, and the quantity of goods produced in tobacco factories during 1921-22 :—

TOBACCO, ETC., FACTORIES.—LEAF USED AND PRODUCTION, 1921-22.

Particulars.	N.S.W. 1921-22.	Vic. 1921-22.	Q'land. 1921.	S. Aust. 1921-22.	W. Aust. 1921.	Australia. (b)
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TOBACCO LEAF USED (,000 OMITTED).

Australian leaf lbs.	795	536	}	a	a	{	1,386
Imported leaf lbs.	10,204	5,251					15,481

PRODUCTION (,000 OMITTED).

Manufactured tobacco lbs.	7,803	6,344	}	a	a	{	14,216
Cigars {	130	365					508
Cigarettes {	No. 10,920	33,894	}	..	..	{	46,397
	lbs. 4,553	354					4,907
	No. 2,011,252	152,909					2,164,161

(a) Not available for publication.

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

22. Woollen, Cotton, and Tweed Mills.—(i) *Details for each State, 1921-22.* 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 1921-22 shows that the industry is now well established :—

WOOLLEN, COTTON, AND TWEED MILLS, 1921-22.

Items.	N.S.W. 1921-22.	Victoria. 1921-22.	Q'land. 1921.	S. Aust. 1921-22.	W.A. 1921.	Tas. 1921.	Australia.
Number of factories	9	19	2	2	..	4	36
Number of employees	1,570	3,756	300	235	..	240	6,101
Actual horse-power of engines employed	3,004	7,390	610	289	..	337	11,630
Approx. value of land and buildings £	247,831	619,365	a	a	..	27,300	6940,578
Approx. value of plant and machinery	£ 447,529	1,245,575	a	a	..	64,000	61,849,919
Total amount of wages paid during year	£ 227,540	526,009	a	a	..	24,309	6842,683
Value of fuel used	£ 23,395	76,409	a	a	..	2,458	6109,514
Value of raw material worked up	£ 648,111	1,150,361	a	a	..	35,680	61,940,050
Total value of output	£ 1,262,833	2,482,761	a	a	..	112,723	64,096,808
Value added in process of manufacture	£ 614,722	1,332,400	a	a	..	77,043	62,156,758

(a) Information not available for publication.

(b) Including Queensland and South Australia.

(ii) *Development in Australia, 1918 to 1921-22.* 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 TO 1921-22.

Items.	1918.	1918-19.	1919-20.	1920-21.	1921-22.
Number of factories	25	25	29	34	36
Number of employees	3,817	4,087	5,029	5,783	6,101
Actual horse-power of engines used	7,114	7,212	8,705	9,617	11,630
Approx. value of land and buildings	£ 355,931	434,735	626,822	751,858	940,578
Approx. value of plant and machinery	£ 573,902	721,418	1,192,913	1,378,903	1,849,919
Total amount of wages paid	£ 360,466	398,641	560,149	762,131	842,683
Value of fuel used	£ 49,339	50,818	75,722	93,691	109,514
Value of raw material worked up	£ 1,141,962	1,249,094	1,865,477	2,090,892	1,940,050
Value of final output	£ 2,024,343	2,330,253	3,290,511	4,241,964	4,096,808
Value added in process of manufacture	£ 882,381	1,081,159	1,425,034	2,151,072	2,156,758

(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 1921-22 was 5,656,132 yards. In New South Wales 2,514,167 yards of tweed and cloth, and in Victoria 1,872,512 yards were manufactured. The production of flannel amounted to 6,765,551 yards, while blankets, shawls, and rugs to the number of 939,636 were manufactured.

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, 1921-22.* Among the manufactories 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 1921-22 :—

BOOT AND SHOE FACTORIES, 1921-22.

Items.	N.S.W. 1921-22.	Vic. 1921-22.	Q'land. 1921.	S. Aust. 1921-22.	W. Aust. 1921.	Tas. 1921.	Australia.
Number of factories	302	334	36	38	20	14	744
Number of employees	5,940	11,714	1,283	829	345	279	20,390
Actual horse-power of engines employed	1,702	2,664	314	263	108	79	5,130
Approx. value of land and buildings	£ 701,066	£ 735,035	£ 51,368	£ 67,431	£ 39,133	£ 18,748	£ 1,612,781
Approx. value of plant and machinery	£ 225,622	£ 395,390	£ 33,154	£ 33,737	£ 14,258	£ 9,288	£ 711,449
Total amount of wages paid during year	£ 916,641	£ 1,760,589	£ 176,625	£ 115,549	£ 48,926	£ 31,795	£ 3,050,125
Value of fuel used	£ 13,256	£ 30,375	£ 1,806	£ 2,368	£ 1,039	£ 400	£ 49,244
Value of raw material worked up	£ 1,524,027	£ 3,109,863	£ 295,144	£ 213,188	£ 93,358	£ 55,447	£ 5,291,027
Total value of output	£ 2,957,632	£ 6,043,172	£ 587,339	£ 370,956	£ 169,338	£ 112,842	£ 10,241,279
Value added in process of manufacture	£ 1,433,605	£ 2,933,309	£ 292,195	£ 157,768	£ 75,980	£ 57,395	£ 4,950,252

