DEPARTMENT OF COMMERCE AND LABOR
BUREAU OF THE CENSUS
E. DANA DURAND, DIRECTOR

BULLETIN 110

SUPPLY AND DISTRIBUTION OF COTTON

FOR THE YEAR ENDING AUGUST 31, 1910

WASHINGTON
GOVERNMENT PRINTING OFFICE
1911

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2. Cotton ginned in the United States: 1899 to 1902.
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4. A discussion of increase of population: Twelfth Census.
*5. Central electric light and power stations: 1902.
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7. Estimates of population of the larger cities: 1901, 1902, 1903.
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DEPARTMENT OF COMMERCE AND LABOR,
BUREAU OF THE CENSUS,
Washington, D. C., November 1, 1910.

SIR:

I have the honor to transmit herewith Census Bulletin 110, which is a report on the supply and distribution of cotton in the United States for the year ending August 31, 1910. The statistics were collected and compiled under the supervision of Mr. William M. Steuart, chief statistician for manufactures, assisted by Mr. Daniel C. Roper, expert special agent.

The report is presented in three divisions: (1) The supply of cotton in the United States for the year ending August 31, 1910, and the distribution of the same, together with statistics of imports and exports of cotton and cotton goods, spindles, cotton consumed, and stocks, including comparable statistics for previous years; (2) the world's spindles and consumption of cotton for 1910 and 1900, together with statistics of the trade in cotton and its manufactures for selected countries; and (3) the relative importance of the leading textile fibers.

Under resolutions of Congress approved February 9, 1905, and March 2, 1909, this bureau collects and publishes four reports each year on the supply and distribution of cotton for the periods ending October 31, December 31, March 31, and August 31, respectively. The first three are preliminary, and published in card form; the fourth aggregates the figures included in the preliminary statements and distributes them in greater detail.

This annual bulletin forms the complement to the report on production, compiled from the returns of the ginners. It is the sixth of the series, and completes the statistics collected by this office relative to the cotton crop of 1909.

Very respectfully,

E. Dana Durand

Director of the Census.

Hon. CHARLES NAGEL,
Secretary of Commerce and Labor.

DISCUSSION OF THE STATISTICS.

METHOD OF COLLECTING AND ASSEMBLING DATA.

The data for the statistics of cotton ginned have been collected by local agents of the Census Bureau who canvass the ginners and delinters. Those for the statistics of cotton consumed, of stocks held by manufacturers, and of stocks in independent warehouses and other public storage places, have been secured by these same local agents in the cotton-growing states, while, in all other states, these data have been collected by special agents who canvassed the important mill centers and by correspondence. To avoid duplication, stocks at ports, generally known as "port stocks," were collected and returned according to the classes of holders named in the table. The statistics for imports and exports have been compiled from reports of the Bureau of Statistics, Department of Commerce and Labor.

The statistics of the supply of cotton for the year have been made up by combining the stocks held at the beginning of the year, with the cotton imported, the cotton ginned, and the linters produced during the 12-month period.

The statistics indicating the distribution of the supply show the quantity of cotton consumed during the year, the amount destroyed by fire, that exported, and the stocks in the country at the close of the year. The stocks held at the close of the year have been segregated so as to show the quantity in the possession of manufacturers, that held in independent warehouses and other public storage places, and the estimated amount in the possession of other holders. For former bulletins the holders of cotton in this class, which includes merchants, buyers, cotton-seed oil mills, transportation companies, and producers, were canvassed as far as practicable. In the hope, however, of reducing the labor and expense of collecting statistics of stocks for this report, the experiment was made of limiting the canvass to manufacturers and managers of independent warehouses and other public storage places, and 200,000 bales have been included in Table 1 to cover the stocks estimated to have been in the possession of holders not canvassed on August 31, 1910. The results, however, have not proved satisfactory and it will probably be necessary in the future to return to the plan of canvassing all of the holders of cotton stocks for the annual report relating to the year ending August 31.

It will be observed that the statistics relative to the supply of cotton presented in Table 1 fail, by 202,063 bales, to balance with those presented for the distribution, and this discrepancy is shown in the table under the heading "To balance distribution." As there are so many agencies and holders to be canvassed in collecting the statistics on the supply and distribution of cotton, and as numerous conditions exist which tend to create discrepancies, it is not surprising that a difference should be revealed by the balance sheet. Among the factors responsible for this condition may be named the following: (1) The enumeration of rebaled samples, commonly called "city crop" in the statistics of distribution; (2) the lack of uniformity on the part of manufacturers and others in returning stocks; and (3) an understatement by ginners and delinters of the quantity of cotton produced, due largely to their inability to make accurate estimates, at the time of the March canvass for production, of the quantity remaining to be ginned and of the linters to be saved from reginning cotton seed. It is impossible to state with any degree of accuracy how much any one or all of these factors contribute to the discrepancy. The amount of error to be charged to each will no doubt vary in different seasons, but a considerable part of the discrepancy between the figures for supply and those for distribution will always be attributable to the first cause. Between the time a bale of cotton leaves the ginnery and the time when it reaches the consumer it is "sampled" a number of times—that is, small quantities of the fiber are extracted from the bale by successive bidders for use in determining its value, and these samples, with cotton otherwise removed from the original package, are rebaled and counted in the statistics of exports, consumption, and stocks. A system, using as the basis for its statistics of supply an enumeration of the bales at the ginneries before any samples have been removed, does not include this cotton, and its inclusion in the statistics of distribution is a source of duplication. The amount of this rebaled cotton will vary in different seasons from 100,000 to 200,000 bales, depending upon the size of the crop, as well as on other conditions.

SUPPLY.

Where bales are mentioned in the comparative statements of this report without the standard of weight being given, it will be understood that the quantities are expressed in running bales, counting round bales as half bales, that linters are included, and that foreign cotton has been reduced to equivalent 500-pound bales.

According to the statistics of Table 1, the supply of cotton in the United States for the year ending August 31, 1910, was 12,188,021 bales, which represents a decrease of 20 per cent from the previous year, when the supply amounted to 15,312,885 bales. This decline apparently measures the difference between an adequate supply and one insufficient for the normal demand. The loss of 3,124,864 bales in the supply of cotton for 1910 is practically equal to the difference between the 1909 and 1908 cotton crops of the United

States. Although the production of cotton in India last year was about 650,000 bales in excess of that of the previous year, nearly all of this increase was required to offset the loss in the crops of Egypt and of other foreign countries. The decrease in the quantity of cotton imported amounted to only 14,056 bales and was an unimportant factor in causing the decrease in the total supply.

Imports.—In Table 2 statistics of the net imports of raw cotton, by countries from which imported, are shown for selected years from 1895 to 1910.

TABLE 2.—*Net imports of raw cotton, by countries from which imported, for the year ending August 31, for specified years: 1895 to 1910.*

YEAR.	QUANTITY (EQUIVALENT 500-POUND BALES).				
	Total.	Egypt.	United Kingdom.	Peru.	Other countries.
1910	151,395	102,217	19,435	12,076	17,667
1909	165,451	129,985	15,722	13,508	6,236
1908	140,869	120,187	13,741	5,586	1,355
1907	202,733	169,731	22,493	8,564	1,945
1906	133,464	103,669	20,176	7,440	2,179
1905	130,182	108,283	14,723	5,941	1,235
1900	134,778	106,166	21,810	5,116	1,686
1895	99,399	59,864	36,213	2,335	987

The figures given in this table represent net imports. The total quantity of cotton imported into the United States during the year ending August 31, 1910, amounted to 172,075 bales of 500 pounds each. Of this cotton the equivalent of 20,680 bales of 500 pounds each was reexported, leaving in the country 151,395 bales, valued at about $15,500,000. This is a decrease in quantity of 14,056 bales compared with 1909, which is more than accounted for by the loss in the imports of Egyptian cotton. Nearly all the cotton imported is Egyptian, used largely in the manufacture of thread, knit goods, and machine lace, and Peruvian, which is used as a substitute for wool in the manufacture of woolen goods. Recently a number of manufacturers have been experimenting with Chinese cotton in the manufacture of upholstering materials and, in some instances, in the manufacture of knit underwear. The direct importations from China this year amounted to 7,129 bales and the direct importations of Indian cotton, used, among other purposes, for mixing with the American fiber in the manufacture of cheaper grades of goods, amounted to 8,756 bales of 500 pounds each, a very large increase over any previous year.

DISTRIBUTION.

Of the total supply of cotton for 1910, shown in Table 1, 4,808,953 bales, or 39 per cent, including that destroyed by fire, were consumed in this country; 6,339,028 bales, or 52 per cent, were exported; while 1,040,040 bales, or 9 per cent, remained in the country at the close of the year. Of the supply for the preceding year, 34 per cent was consumed at home, 56 per cent was exported, and 10 per cent remained in the country at the close of the year.

The total consumption of cotton in the United States for the year covered by this report, including that destroyed by fire, was 446,323 bales less than during the year ending August 31, 1909. The exports during the past year were 2,234,996 bales less than for the previous year and were the smallest for any one of the last five years.

The stocks of cotton in this country at the close of August, 1910, amounted to only 1,040,040 bales, compared with 1,483,585 bales on the corresponding date of the preceding year. Those held by manufacturers in the cotton-growing states at the end of the year were 35 per cent less than in 1909, and by manufacturers in all other states 43 per cent less. The quantity of stocks held by all the manufacturers on August 31, 1910, was the smallest for any of the last five years and represents less than six weeks' supply for the American cotton mills operating under normal conditions.

Cotton manufacturing in the United States.—The statistics in Table 3 have been compiled from data collected by special agents and by direct correspondence. In the cotton-growing states the agents were those appointed to collect the statistics of cotton ginned, but representatives were detailed from the bureau for the work in the large mill centers in other states.

The statistics of consumption relate to the year ending August 31; those of spindles, except for 1910, and of stocks held by manufacturers relate to August 31 of the specified year. The statistics of spindles for 1910 have been compiled from the reports of the census of 1909 and, as a rule, relate to December 31, 1909.

TABLE 3.—SPINDLES, RAW COTTON CONSUMED, AND STOCKS HELD BY MANUFACTURERS ON AUGUST 31, BY STATES: 1906 TO 1910.

[The quantities of cotton are given in running bales, except that round bales are counted as half bales, and foreign cotton has been reduced to equivalent 500-pound bales. Linters are included.]

STATE.	Year.	Spindles consuming cotton.[1]	COTTON CONSUMED (BALES).			STOCKS HELD BY MANUFACTURERS (BALES).		
			Total.	Domestic.	Foreign.	Total.	Domestic.	Foreign.
United States	1910	29,188,945	4,798,953	4,643,179	155,774	533,232	490,895	42,337
	1909	28,577,097	5,240,719	5,078,981	161,738	907,097	841,534	65,563
	1908	28,107,762	4,539,090	4,389,462	149,628	594,184	531,881	62,303
	1907	27,026,442	4,984,936	4,844,568	140,368	1,016,738	936,918	79,820
	1906	25,250,096	4,909,279	4,770,804	138,475	680,471	640,353	40,118
Alabama	1910	934,743	236,188	235,783	405	13,949	13,854	95
	1909	948,068	250,380	250,140	240	18,511	18,354	157
	1908	934,642	202,177	201,748	429	11,302	11,013	289
	1907	876,944	239,149	238,571	578	29,946	29,728	218
	1906	851,986	244,058	243,296	762	21,619	21,424	195
Arkansas	1910	13,754	4,285	4,285	.....	975	975	.....
	1909	13,724	6,325	6,325	.....	760	760	.....
	1908	13,700	4,124	4,124	.....	591	591	.....
	1907	12,972	4,411	4,411	.....	825	825	.....
	1906	13,180	3,946	3,946	.....	474	474	.....
California	1910	16,442	14,803	14,803	.....	2,320	2,320	.....
	1909	15,500	14,574	14,555	19	1,165	1,165	.....
	1908	19,900	12,602	12,602	.....	2,432	2,432	.....
	1907	12,284	15,997	15,989	8	3,590	3,590	.....
	1906	11,000	13,120	13,120	.....	1,368	1,368	.....
Connecticut	1910	1,332,991	136,870	122,778	14,092	31,874	28,130	3,744
	1909	1,285,792	142,685	127,690	14,995	53,081	49,644	3,437
	1908	1,282,060	128,791	111,680	17,111	35,654	31,557	4,097
	1907	1,268,065	147,450	131,065	16,385	49,060	39,216	9,844
	1906	1,174,527	148,692	135,026	13,666	38,107	35,007	3,100
Georgia	1910	1,860,905	496,951	493,624	3,327	22,273	21,288	985
	1909	1,813,096	540,818	538,686	2,132	33,204	31,527	1,677
	1908	1,771,562	474,986	472,890	2,096	19,732	19,310	422
	1907	1,624,064	521,777	519,248	2,529	62,400	61,579	821
	1906	1,546,998	513,814	507,925	5,889	38,792	37,340	1,452
Illinois	1910	43,424	17,451	17,427	24	664	657	7
	1909	44,764	21,920	21,904	16	2,519	2,517	2
	1908	38,262	13,500	13,498	2	1,299	1,299	.....
	1907	36,134	13,412	13,389	23	1,575	1,573	2
	1906	31,488	12,154	12,096	58	723	720	3
Indiana	1910	137,012	21,612	21,609	3	2,028	2,014	14
	1909	137,760	31,280	31,280	.....	3,429	3,429	.....
	1908	137,472	27,586	27,586	.....	1,796	1,796	.....
	1907	134,472	27,754	27,742	12	4,445	4,443	2
	1906	126,688	28,389	28,349	40	2,524	2,524	.....
Kansas [2]	1910	5,000	2,457	2,457	.....	486	486	.....
	1909	12,148	5,146	5,146	.....	591	591	.....
	1908	11,000	3,873	3,873	.....	561	561	.....
	1907	7,440	3,004	3,004	.....	963	963	.....
Kentucky	1910	92,472	23,056	23,056	.....	2,353	2,353	.....
	1909	88,080	25,353	25,353	.....	3,555	3,555	.....
	1908	97,024	23,566	23,566	.....	4,196	4,196	.....
	1907	96,928	25,785	25,785	.....	5,220	5,220	.....
	1906	82,692	27,970	27,970	.....	4,004	4,004	.....
Louisiana	1910	67,902	10,910	10,910	.....	316	316	.....
	1909	69,152	15,949	15,949	.....	324	324	.....
	1908	69,552	13,826	13,826	.....	538	538	.....
	1907	68,724	17,050	17,050	.....	799	799	.....
	1906	92,700	17,578	17,578	.....	445	445	.....
Maine	1910	1,010,535	154,841	153,645	1,196	24,330	24,023	307
	1909	1,022,148	161,099	160,137	962	51,350	50,742	608
	1908	1,002,820	149,870	149,032	838	27,915	27,498	417
	1907	1,007,717	157,152	156,244	908	37,616	37,140	476
	1906	912,593	163,297	162,636	661	28,312	28,136	176
Maryland	1910	154,116	56,013	56,013	.....	1,645	1,645	.....
	1909	153,290	61,294	61,294	.....	2,339	2,339	.....
	1908	157,816	54,320	54,320	.....	2,168	2,168	.....
	1907	151,384	64,998	64,998	.....	4,445	4,445	.....
	1906	134,112	60,223	60,223	.....	3,483	3,483	.....
Massachusetts	1910	9,835,610	1,228,813	1,146,664	82,149	209,852	186,206	23,646
	1909	9,633,021	1,321,572	1,231,779	89,793	355,474	315,970	39,504
	1908	9,479,289	1,146,619	1,061,597	85,022	233,024	198,935	34,089
	1907	9,167,698	1,253,856	1,176,977	76,879	367,098	319,369	47,729
	1906	8,790,793	1,234,182	1,154,929	79,253	255,326	229,369	25,957
Michigan	1910	17,740	5,991	5,989	2	1,810	1,807	3
	1909	18,556	4,534	4,534	.....	2,460	2,460	.....
	1908	17,856	4,809	4,809	.....	2,447	2,447	.....
	1907	21,032	4,632	4,553	79	1,920	1,914	6
	1906	15,000	3,816	3,803	13	890	890	.....
Mississippi	1910	172,808	29,978	29,978	.....	1,500	1,500	.....
	1909	159,468	37,522	37,522	.....	2,615	2,615	.....
	1908	180,065	34,383	34,383	.....	1,735	1,735	.....
	1907	171,100	37,929	37,929	.....	3,491	3,491	.....
	1906	147,474	40,197	40,197	.....	2,566	2,566	.....

[1] Statistics of spindles for 1910 relate to December 31, 1909.

[2] Included in "All other states" for 1906.

TABLE 3.—SPINDLES, RAW COTTON CONSUMED, AND STOCKS HELD BY MANUFACTURERS ON AUGUST 31, BY STATES: 1906 TO 1910—Continued.