(ii) *Development in Australia, 1918 to 1921-22.* The progress of the industry in the last four years is shown in the following table :—

BOOT AND SHOE FACTORIES.—AUSTRALIA, 1918 TO 1921-22.

Items.	1918.	1918-19.	1919-20.	1920-21.	1921-22.
Number of factories	432	438	532	592	744
Number of employees	15,490	15,960	17,987	16,573	20,390
Actual horse-power of engines used	3,742	3,998	4,462	4,746	5,130
Approx. value of land and buildings	£ 790,573	£ 849,759	£ 1,017,437	£ 1,258,361	£ 1,612,781
Approx. value of plant and machinery	£ 465,020	£ 475,083	£ 530,327	£ 617,721	£ 711,449
Total amount of wages paid	£ 1,613,728	£ 1,792,001	£ 2,232,746	£ 2,198,586	£ 3,050,125
Value of fuel used	£ 29,055	£ 31,852	£ 41,206	£ 41,077	£ 49,244
Value of raw material worked up	£ 3,913,893	£ 4,451,458	£ 6,661,483	£ 5,208,627	£ 5,291,027
Value of final output	£ 6,410,464	£ 7,120,164	£ 10,206,965	£ 8,895,411	£ 10,241,279
Value added in process of manufacture	£ 2,496,571	£ 2,668,706	£ 3,545,482	£ 3,686,784	£ 4,950,252

The above table shows consistent progress in the manufacture of boots and shoes in Australia from 1918 to 1921-22. During this period the number of employees increased by 4,891, and the value of the final output rose from £6,410,464 to £10,241,279, while the increase in the number of boots and shoes made amounted to 1,585,093 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, 1921-22.

Particulars.	N.S.W. 1921-22.	Vic. 1921-22.	Q'land. 1921.	S. Aust. 1921-22.	W. Aust. 1921.	Tas. 1921.	Australia.
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QUANTITY (,000 OMITTED).

Boots and shoes .. pairs	3,850	7,571	783	547	230	164	13,154
Slippers .. pairs	583	904	24	9	3	1	1,524
Uppers(a) .. pairs	43	42	3	9	(b)	6	103

VALUE.

Boots and shoes .. £	2,548,479	5,000,116	542,298	324,781	144,603	103,512	8,663,789
Slippers .. £	114,710	177,789	4,538	3,342	1,566	389	302,334
Uppers(a) .. £	16,428	15,814	1,726	4,427	(b)	1,708	40,103

(a) Made for other than factory use. (b) Included with slippers.

24. Clothing (Tailoring and Slop) Factories.—(i) *Details for each State, 1921-22.*
The importance of this industry in the several States is shown in the following table :—

CLOTHING (TAILORING AND SLOP) FACTORIES, 1921-22.

Items.	N.S.W. 1921-22.	Victoria. 1921-22.	Q'land. 1921.	S. Aust. 1921-22.	W. Aust. 1921.	Tas. 1921.	Australia.
Number of factories	498	497	132	142	67	43	1,379
Number of employees	11,128	9,421	2,993	2,404	1,050	620	27,616
Actual horse-power of engines employed	603	502	86	108	65	22	1,386
Approximate value of land and buildings £	1,638,111	809,055	313,577	239,757	136,005	94,289	3,230,794
Approximate value of plant and machinery £	116,401	92,165	40,602	26,181	10,897	4,207	290,453
Total amount of wages paid during year £	1,339,031	1,076,033	339,576	244,957	123,056	66,749	3,189,402
Value of fuel used £	16,036	19,225	5,242	5,858	2,271	893	49,525
Value of raw material worked up £	2,404,050	2,148,957	670,655	402,542	247,700	105,088	5,978,992
Total value of output £	4,185,142	3,905,486	1,256,620	796,529	428,432	209,973	10,782,182
Value added in process of manufacture £	1,781,092	1,756,529	585,965	393,987	180,732	104,885	4,803,190

(ii) *Development in Australia, 1918 to 1921-22.* The development in the tailoring and slop branch of the clothing industry during the past four years, when prices were extremely high, may be accepted as an indication of the general prosperity of the community. The number of employees increased by nearly 2,500, and the value of the output rose from £6,924,820 in 1918 to £10,782,182 in 1921-22. The number of persons engaged in the industry during 1921-22, however, is still 3,000 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 TO 1921-22.