STATE.	Year.	Spindles consuming cotton.[1]	COTTON CONSUMED (BALES).			STOCKS HELD BY MANUFACTURERS (BALES).		
			Total.	Domestic.	Foreign.	Total.	Domestic.	Foreign.
Missouri	1910	34,488	15,038	15,014	24	1,991	1,989	2
	1909	30,276	16,711	16,711	.....	2,289	2,289	.....
	1908	33,392	10,669	10,669	.....	1,415	1,415	.....
	1907	14,728	9,491	9,491	.....	1,168	1,168	.....
	1906	14,016	7,146	7,146	.....	534	534	.....
New Hampshire	1910	1,350,455	265,501	260,055	5,446	39,145	36,291	2,854
	1909	1,358,254	278,457	275,015	3,442	91,684	90,726	958
	1908	1,357,629	243,494	240,736	2,758	54,092	52,650	1,442
	1907	1,357,877	277,941	276,273	1,668	82,966	81,731	1,235
	1906	1,296,445	283,853	283,029	824	54,124	53,949	175
New Jersey	1910	480,578	52,853	38,534	14,319	10,147	6,161	3,986
	1909	472,614	52,416	38,358	14,058	15,395	7,399	7,996
	1908	473,845	44,904	33,618	11,286	14,418	7,010	7,408
	1907	440,354	48,294	38,583	9,711	9,217	3,920	5,297
	1906	417,679	54,597	46,445	8,152	10,666	7,826	2,840
New York	1910	1,024,114	199,787	195,875	3,912	14,586	14,042	544
	1909	1,034,855	218,780	215,069	3,711	31,384	30,427	957
	1908	1,016,648	171,289	170,215	1,074	22,094	21,125	969
	1907	1,011,368	191,884	189,980	1,904	37,797	37,546	251
	1906	802,254	176,739	174,196	2,543	22,838	22,450	388
North Carolina	1910	3,124,456	658,498	655,058	3,440	31,080	30,516	564
	1909	2,939,576	756,677	753,460	3,217	52,188	51,773	415
	1908	2,869,686	637,401	635,122	2,279	27,253	27,208	45
	1907	2,611,000	710,275	707,220	3,055	84,542	84,228	314
	1906	2,341,792	675,332	672,908	2,424	44,417	43,989	428
Ohio	1910	16,152	28,394	28,377	17	7,590	7,589	1
	1909	16,562	28,222	28,221	1	10,633	10,632	1
	1908	16,402	24,483	24,483	.....	13,756	13,754	2
	1907	19,427	24,533	24,517	16	8,564	8,564	.....
	1906	.....	21,682	21,682	.....	9,353	9,353	.....
Oklahoma [2]	1910	5,756	6,397	6,397	.....	930	930	.....
	1909	5,712	5,269	5,269	.....	564	564	.....
	1908	5,712	3,447	3,447	.....	298	298	.....
	1907	2,856	2,238	2,238	.....	388	388	.....
Pennsylvania	1910	337,810	66,885	62,298	4,587	8,288	7,682	606
	1909	384,474	80,541	75,384	5,157	12,431	11,071	1,360
	1908	392,167	78,071	73,614	4,457	11,120	10,145	975
	1907	400,395	86,825	80,671	6,154	12,933	11,708	1,225
	1906	288,143	86,564	80,396	6,168	10,282	9,657	625
Rhode Island	1910	2,455,304	219,920	200,583	19,337	50,069	45,630	4,439
	1909	2,368,409	230,425	209,816	20,609	77,815	69,895	7,920
	1908	2,288,473	215,831	196,936	18,895	54,366	42,558	11,808
	1907	2,231,461	223,035	205,565	17,470	76,250	64,817	11,433
	1906	2,130,958	217,118	203,042	14,076	54,019	49,687	4,332
South Carolina	1910	3,793,387	627,708	625,025	2,683	33,955	33,554	401
	1909	3,715,894	696,462	693,687	2,775	53,149	52,826	323
	1908	3,617,358	610,734	607,722	3,012	32,783	32,510	273
	1907	3,502,036	668,883	666,381	2,502	96,487	95,598	889
	1906	3,345,075	674,588	670,911	3,677	55,642	55,320	322
Tennessee	1910	271,446	70,229	70,217	12	5,640	5,640	.....
	1909	279,590	69,653	69,653	.....	9,052	9,052	.....
	1908	271,358	57,876	57,876	.....	5,362	5,362	.....
	1907	253,840	62,522	62,522	.....	10,508	10,508	.....
	1906	212,062	58,244	58,244	.....	7,845	7,845	.....
Texas	1910	104,628	39,052	39,052	.....	1,723	1,723	.....
	1909	98,604	42,210	42,210	.....	3,097	3,097	.....
	1908	103,428	33,635	33,635	.....	2,178	2,178	.....
	1907	103,992	38,602	38,602	.....	5,443	5,443	.....
	1906	93,687	40,023	40,023	.....	2,122	2,122	.....
Vermont	1910	121,704	10,441	9,721	720	647	519	128
	1909	120,336	10,210	9,617	593	1,912	1,679	233
	1908	118,404	10,230	9,893	337	712	645	67
	1907	130,752	13,921	13,473	448	4,470	4,392	78
	1906	102,264	12,758	12,535	223	1,342	1,220	122
Virginia	1910	332,496	70,689	70,657	32	4,154	4,154	.....
	1909	315,662	84,176	84,176	.....	6,494	6,494	.....
	1908	299,502	75,182	75,182	.....	4,525	4,525	.....
	1907	255,496	68,668	68,666	2	9,085	9,085	.....
	1906	253,206	68,919	68,913	6	5,283	5,282	1
Wisconsin	1910	14,612	7,401	7,384	17	1,914	1,912	2
	1909	6,216	9,105	9,097	8	1,608	1,607	1
	1908	17,652	8,710	8,679	31	1,878	1,878	.....
	1907	15,932	9,200	9,166	34	1,528	1,528	.....
	1906	13,612	9,756	9,726	30	963	961	2
All other states	1910	26,105	19,941	19,911	30	4,998	4,989	9
	1909	15,496	20,954	20,944	10	6,025	6,011	14
	1908	13,086	18,102	18,101	1	2,544	2,544	.....
	1907	17,970	14,268	14,265	3	1,999	1,999	.....
	1906	7,672	10,524	10,514	10	2,408	2,408	.....

[1] Statistics of spindles for 1910 relate to December 31, 1909.

[2] Included in "All other states" for 1906.

Spindles.—As already stated, the statistics of spindles in this table relate to the year ending August 31, except those for 1910, which have been compiled from returns of manufacturers for the census of 1909 and relate, as a rule, to December 31, 1909. The spindles enumerated include those which consumed cotton mixed with other fibers, as well as those designed primarily for spinning cotton. The number shown for 1910 is 29,188,945, and exceeds the number for 1909 by 611,848, or only 2 per cent. The comparatively small number of spindles added since 1907 is attributable in part to the unsatisfactory condition of the cotton-manufacturing industry, which began with the financial depression of that year and culminated in the more acute condition brought about by the shortage in the supply of cotton the past season.

As shown in Table 3, Massachusetts exceeds every other state in the number of cotton spindles, having 9,835,610, or 34 per cent of the total for the country. South Carolina ranks second, with 3,793,387, or 13 per cent, and North Carolina third, with 3,124,456, or 11 per cent. Rhode Island has fourth place, Georgia fifth, New Hampshire sixth, Connecticut seventh, New York eighth, and Maine ninth. No other state reports as many as a million spindles.

With reference to the important position of Massachusetts in the cotton-manufacturing industry, it may be mentioned that the year 1911 will mark the one-hundredth anniversary of cotton manufacturing in Fall River, and will be made the occasion of a noteworthy celebration. In 1811 Joseph Durfee established the first cotton mill at the town of Troy, now Fall River.[1] The original factory building is still standing and is now used as a warehouse. The cotton consumed by this mill in its early history was brought from the South in sailing packets. Only the spinning was done in the factory. The raw cotton was distributed around the neighborhood to be carded by hand and returned to the mill for spinning. The yarn was then given out for weaving among those of the community who had hand looms and the cloth was taken back to the mill for sale and distribution. This marked the beginning of the cotton-manufacturing industry in Fall River, which now leads all the cities of the United States in the number of cotton spindles, having considerably more than 3,000,000 at the present time.

Ring and mule spindles.—Since much depends upon the kind of spindle used, ring spindles consuming about 50 per cent more than mule spindles, Table 4 has been prepared in order to permit a comparison of the number of active ring and mule spindles in the United States in the years for which figures are given.

TABLE 4.—NUMBER OF ACTIVE RING AND MULE SPINDLES, BY STATES, FOR SPECIFIED YEARS: 1890 TO 1910.

[The figures for 1910 include all spindles consuming cotton; those for the other years, active spindles in cotton mills only.]

STATE.	1910			1905			1900			1890		
	Total.	Ring.	Mule.	Total.	Ring.	Mule.	Total.	Ring.	Mule.	Total.	Ring.	Mule.
United States	29,188,945	24,192,359	4,996,586	23,155,613	17,933,756	5,221,857	19,008,352	13,444,872	5,563,480	14,188,103	8,824,617	5,363,486
Alabama	934,743	930,827	3,916	758,087	751,087	7,000	411,328	403,328	8,000	79,234	69,774	9,460
Connecticut	1,332,991	863,471	469,520	1,149,915	702,439	447,476	1,000,574	607,448	393,126	934,155	536,514	397,641
Georgia	1,860,905	1,810,691	50,214	1,316,573	1,247,301	69,272	815,545	730,619	84,926	445,452	424,928	20,524
Indiana	137,012	115,160	21,852	119,252	101,184	18,068	102,488	86,168	16,320	74,604	58,284	16,320
Kentucky	92,472	75,952	16,520	76,192	55,072	21,120	66,633	48,234	18,399	42,942	34,158	8,784
Louisiana	67,902	63,096	4,806	59,052	56,552	2,500	55,600	55,600	.....	46,200	46,200	.....
Maine	1,010,535	796,561	213,974	891,246	667,522	223,724	841,521	584,573	256,948	885,762	541,005	344,097
Maryland	154,116	141,966	12,150	133,672	133,672	.....	154,064	154,064	.....	158,930	153,574	5,356
Massachusetts	9,835,610	7,833,661	2,001,949	8,411,249	6,082,189	2,329,060	7,784,687	5,228,371	2,556,316	5,824,518	3,393,799	2,430,719
Mississippi	172,808	171,800	1,008	125,352	125,352	.....	75,122	75,122	.....	57,004	57,004	.....
New Hampshire	1,350,455	1,172,947	177,508	1,301,281	1,032,205	269,076	1,243,555	956,390	287,165	1,195,643	831,409	364,234
New Jersey	480,578	141,505	339,073	436,764	87,960	348,804	431,730	64,638	367,092	374,442	69,962	304,480
New York	1,024,114	647,257	376,857	704,634	328,132	376,502	720,268	353,132	367,136	606,796	272,586	334,210
North Carolina	3,124,456	3,044,878	79,578	1,880,950	1,814,190	66,760	1,133,432	1,098,080	35,352	337,786	306,866	30,920
Pennsylvania	337,810	206,474	131,336	266,097	145,756	120,341	306,637	182,190	124,447	439,638	263,951	175,687
Rhode Island	2,455,304	1,519,828	935,476	2,049,522	1,199,284	850,238	1,880,622	940,294	940,328	1,924,486	1,112,617	811,869
South Carolina	3,793,387	3,766,455	26,932	2,864,092	2,848,980	15,112	1,431,349	1,420,597	10,752	332,784	328,784	4,000
Tennessee	271,446	252,012	19,434	153,375	143,375	10,000	123,896	103,116	20,780	97,524	75,936	21,588
Texas	104,628	104,628	.....	68,170	68,170	.....	48,756	48,756	.....	15,000	15,000	.....
Vermont	121,704	75,872	45,832	108,028	80,312	27,716	100,028	56,712	43,316	71,591	28,856	42,735
Virginia	332,496	323,612	8,884	193,062	189,974	3,088	126,827	124,502	2,325	94,294	81,096	13,198
All other states	193,473	133,706	59,767	89,048	73,048	16,000	153,690	122,938	30,752	149,318	122,254	27,064

From the statistics of Table 4 it is evident that the tendency in the United States is to employ ring rather than mule spindles, the latter forming but 17 per cent of the total number in 1910, as compared with 23 per cent in 1905, 29 per cent in 1900, and 38 per cent in 1890. Because of the ease and facility with which the ring spindle can be operated, most manufacturers prefer it to the mule spindle, except when certain kinds of yarns are to be spun. About 77 per cent of all the mule spindles now employed in the United States for spinning cotton are in the New England states and most of the others are in New York and New Jersey. Since some yarns requiring special qualities can not be made satisfactorily by the use of ring spindles, there will always be a demand for mules,

[1] Fibre and Fabric, August 20, 1910.

unless the difficulties hitherto met with in this regard can be overcome. Labor conditions also induce manufacturers to use frames rather than mules wherever it is practicable to do so.

In the report of the British census for 1907 the average consumption of cotton yarn for the United Kingdom is given as 29.5 pounds per mule spindle and 60.5 pounds per ring spindle. The preference with regard to the use of the two kinds of spindles in the United Kingdom and continental Europe is the reverse of that in the United States; in the United Kingdom only about 20 per cent of the total number are ring spindles and in Germany less than one-half, while the proportions in the other European countries vary. In very recent years, however, considerable impetus has been given to ring spinning in Great Britain by the erection of a number of large cotton mills devoted exclusively to the manufacture of ring-spun yarns.

Consumption of cotton.—The statistics for consumption are expressed in running bales, except that round bales are counted as half bales and that foreign cotton has been reduced to equivalent 500-pound bales. Linters are included. The statistics for consumption cover all establishments reported as using raw cotton or linters, including those which use this raw material in the manufacture of mattresses, batting, felts, and other similar articles, as well as the cotton mills, woolen mills, and knitting factories. The quantity of cotton consumed during the year ending August 31, 1910, was 4,798,953 bales, compared with 5,240,719 bales in 1909, a decrease of 441,766 bales, or 8 per cent. The average weekly consumption of cotton in the United States last year amounted to about 92,000 bales, compared with 108,000 in 1909, 87,000 in 1908, and 96,000 in 1907.

In the consumption of cotton Massachusetts ranks first, North Carolina second, South Carolina third, Georgia fourth, New Hampshire fifth, Alabama sixth, and Rhode Island seventh. As already stated, a ranking on the basis of spindles gives a somewhat different order. Of the three most important cotton-consuming states, North Carolina shows a loss of 13 per cent in the consumption of cotton this year, as compared with the year ending August 31, 1909; South Carolina a loss of 10 per cent, and Massachusetts a loss of 7 per cent. Georgia, which ranks fourth in consumption, shows a loss of 8 per cent. During the first six months of the year ending August 31, 1910, the better condition of the cotton-manufacturing industry is shown by the fact that the consumption prior to March 1 was 2,539,399 bales, compared with 2,259,454 bales during the following six months. An analysis of these figures shows that the decrease in the consumption in the latter period was general, amounting to 14 per cent for the cotton-growing states and 8 per cent for the New England states.

Kinds of cotton consumed.—The statistics of raw cotton consumed and of stocks held by manufacturers, which are presented in Table 3 and include both domestic and foreign cotton, are segregated in Table 5, so as to show the consumption of the different kinds of cotton and the amount of each kind held.

TABLE 5.—*Segregation of the statistics of the several kinds of raw cotton consumed, and of stocks held by manufacturers: 1910 and 1909.*

[The quantities are given in running bales, except that round bales are counted as half bales and foreign cotton has been reduced to equivalent 500-pound bales.]

KIND.	RAW COTTON CONSUMED (BALES).		STOCKS HELD BY MANUFACTURERS ON AUGUST 31 (BALES).	
	1910	1909	1910	1909
United States	4,798,953	5,240,719	533,232	907,097
Cotton-growing states:				
Domestic—				
Upland	2,214,598	2,495,285	108,153	176,319
Sea-island	8,985	6,564	726	1,693
Linters	58,827	43,584	10,423	5,874
Foreign—				
Egyptian	6,437	6,998	1,083	2,260
Peruvian	49	64	.....	.....
Indian	2,978	1,289	655	287
Other	459	13	309	11
All other states:				
Domestic—				
Upland	2,175,765	2,366,762	320,654	596,041
Sea-island	66,620	61,185	21,140	29,293
Linters	118,384	105,601	29,799	32,314
Foreign—				
Egyptian	124,291	139,029	33,930	57,593
Peruvian	10,490	7,439	1,450	1,805
Indian	8,788	6,792	3,854	3,551
Other	2,282	114	1,056	56

The statistics presented in the above table are interesting as showing the demand by the manufacturers of the United States for the several kinds of cotton. The term "upland cotton" denotes all cotton of domestic production, except sea-island cotton and the short fiber called linters. As shown in the table, the manufacturers in the cotton-growing states rely almost entirely upon upland cotton for their supply, and their mills consumed during the year ending August 31, 1910, only 77,735 bales of cotton other than upland. The mills in all other states consumed 330,855 bales of cotton other than upland, or more than four times as much, though their total consumption was only 8.5 per cent greater than that of the mills in the cotton-growing states. The term "linters," as used in the table, signifies the short fiber obtained by the cotton-seed oil mills from reginning cotton seed before extracting the oil. This fiber enters into many lines of manufacture in which otherwise it would be necessary to use a better grade of cotton. It is used (1) as a textile material for mixing with shoddy and for making low-grade yarns, wrapping twine, cheap rope, and lamp and candle wicks; (2) as a material for stuffing in upholstering and in the manufacture of mattresses, comforts, batting, cushions, wadding, pads, and horse collars; (3) as a material for mixing with wool in hat making, and for making absorbent cotton; and (4) for making cellulose, which is used in the manufacture of gun cotton, niter powder, and writing paper.

A very large percentage of the foreign cotton consumed in the United States during the year ending August 31, 1910, was Egyptian. The fact that energy is expended and expense incurred in the importation of cotton fibers into this country raises the interesting economic question whether the United States can not produce raw cotton meeting all the requirements of its own manufacturers.