Items.	1918.	1918-19.	1919-20.	1920-21.	1921-22.
Number of factories	1,205	1,206	1,219	1,272	1,379
Number of employees	25,188	25,013	26,190	25,803	27,616
Actual horse-power of engines used	1,379	1,313	1,287	1,408	1,386
Approx. value of land and buildings £	2,182,326	2,224,646	2,402,571	2,753,171	3,230,794
Approx value of plant and machinery £	206,954	202,868	220,903	263,067	290,453
Total amount of wages paid £	1,954,356	2,007,826	2,556,112	2,859,971	3,189,402
Value of fuel used £	34,889	37,181	40,941	44,042	49,525
Value of raw material worked up £	3,759,152	4,451,166	5,566,172	6,020,891	5,978,992
Total value of output £	6,924,820	7,807,130	9,957,672	10,679,919	10,782,182
Value added in process of manufacture £	3,165,668	3,355,964	4,391,500	4,659,028	4,803,190

25. Dressmaking and Millinery Establishments.—(i) *Details for each State, 1921-22.*
Particulars of dressmaking and millinery establishments are given in the following table :—

DRESSMAKING AND MILLINERY ESTABLISHMENTS, 1921-22.

Items.	N.S.W. 1921-22.	Victoria. 1921-22.	Q'land. 1921.	S. Aust. 1921-22.	W. Aust. 1921.	Tas. 1921.	Australia.
Number of factories	245	501	49	42	44	29	910
Number of employees	4,190	9,343	1,105	988	583	363	16,572
Actual horse-power of engines employed	195	448	15	12	32	7	709
Approximate value of land and buildings £	624,237	782,170	50,433	61,355	49,353	11,880	1,579,428
Approximate value of plant and machinery £	36,695	89,825	8,106	5,829	5,438	921	146,814
Total amount of wages paid during year £	386,351	848,249	81,356	74,357	53,400	23,353	1,467,066
Value of fuel used £	2,759	11,988	1,026	636	548	250	17,207
Value of raw material worked up £	623,584	1,731,707	108,987	116,768	87,566	27,222	2,695,834
Total value of output £	1,213,220	3,142,365	214,004	230,079	143,565	57,179	5,000,412
Value added in process of manufacture £	589,636	1,410,658	105,017	113,311	55,999	29,957	2,304,578

(ii) *Development in Australia, 1918 to 1921-22.* 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 TO 1921-22.**

Items.	1918.	1918-19.	1919-20.	1920-21.	1921-22.
Number of factories	920	876	854	860	910
Number of employees	18,575	17,683	17,954	16,856	16,572
Actual horse-power of engines used	648	623	636	673	709
Approximate value of land and buildings £	1,087,567	1,159,550	1,167,568	1,392,868	1,579,428
Approximate value of plant and machinery £	111,622	116,093	128,646	150,475	146,814
Total amount of wages paid	£ 986,440	1,044,263	1,237,811	1,350,596	1,467,066
Value of fuel used	£ 14,227	14,125	15,070	15,864	17,207
Value of raw material worked up	£ 1,884,886	2,051,177	2,685,382	2,782,042	2,695,834
Value of final output	£ 3,405,574	3,634,695	4,882,988	4,951,519	5,000,412
Value added in process of manufacture £	1,520,688	1,585,518	2,197,606	2,169,477	2,304,578

Though the number of persons engaged in dressmaking and millinery establishments decreased by 2,000, the value of the output rose from £3,405,574 in 1918 to £5,000,412 in 1921-22, and notwithstanding the difference in prices during the years quoted, the volume of output has greatly increased.

26. Electrotyping, Stereotyping, Printing, and Binding Works.—(i) *Details for each State, 1921-22.* Printing ranks high in importance among the industries of Australia. It affords employment for nearly 24,000 employees, and pays over £4,500,000 in salaries and wages. During 1921-22 the total value of the output amounted to £14,408,689.