The value of Egyptian cotton imported for the year ending August 31, 1910, was about $11,500,000. Manufacturers give four principal reasons for the use of this cotton in the United States: (1) It is well adapted to mercerizing and other processes that give a high finish to cloth and cause it to resemble silk; (2) its exceptional clearness and luster as well as its capacity for taking dyes, fit it for mixing with silk and for filling sateen, India linens, and similar goods having a brilliant surface; (3) the brown color of the Mit Afifi grade of this fiber allows it to be used without dyeing in manufacturing such goods as balbriggan underwear and lace curtains in which the écru shade is desired; and (4) it can be used for the manufacture of sewing thread and other articles which need to be very strong and for which no other type of cotton but sea-island has as yet proved suitable. Apart from the specific qualities of the fiber, it is said to be freer from trash and short fibers than American cotton, and for this reason it yields less waste in carding and combing than American long-staple upland cotton.

Rough Peruvian cotton is in demand in this country because its wool-like characteristics permit it to be used as a substitute for wool. Efforts made to grow this cotton in the United States have been without success, largely because the climate here limits the growth to one year and does not permit the plant to develop during a number of years, as in South America. Cotton grown in India is being used in this country, to some extent, for mixing with the American upland cotton. The average prices paid by the American manufacturers for the different kinds of raw cotton consumed during the past year were about as follows: American upland cotton, 14.3 cents; linters, 3.2 cents; Georgia and Florida sea-island, 27.1 cents; South Carolina sea-island, 32.9 cents; Egyptian, 20.5 cents; Indian, 10.5 cents; Peruvian, 16 cents; and Chinese, 11.5 cents.

Growth of the industry.—Table 6 shows the increase in the production of cotton in the United States and the growth of the cotton-manufacturing industry in this country since 1840.

TABLE 6.—PRODUCTION AND CONSUMPTION OF COTTON AND NUMBER OF ACTIVE COTTON SPINDLES IN THE UNITED STATES, BY SECTIONS, FOR SPECIFIED YEARS: 1840 TO 1910.

[The quantities are given in running bales, except those for production in 1850, 1860, and 1870, which are in equivalent 400-pound bales, and those for consumption from 1840 to 1870, which are in equivalent 500-pound bales. Linters are included.]

YEAR.	Production (bales).	CONSUMPTION (BALES).				ACTIVE SPINDLES.			
		United States.	Cotton-growing states.	New England states.	All other states.	United States.	Cotton-growing states.	New England states.	All other states.
1910	10,386,209	4,798,953	2,292,333	2,016,386	490,234	29,188,945	10,801,494	16,112,496	2,274,955
1909	13,432,131	5,240,719	2,553,797	2,144,448	542,474	28,018,305	10,429,200	15,591,851	1,997,254
1908	11,325,882	4,539,090	2,187,096	1,894,835	457,159	27,505,422	10,200,903	15,329,333	1,975,186
1907	13,305,265	4,984,936	2,410,993	2,073,355	500,588	26,375,191	9,527,964	14,912,517	1,934,710
1906	10,725,602	4,909,279	2,373,577	2,059,900	475,802	25,250,096	8,994,868	14,407,580	1,847,648
1905	13,697,310	[1] 4,278,980	[1] 2,140,151	[1] 1,753,282	[1] 385,547	23,687,495	7,631,331	14,202,971	1,853,193
1900	9,507,786	3,873,165	1,523,168	1,909,498	440,499	19,472,232	4,367,688	13,171,377	1,933,167
1890	7,472,511	2,518,409	538,895	1,502,177	477,337	14,384,180	1,570,288	10,934,297	1,879,595
1880	5,755,359	[2] 1,570,344	[2] 188,748	[2] 1,129,498	[2] 252,098	[2] 10,653,435	[2] 561,360	[2] 8,632,087	[2] 1,459,988
1870	3,011,996	796,616	68,702	551,250	176,664	7,132,415	327,871	5,498,308	1,306,236
1860	5,387,052	845,410	93,553	567,403	184,454	5,235,727	324,052	3,858,962	1,052,713
1850	2,469,093	575,506	78,140	430,603	66,763	3,998,022	264,571	2,958,536	774,915
1840	2,063,915	236,525	71,000	158,708	6,817	2,284,631	180,927	1,597,394	506,310

[1] Does not include foreign cotton.

[2] Cotton mills only.

The most significant feature of this table is the growth which it shows in the manufacturing industry in the cotton-growing states since 1880. There were in these states 30 years ago only 561,360 active spindles, which consumed 188,748 bales of cotton. In 1910 there were 10,801,494 active spindles, consuming 2,292,333 bales of cotton. The development is even more marked when the figures for cotton consumption for 1909 are considered, since that year was a more prosperous one for the industry than 1910. During the nine years ending with 1909 the consumption in these states increased 68 per cent, while in the New England states it increased only 12 per cent, and in all other states 23 per cent. The consumption of cotton for the year ending August 31, 1909, in the cotton-growing states amounted to 49 per cent of the total for the country, compared with 41 per cent for the New England states, and 10 per cent for all other states. For the year ending August 31, 1910, the proportion for the cotton-growing states was 48 per cent; for the New England states, 42 per cent; and for all other states, 10 per cent. During the past year the increase in the number of spindles in the cotton-growing states has been 3.6 per cent, compared with 2.2 per cent from 1908 to 1909. The increase in the New England states from 1909 to 1910 was 3.3 per cent, compared with 1.7 per cent from 1908 to 1909.

So large a proportion of the cotton produced in the

United States is exported that it appears well to present in this report reliable information regarding the condition of cotton manufacturing in foreign countries. Accordingly the latest available information concerning the industry in the important manufacturing countries, including statistics as to the number of spindles and the quantity of cotton consumed, is presented on pages 22 to 27. In addition, statistics of imports and exports of raw cotton and of cotton manufactures are presented for the most important of these countries on page 27.

Stocks of cotton in the United States.—The comparatively small quantity of baled cotton held in the United States on August 31, 1910, probably presents a sharper contrast with the conditions which prevailed a year ago than does the decreased consumption already mentioned. The quantity of stocks held dropped from 1,483,585 bales in 1909 to 1,040,040 bales in 1910, or 30 per cent, while the holdings of manufacturers decreased from 907,097 bales in 1909 to 533,232 bales in 1910, or 41 per cent. The following tabular statement shows the quantity and location of the stocks of cotton held in this country on the several dates for which statistics have been compiled during the past year:

Quantity and location of cotton stocks held on specified dates.

[The quantities are given in running bales, except that round bales are counted as half bales and foreign cotton has been reduced to equivalent 500-pound bales. Linters are included.]

HOLDER.	COTTON STOCKS HELD (BALES)—			
	August 31, 1910.	February 28, 1910.	December 31, 1909.	August 31, 1909.
Total	1,040,040	4,436,249	5,301,612	1,483,585
Manufacturers—				
In cotton-growing states	121,349	668,998	741,320	186,458
In all other states	411,883	1,024,100	869,982	720,639
Independent warehouses—				
In cotton-growing states	155,871	1,671,350	2,293,234	242,747
In all other states	150,937	232,000	213,384	82,352
All other holders	200,000	839,801	1,183,692	251,389

Table 7 shows for the past four years the quantity of cotton held on August 31 in warehouses and in other public storage places independent of manufacturers.

TABLE 7.—*Stocks of cotton held in independent warehouses and other public storage places on August 31, by states: 1907 to 1910.*

[The quantities are given in running bales, except that round bales are counted as half bales and foreign cotton has been reduced to equivalent 500-pound bales. Linters are included.]

STATE.	COTTON STOCKS HELD IN INDEPENDENT WAREHOUSES AND PUBLIC STORAGE PLACES (BALES).			
	1910	1909	1908	1907
United States	306,808	325,099	444,626	388,919
Alabama	4,634	13,319	26,700	20,169
Arkansas	5,282	6,846	13,571	9,589
Georgia	23,450	50,568	82,017	34,540
Louisiana	19,624	34,714	34,734	31,292
Mississippi	13,387	17,052	45,789	10,577
Missouri	3,039	3,544	10,471	6,040
North Carolina	5,393	1,858	6,597	4,618
South Carolina	7,330	10,425	31,117	12,703
Tennessee	5,531	7,448	16,375	19,282
Texas	66,786	78,657	90,506	47,011
Virginia	411	4,418	1,982	9,841
All other states	151,941	96,250	84,767	183,257

It is gratifying to notice the relatively large holdings of cotton in independent warehouses, if it points to a greater regard for and a more careful handling of the staple. This condition has possibly been influenced to some extent by the improved financial status of the growers, which enables them to store cotton with less inconvenience than heretofore, as well as by the liberal advances of warehousemen against cotton so stored.

EXPORTS.

In Table 8 are presented statistics showing the exports of domestic cotton by customs districts for the years ending August 31, 1906 to 1910, respectively.

TABLE 8.—*Exports of domestic raw cotton from the United States, by customs districts, for the year ending August 31: 1906 to 1910.*

[Compiled by the Bureau of Statistics, Department of Commerce and Labor.]

CUSTOMS DISTRICT.	EXPORTS (RUNNING BALES).				
	1910	1909	1908	1907	1906
Total	6,339,028	8,574,024	7,573,349	8,503,265	6,763,041
Bangor, Me.	85	972	982	240	1,982
Passamaquoddy, Me.	6,411	6,503	7,950	4,591	5,763
Portland and Falmouth, Me.	427	796	1	7,399	1,880
Boston and Charlestown, Mass.	106,309	106,735	156,780	156,788	147,030
New York, N. Y.	734,230	453,540	619,453	480,476	520,624
Philadelphia, Pa.	62,558	69,639	56,138	41,091	39,886
Baltimore, Md.	57,717	128,474	117,932	165,221	156,178
Norfolk and Portsmouth, Va.[1]	6,810	36,653	42,621	15,654	34,422
Wilmington, N. C.	298,595	403,209	492,830	317,507	320,083
Charleston, S. C.	116,006	82,759	44,518	21,429	9,900
Savannah, Ga.	772,098	921,239	892,080	923,679	970,002
Brunswick, Ga.	191,582	283,026	176,015	141,940	148,551
Pensacola, Fla.[2]	144,513	169,466	173,213	155,791	176,953
Mobile, Ala.	155,046	306,964	259,590	163,203	140,301
Pearl River, Miss.	8,892	20,221	.....	.....	.....
New Orleans, La.	1,193,922	1,957,466	1,870,709	2,072,387	1,570,844
Sabine, Tex.	142,381	153,234	108,500	13,711	(3)
Galveston, Tex.	2,130,524	3,175,890	2,301,168	3,448,006	2,269,029
Saluria, Tex.	620	1,420	462	.....	3,529
Paso del Norte, Tex.	916	2,405	329	.....	150
Corpus Christi, Tex.[4]	1,927	6,116	677	575	5,999
Porto Rico	157	208	117	16	748
Arizona	1,025	499	924	3	458
San Francisco, Cal.	60,169	82,528	48,072	83,123	38,392
Willamette, Oreg.	200	300	1,050	1,001	4,849
Puget Sound, Wash.	33,802	79,128	101,800	146,645	65,022
North and South Dakota	655	275	115	4,232	5,839
Minnesota	187	267	200	53	25
Detroit, Mich.	49,574	70,170	54,868	88,804	73,902
Huron, Mich.	30,365	24,444	23,542	19,574	29,474
Niagara, N. Y.	598	630	681	338	226
Buffalo Creek, N. Y.[5]	1,402	1,448	769	791	243
Champlain, N. Y.	3,428	1,280	1,006	10,509	6,011
Oswegatchie, N. Y.	1,462	3,150	337	3,667	952
Vermont, Vt.	4,025	2,725	6,851	2,854	4,717
Memphremagog, Vt.	20,350	20,245	10,469	11,967	9,077

[1] Includes Newport News.
[2] Includes St. Johns, Fernandina, and Key West.
[3] Included with exports from Galveston prior to March 1, 1907.
[4] Includes Brazos de Santiago.
[5] Includes Cape Vincent.

An interesting illustration of the manner in which foreign countries have suffered during the past year from the short supply of American cotton is presented by the statistics of exports in this table. The exports for the year covered by the present report show a decrease of 2,234,996 bales, or 26 per cent, from the previous year, and were smaller than for any year since that ending August 31, 1905. About 81 per cent of all the cotton exported during the year ending August 31, 1910, is credited to ports within the cotton-growing states, only 19 per cent having been exported from ports outside of these states. The exports from Galveston, New Orleans, and Savannah represented about two-thirds of the total, while those from Galveston alone amounted to more than one-third.

Receipts of cotton, by ports.—The term "net receipts of cotton," as here employed, means the amount of cotton received which has not been transshipped from some other port and already included in the latter's receipts. The statistics of such net receipts for the principal cotton-handling ports are presented in Table 9.

TABLE 9.—NET RECEIPTS OF RAW COTTON AT SELECTED PORTS, FOR THE YEAR ENDING AUGUST 31, FOR SPECIFIED YEARS: 1875 TO 1910.

[Compiled from Commerce and Finance of the United States.]

PORT.	NET RECEIPTS OF COTTON (RUNNING BALES).											
	1910	1909	1908	1907	1906	1905	1900	1895	1890	1885	1880	1875
Galveston	2,591,412	3,657,156	2,633,429	3,891,695	2,656,600	2,879,336	1,710,263	1,659,999	860,112	463,463	480,352	354,927
New Orleans	1,315,328	2,093,232	1,995,204	2,296,971	1,653,142	2,689,520	1,867,153	2,584,115	1,973,571	1,529,592	1,504,654	993,481
Mobile	255,665	393,911	[1] 516,321	260,300	250,350	329,556	[1] 340,646	253,187	261,957	237,071	358,971	320,822
Pensacola	138,234	166,616	(2)	149,639	166,075	195,151	(2)	(2)	(2)	(2)	(2)	(2)
Brunswick	227,301	325,127	214,496	163,928	180,853	199,193	94,278	(2)	(2)	(2)	(2)	(2)
Savannah	1,365,825	1,520,105	1,531,502	1,468,633	1,514,953	1,877,343	1,088,807	944,410	956,517	728,087	741,018	606,727
Charleston	228,728	210,574	203,491	149,924	180,604	225,366	265,523	425,487	327,079	507,802	464,332	412,931
Wilmington	312,511	409,656	501,483	322,668	325,818	375,383	282,360	234,621	134,916	94,054	78,876	76,601
Norfolk and Newport News	587,363	649,162	578,151	642,895	683,661	841,174	432,727	472,540	404,056	545,418	590,032	387,279
Baltimore	85,526	104,836	89,735	70,825	68,067	72,427	101,648	(3)	(3)	(3)	(3)	(3)
Philadelphia	2,581	6,848	9,803	11,021	10,317	13,645	36,238	(3)	(3)	(3)	(3)	(3)
New York	40,706	19,181	4,228	23,108	6,575	33,798	119,215	187,794	176,502	99,200	229,426	179,103
Boston	14,792	19,430	15,822	72,655	63,828	83,644	118,891	(3)	(3)	(3)	(3)	(3)

[1] Includes receipts of Pensacola. [2] Included in receipts of Mobile. [3] Not shown separately.

The most striking fact shown by the statistics in Table 9 is the rapid increase in the net receipts of cotton at Galveston and New Orleans. The growth of our export trade in raw cotton, as well as the large increase in cotton growing in the states having transportation routes centering in these ports, is reflected in the volume of their receipts of cotton. During the year ending August 31, 1910, the net receipts at Galveston and New Orleans amounted to 3,906,740 bales, or more than 60 per cent of the exports of cotton during the year for the entire country. During the period covered by the table the receipts at Norfolk have increased about 52 per cent, and those at Savannah have more than doubled. This increase has been largely brought about, no doubt, by the development of interior transportation facilities and by the establishment of new ocean transportation routes.

Exports of cotton, by countries to which exported.—Table 10 shows the annual exports of domestic raw cotton from 1821 to 1910, by countries to which exported, together with the total value.

The statistics of Table 10 are given in equivalent 500-pound bales, the figures in Table 8, which are in running bales, having been reduced to this basis. With a view to showing the remarkable development in the exports of raw cotton, this table has been made to cover practically the entire period during which cotton has been produced in this country for commercial purposes. The quantity exported during the year ending August 31, 1910, amounted to 6,339,028 running bales, equivalent to 6,484,429 bales of 500 pounds each, valued at $460,868,020. Of this cotton, 2,480,400 equivalent 500-pound bales, or 38 per cent, went to the United Kingdom; 1,948,192 bales, or 30 per cent, to Germany; and 981,382 bales, or 15 per cent, to France—these three countries taking 83 per cent, or about five-sixths, of the total quantity exported. The decrease of 26 per cent in the quantity of cotton exported this year, as compared with the year ending August 31, 1909, is very generally distributed among the several countries.

Because of the present indirect transportation routes the table does not, in all instances, show the final destination of American cotton exported. Cotton shipments from the United States are consigned, in many instances, to intermediate points and thence transshipped to their ultimate destination. The table discloses an interesting change in the distribution of the export trade since 1880. At that time the United Kingdom took two-thirds of all the American cotton exported, France one-tenth, and Germany one-twelfth; but during the year ending August 31, 1910, the United Kingdom took about two-fifths, Germany nearly one-third, and France nearly one-seventh. The exports to Italy since 1880 have increased more than sixfold. The exports to Japan are interesting more because of the remarkable variations in the quantities for the different years than because of the development of the trade. This may be explained by the fact that when the price of American cotton is comparatively high Japan reduces its imports of raw material from the United States and increases its imports of Indian cotton. The exports to Canada in 1880 amounted to only 19,619 bales, compared with 120,744 bales in 1910. The decrease in the exports to Russia is accounted for in part by the increased production of cotton in Russian territory and by the importation of Persian cotton.