The following table gives particulars of these industries in each State for the year 1921-22 :—

**ELECTROTYPING, STEREOTYPING, PRINTING, AND BINDING ESTABLISHMENTS,
1921-22.**

Items.	N.S.W. 1921-22.	Vic. 1921-22.	Q'land. 1921.	S. Aust. 1921-22.	W. Aust. 1921.	Tas. 1921.	Australia.
Number of factories	442	428	133	76	71	25	1,175
Number of employees	9,179	8,418	2,886	1,486	1,164	859	23,992
Actual horse-power of engines employed	5,552	4,245	1,548	977	682	253	13,257
Approximate value of land and buildings	£ 1,930,916	1,096,950	556,065	323,249	247,757	64,610	4,219,547
Approximate value of plant and machinery	£ 1,726,258	1,256,810	366,106	216,396	206,487	77,838	3,849,895
Total amount of wages paid during year	£ 1,751,092	1,591,921	545,241	273,210	242,546	153,155	4,557,165
Value of fuel used	£ 46,355	48,210	20,594	9,514	6,977	3,538	135,188
Value of raw materials worked up	£ 2,608,630	2,378,952	581,871	397,339	322,781	145,359	6,434,932
Total value of output	£ 5,436,519	5,397,287	1,623,963	837,485	737,164	376,271	14,408,689
Value added in process of manufacture	£ 2,827,889	3,018,335	1,042,092	440,146	414,383	280,912	7,973,757

(ii) *Development in Australia, 1918 to 1921-22.* The development of electrotyping, stereotyping, printing, and binding in Australia since 1918 is shown in the following table :—

**ELECTROTYPING, STEREOTYPING, PRINTING AND BINDING ESTABLISHMENTS.—
AUSTRALIA, 1918 TO 1921-22.**

Items.	1918.	1918-19.	1919-20.	1920-21.	1921-22.
Number of establishments	1,106	1,101	1,125	1,132	1,175
Number of employees	20,714	20,852	22,149	23,053	23,992
Actual horse-power of engines used	11,086	11,444	12,022	12,534	13,257
Approximate value of land and buildings £	3,449,394	3,474,345	3,661,054	3,976,321	4,219,547
Approximate value of plant and machinery £	2,683,781	2,722,729	3,087,143	3,392,044	3,849,895
Total amount of wages paid	£ 2,712,472	2,861,412	3,327,499	4,083,732	4,557,165
Value of fuel used	£ 89,663	94,257	105,093	126,657	135,188
Value of raw materials worked up	£ 3,690,419	4,386,629	5,003,681	6,526,081	6,434,932
Value of final output	£ 8,537,815	9,381,799	10,906,244	13,845,574	14,408,689
Value added in process of manufacture £	4,847,396	4,995,170	5,902,563	7,319,493	7,973,757

Since 1918 the expansion in this industry has necessitated the employment of 3,278 additional workers and 2,171 horse-power units, while the values of the raw materials used and the final output have almost doubled.

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, 1921-22.

Items.	N.S.W. 1921-22.	Vic. 1921-22.	Q'land. 1921.	S. Aust. 1921-22.	W. Aust. 1921.	Tas. 1921.	Australia.
Number of factories	170	303	60	78	47	28	686
Number of employees	1,461	2,639	453	634	338	247	5,772
Actual horse-power of engines employed	1,062	914	288	479	184	97	3,024
Approximate value of land and buildings £	258,495	319,815	62,780	83,165	64,296	32,152	820,703
Approximate value of plant and machinery £	104,923	90,435	22,701	30,939	14,840	6,785	270,623
Total amount of wages paid during year £	235,376	425,679	64,217	103,390	50,368	26,590	905,620
Value of fuel used £	9,732	14,366	1,264	5,186	3,528	1,485	35,561
Value of raw material worked up £	308,075	492,308	78,002	122,310	63,144	55,730	1,119,569
Total value of output £	670,132	1,147,444	184,850	264,673	143,969	100,075	2,511,143
Value added in process of manufacture £	362,057	655,136	106,848	142,363	80,825	44,345	1,391,574

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, 1921-22.