TABLE 10.—ANNUAL EXPORTS OF DOMESTIC RAW COTTON—TOTAL VALUE AND QUANTITY—BY COUNTRIES TO WHICH EXPORTED: 1821 TO 1910.

[Compiled from Commerce and Navigation of the United States. From 1821 to 1885, inclusive, these statistics relate to the fiscal year; from 1886 to 1910, inclusive, to the year ending August 31.]

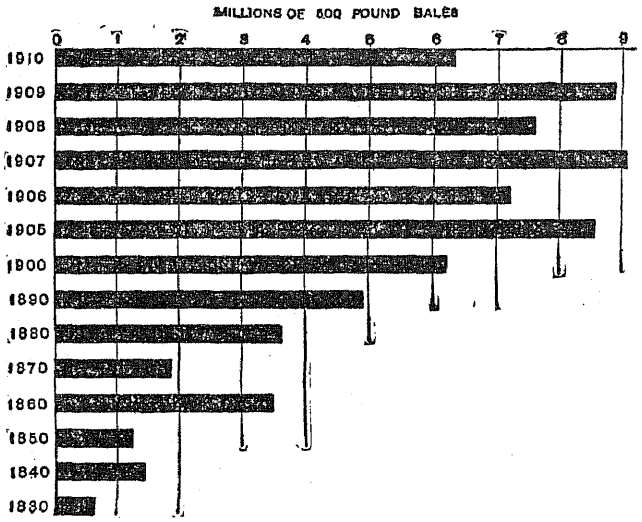
YEAR.	Total value.	QUANTITY (EQUIVALENT 500-POUND BALES) EXPORTED.														
		Total.	United Kingdom.	Germany.	France.	Italy.	Spain.	Belgium	Russia.	Austria-Hungary.	Netherlands.	Other Europe	Japan.	Canada.	Mexico.	All other countries.
1910	$460,868,020	6,484,429	2,480,400	1,948,192	981,382	368,686	188,857	101,481	61,472	61,107	18,971	34,241	96,533	120,744	20,989	1,374
1909	422,039,541	8,889,724	3,669,569	2,394,369	1,114,167	574,161	301,545	154,831	95,451	95,875	29,346	60,370	209,075	131,976	52,146	6,843
1908	443,407,637	7,779,508	3,005,016	2,434,427	927,655	425,591	257,998	123,215	104,764	89,586	28,416	61,281	197,677	114,721	4,872	4,289
1907	472,088,460	8,825,036	3,894,722	2,266,341	959,364	552,392	294,934	147,639	116,511	112,235	29,413	35,936	262,659	145,318	549	7,023
1906	385,171,462	6,977,709	2,969,979	1,806,666	806,725	486,603	241,747	111,917	111,894	58,373	17,962	62,743	135,953	135,688	26,466	4,993
1905	403,109,577	9,057,181	4,176,547	2,132,583	881,637	552,763	295,537	155,286	129,928	62,644	30,962	76,837	346,329	127,102	79,306	9,720
1904	375,383,432	6,233,255	2,545,717	1,818,440	726,086	378,759	184,862	108,679	172,854	28,159	16,826	53,125	50,270	90,575	58,168	735
1903	310,887,678	6,913,933	2,773,677	1,846,596	800,592	421,894	266,336	150,689	181,938	39,917	41,510	58,896	142,902	124,839	61,176	2,971
1902	325,492,983	6,870,313	3,043,225	1,659,372	775,683	473,747	270,602	139,259	73,446	40,352	23,505	34,737	171,408	124,851	33,067	7,059
1901	318,062,874	6,806,572	3,119,111	1,701,359	766,046	365,359	237,346	154,682	53,171	36,843	53,180	83,779	95,606	105,832	33,552	706
1900	245,852,268	6,167,622	2,349,557	1,601,187	723,047	443,951	246,612	148,319	54,950	44,921	74,635	26,169	310,747	110,287	20,185	13,055
1899	212,107,591	7,626,525	3,593,148	1,759,262	825,489	417,353	248,635	129,524	95,012	57,131	51,621	117,311	191,879	100,934	36,007	3,219
1898	233,827,730	7,811,031	3,610,730	1,885,910	842,111	387,581	263,648	161,941	103,825	35,614	43,509	74,835	224,707	119,778	42,521	14,321
1897	227,881,785	6,124,026	3,013,263	1,371,313	716,447	323,117	219,088	83,485	84,570	60,091	34,731	42,615	64,398	81,771	28,801	336
1896	123,996,401	4,761,562	2,325,351	1,046,832	477,790	261,644	216,178	87,966	91,622	15,914	14,219	70,524	41,332	71,807	40,067	316
1895	201,747,308	6,955,315	3,540,956	1,484,720	789,432	332,656	255,679	145,340	141,998	18,861	25,999	24,949	19,397	102,536	72,541	251
1894	205,175,298	5,313,295	2,904,221	911,273	596,284	211,716	225,364	128,907	140,082	6,952	18,581	54,136	13,831	66,220	35,445	283
1893	190,787,234	4,485,250	2,388,458	861,310	580,888	160,019	200,212	90,399	36,356	26,253	26,614	9,323	1,267	59,451	44,510	190
1892	258,628,371	5,896,782	3,388,597	966,446	692,976	171,003	187,458	134,373	134,392	24,042	27,925	39,762	3,468	79,373	44,695	2,272
1891	291,499,129	5,850,273	3,401,194	1,030,862	560,303	194,022	218,836	97,423	135,611	4,429	43,669	57,498	4,813	73,694	25,893	2,026
1890	250,571,334	4,928,867	2,912,619	831,997	471,051	129,751	175,339	93,588	193,163	299	17,438	17,448	.....	58,612	25,672	1,890
1889	235,898,233	4,728,191	2,925,807	651,898	403,034	131,068	181,533	147,807	144,036	3,410	44,354	4,575	.....	57,306	33,013	350
1888	222,805,494	4,519,254	2,812,845	571,307	387,818	110,375	169,331	130,791	216,798	1,001	27,725	25,892	.....	53,692	11,571	108
1887	206,884,761	4,301,542	2,678,937	554,117	476,213	73,222	138,499	110,288	151,267	4,009	43,735	12,826	.....	46,014	12,205	210
1886	206,445,957	4,200,651	2,452,992	574,282	395,672	110,473	168,414	125,069	184,924	85,293	31,672	13,718	.....	39,545	18,305	292
1885	201,962,458	3,783,319	2,419,834	468,987	361,462	79,041	135,319	85,664	135,131	3,898	37,930	17,750	.....	26,398	11,754	151
1884	197,015,204	3,725,145	2,384,254	363,055	457,369	51,725	135,928	30,863	193,639	1,762	53,913	11,027	.....	19,216	22,368	26
1883	247,328,721	4,576,150	2,776,411	538,583	428,829	80,007	196,939	42,055	347,354	4,656	57,610	28,780	.....	32,636	41,155	535
1882	189,812,644	3,479,952	2,361,793	324,962	333,541	44,073	115,264	4,732	184,233	189	33,820	16,706	.....	35,159	25,075	405
1881	247,695,746	4,381,857	2,729,672	466,192	553,854	75,145	127,741	18,318	267,714	4,218	67,502	18,211	.....	25,960	26,772	558
1880	211,535,905	3,644,122	2,433,255	308,045	359,693	59,126	133,873	17,896	204,500	1,699	65,325	21,097	.....	19,619	19,763	231
1879	162,304,250	3,256,746	1,967,549	274,969	393,977	47,617	141,215	19,127	308,647	2,533	51,734	13,280	.....	15,481	19,796	821
1878	180,031,484	3,215,067	2,079,897	243,298	472,062	36,221	81,371	28,383	170,858	3,636	55,909	22,413	.....	14,165	6,844	10
1877	171,118,508	2,890,738	2,040,731	155,211	438,178	23,096	92,061	4,597	50,219	.....	53,711	13,202	.....	11,017	7,940	775
1876	192,659,262	2,982,811	1,914,660	217,092	407,952	46,759	95,122	31,076	161,794	.....	68,532	15,019	.....	9,961	13,945	899
1875	190,638,625	2,520,838	1,823,884	150,570	310,279	18,084	59,627	6,227	131,417	.....	8,141	2,876	.....	7,123	2,610	.....
1874	211,223,580	2,717,205	1,807,144	229,227	354,731	24,597	106,718	17,107	108,181	.....	38,009	18,041	.....	8,022	4,579	849
1873	227,243,069	2,400,127	1,717,299	190,685	226,740	30,568	55,444	24,253	99,147	2,758	38,172	10,916	.....	2,988	1,101	56
1872	180,684,595	1,867,075	1,407,330	85,033	176,374	11,845	65,142	20,197	49,367	.....	45,570	1	.....	3,792	1,914	10
1871	218,327,109	2,925,856	2,204,645	207,972	119,223	42,915	94,312	35,867	62,271	4,330	111,405	14,220	.....	4,786	22,619	1,201
1870	227,027,624	1,917,117	1,298,332	173,552	306,293	14,549	55,409	3,452	30,341	.....	17,050	1,621	.....	3,122	13,219	177
1869	162,033,052	1,288,656	873,087	140,855	201,116	8,956	32,317	374	19,525	.....	5,331	536	.....	2,244	4,084	231
1868	152,820,733	1,569,527	1,129,030	152,643	186,466	12,066	51,241	1,608	11,748	331	5,045	675	.....	2,091	16,457	126