Items.	N.S.W. 1921-21.	Vic. 1921-22.	Q'land. 1921.	S. Aust. 1921-22.	W. Aust. 1921.	Tas. 1921.	Australia.
Number of factories	230	282	78	43	39	19	691
Number of employees	3,229	2,719	1,122	846	518	336	8,770
Actual horse-power of engines employed	2,591	2,018	891	987	511	249	7,247
Approximate value of land and buildings £	573,263	429,630	135,842	89,710	88,275	25,883	1,342,603
Approximate value of plant and machinery £	165,796	106,785	53,995	31,450	28,473	10,543	397,042
Total amount of wages paid during year £	581,703	422,900	182,728	140,458	102,431	49,527	1,479,747
Value of fuel used £	14,615	11,075	5,332	3,648	2,459	976	38,105
Value of raw material used £	764,128	585,007	249,076	143,495	115,286	30,639	1,887,631
Total value of output £	1,554,298	1,247,508	553,069	329,346	243,474	102,409	4,030,104
Value added in process of manufacture £	790,170	662,501	303,993	185,851	128,188	71,770	2,142,473

29. Electric Light and Power Works.—Particulars of the electric light and power works of Australia are given in the subjoined table. In 1918 there were 257 establishments employing 3,533 hands, whose salaries and wages amounted to £605,817; in 1921-22 the figures had increased to 266 establishments, 4,327 hands, salaries and wages £1,086,734, while the production of electric light and power rose during the four years from 461,416,296 to 672,954,729 British units.

ELECTRIC LIGHT AND POWER WORKS, 1921-22.

Items.	N.S.W. 1921-22.	Vic. 1921-22.	Q'land. 1921.	S. Aust. 1921-22.	W. Aust. 1921.	Tas. 1921.	Australia.
Number of factories	113	84	14	12	23	15	266
Number of employees	1,439	1,350	509	590	223	216	4,327
Actual horse-power of engines employed	122,707	57,481	24,673	25,341	28,353	21,263	279,818
Approximate value of land and buildings £	1,623,038	558,795	80,449	202,176	180,210	10,430	2,655,698
Approximate value of plant and machinery £	3,407,721	3,166,750	516,803	724,070	500,791	804,359	9,120,494
Total amount of wages paid during year £	385,376	334,805	120,035	140,366	54,789	51,363	1,086,734
Value of fuel used £	707,675	386,722	77,379	144,141	117,641	7,762	1,441,320
Total value of output £	2,101,102	1,407,268	541,786	435,245	266,645	174,543	4,926,589

30. Gas and Coke Works.—(i) *Details for each State, 1921-22.* 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 1921-22 :—

GAS AND COKE WORKS, 1921-22.

Items.	N.S.W. 1921-22.	Vic. 1921-22.	Q'land. 1921.	S. Aust. 1921-22.	W. Aust. 1921.	Tas. 1921.	Australia.
Number of factories	60	47	18	6	4	3	138
Number of employees	2,624	2,323	573	549	68	309	6,446
Actual horse-power of engines employed	7,964	1,981	588	890	72	3,035	14,530
Approximate value of land and buildings £	1,099,898	500,855	190,349	a	30,644	a	b1,909,408
Approximate value of plant and machinery £	3,263,279	1,458,105	1,047,054	a	66,958	a	b6,593,925
Total amount of wages paid during year £	576,135	612,258	140,318	a	18,142	a	b1,515,296
Value of fuel used £	119,040	7,117	9,785	a	6,754	a	b 173,905
Value of raw material used £	1,606,897	767,190	143,263	a	38,387	a	b2,758,057
Total value of output £	3,366,577	1,967,012	463,332	a	87,680	a	b6,479,353
Value added in process of manu- facture £	1,759,880	1,199,822	320,069	a	49,293	a	b3,721,296

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

(ii) *Coal Used and Production, 1921-22.* The following table shows the quantity and value of the production of gas and coke works in each State during the year 1921-22 :—

GAS AND COKE WORKS.—COAL USED AND PRODUCTION, 1921-22.

Particulars.	N.S.W. 1921-22.	Victoria. 1921-22.	Q'land. 1921.	S. Aust. 1921-22.	W. Aust. 1921.	Tas. 1921.	Australia.
COAL USED.							
Coal tons	1,236,714	383,092	102,955	a	14,158	a	b1,824,950
PRODUCTS.							
Gas .. 1,000 cubic feet	8,330,818	5,150,380	1,168,813	a	202,088	a	b15,981,920
Coke tons	779,930	239,755	58,619	a	6,633	a	b1,141,644
VALUE.							
Gas £	1,774,757	1,287,845	399,076	a	70,416	a	b3,934,430
Coke £	1,008,946	210,000	51,038	a	10,789	a	b1,378,146

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

In order to cope with the general industrial expansion, the production of gas increased from 13,193,834,000 cubic feet in 1918 to 15,981,920,000 cubic feet in 1921-22, while the output of coke increased by 200,000 tons during the same period.