1867	201,470,423	1,322,947	1,048,641	56,396	167,858	7,223	22,068	1,775	10,179	.....	514	214	.....	1,288	6,022	169
1866	281,385,223	1,301,146	1,024,728	32,276	216,470	397	17,631	653	5,372	.....	283	1,107	.....	1,643	101	485
1865	6,836,500	13,214	12,009	283	714	.....	.....	.....	.....	.....	.....	.....	.....	184	.....	24
1864	9,895,854	23,988	19,302	47	3,557	117	.....	.....	.....	.....	.....	.....	.....	110	835	20
1863	6,652,405	22,770	19,681	.....	2,534	.....	.....	.....	.....	.....	26	.....	.....	303	.....	226
1862	1,180,113	10,129	7,091	17	46	1,688	1,166	.....	.....	.....	.....	.....	.....	115	.....	6
1861	34,051,483	615,032	414,685	23,798	114,541	9,373	22,310	11,364	8,502	.....	5,301	1,767	.....	303	2,821	267
1860	101,806,555	3,535,373	2,528,274	132,145	567,935	54,037	88,044	29,601	43,396	14,943	25,515	30,013	.....	2,771	18,087	612
1859	161,434,923	2,772,937	1,887,372	131,362	372,981	42,977	121,046	28,657	87,240	33,113	32,311	22,690	.....	114	11,987	1,087
1858	131,336,661	2,237,248	1,561,905	58,872	357,580	38,996	79,261	18,691	64,220	13,960	16,995	8,334	.....	261	18,169	4
1857	131,575,859	2,096,565	1,367,996	89,866	348,469	34,480	91,114	24,495	63,867	15,229	20,869	22,544	.....	1,715	15,917	4
1856	128,382,351	2,702,863	1,798,656	124,219	443,535	41,710	116,959	46,343	9,287	37,306	26,193	38,194	.....	8,317	12,021	123
1855	88,143,844	2,016,849	1,346,997	61,642	420,228	49,787	66,143	24,439	898	1,910	9,883	18,083	.....	1,706	15,054	19
1854	93,596,220	1,975,666	1,392,494	75,440	288,857	25,452	70,048	27,961	5,830	29,922	12,096	21,589	.....	145	24,292	1,540
1853	109,456,404	2,223,141	1,537,193	46,280	378,454	34,976	73,702	30,989	42,573	35,937	14,078	13,463	.....	24	14,928	544
1852	87,965,732	2,186,461	1,505,148	44,277	372,428	35,868	58,604	54,316	20,950	47,897	20,518	12,396	.....	33	13,400	626
1851	112,315,317	1,854,474	1,341,290	34,480	278,329	20,641	68,545	32,670	20,197	34,618	11,018	10,639	.....	47	1,692	309
1850	71,984,616	1,270,763	863,062	10,090	251,668	18,707	55,353	25,492	8,677	18,492	8,590	7,532	.....	89	2,627	384
1849	.....	2,053,204	1,478,690	27,689	302,680	33,316	46,572	56,227	21,301	26,559	23,775	26,003	.....	194	4,437	5,761
1848	.....	1,628,549	1,144,006	35,074	272,596	17,184	38,647	30,559	20,534	40,868	9,703	10,120	.....	45	.....	9,204
1847	.....	1,054,440	702,538	21,779	204,235	26,431	24,627	20,369	11,237	23,561	3,957	7,277	.....	208	.....	8,221
1846	.....	1,095,116	692,317	15,391	264,106	28,620	235	14,817	8,585	26,764	7,700	7,324	.....	95	8,785	20,377
1845	.....	1,745,812	1,210,290	34,605	295,659	13,714	673	28,595	14,991	41,786	25,099	7,887	.....	166	3,323	69,024
1844	.....	1,327,267	973,459	12,579	240,120	6,346	8,249	19,771	5,536	24,456	6,155	2,610	.....	2,797	11,898	13,291
1843	.....	1,584,594	1,169,691	30,507	273,629	18,371	.....	30,287	6,858	12,032	16,348	898	.....	6	3,265	22,702
1842	.....	1,169,434	757,395	19,525	311,643	8,817	.....	16,455	5,668	14,187	16,783	2,477	.....	36	.....	16,448
1841	.....	1,060,408	696,613	12,992	278,790	3,738	36	19,632	1,972	16,263	5,270	4,194	.....	553	.....	20,355
1840	63,870,307	1,487,882	989,830	18,317	358,180	7,805	1,049	25,780	4,406	26,336	21,698	5,160	.....	59	.....	29,202
1839	.....	827,248	621,548	1,780	179,565	10	1,179	2,711	4,209	4,741	3,731	3,270	.....	.....	.....	4,504
1838	.....	1,191,905	883,716	9,437	240,649	460	5,663	11,405	5,577	11,314	15,291	3,069	.....	13	112	5,199
1837	.....	888,423	643,159	7,530	198,617	1,107	4,665	3,539	1,995	16,860	4,345	3,609	.....	16	4	2,977
1836	.....	847,263	585,038	14,130	202,727	322	3,252	7,960	2,833	13,925	8,841	6,867	.....	22	14	1,332
1835	.....	774,718	540,169	5,414	200,994	26	1,756	2,818	1,950	9,886	8,555	1,963	.....	26	.....	1,161
1834	.....	769,436	569,448	13,235	159,897	382	1,786	2,410	2,521	7,611	9,848	2,128	.....	18	.....	152
1833	.....	649,397	476,484	3,751	153,666	.....	1,516	2,619	2,895	2,215	2,727	2,788	.....	36	296	404
1832	.....	644,430	458,015	8,150	154,935	1,162	4,568	(1)	1,678	3,309	[2] 7,840	3,756	.....	72	.....	945
1831	.....	553,960	441,634	4,834	92,257	612	1,111	.....	1,524	5,558	1,945	3,738	.....	678	.....	69
1830	29,674,883	596,918	419,661	2,246	150,212	471	64	.....	223	5,629	17,135	1,257	.....	19	.....	1
1829	.....	529,674	349,120	13,746	134,408	2,113	.....	.....	456	8,142	19,196	1,949	.....	21	.....	523
1828	.....	421,181	293,666	6,782	106,962	814	.....	.....	1,300	1,961	7,562	1,853	.....	33	.....	248
1827	.....	588,620	425,415	6,797	140,848	296	16	.....	294	366	11,725	2,545	.....	70	.....	248
1826	.....	409,071	267,758	4,121	124,337	.....	.....	.....	31	67	9,185	2,872	.....	65	.....	635
1825	.....	352,900	287,426	1,154	60,008	2	.....	.....	268	.....	2,840	1,135	.....	14	44	9
1824	.....	286,739	202,421	590	81,396	.....	.....	.....	1,003	.....	866	402	.....	41	.....	20
1823	.....	347,447	280,368	4,717	49,987	435	.....	.....	619	356	9,301	1,455	.....	192	4	13
1822	.....	289,350	228,928	5,911	43,016	3,913	.....	.....	1,428	420	3,941	674	.....	2	.....	1,117
1821	.....	249,787	175,438	1,496	54,878	1,796	570	.....	609	70	8,372	2,188	.....	.....	.....	4,370

[1] Included with Netherlands.

[2] Includes exports to Belgium.

The development of the export trade in domestic raw cotton from 1830 to 1910 is graphically indicated by the following diagram:

DIAGRAM 1.—*Exports of domestic cotton, for specified years: 1830 to 1910.*



Exports of sea-island cotton.—Because of the great interest that attaches to sea-island cotton, on account of its special use in the textile manufacturing industries, statistics of exports of this fiber, by countries to which exported, are given in the following table for selected years since 1885. It should be understood that these statistics are included in the general statistics of domestic exports of cotton shown in the other tables of this report.

TABLE 11.—*Exports of sea-island cotton, by countries to which exported, for the year ending August 31, for specified years: 1885 to 1910.*

YEAR.	QUANTITY (EQUIVALENT 500-POUND BALES).				
	Total.	Exported to—			
		United Kingdom.	France.	Germany.	All other countries.
1910	22,748	18,154	4,074	520	.....
1909	19,654	13,589	5,070	426	569
1908	25,587	17,874	7,112	413	188
1907	15,252	11,056	3,925	185	86
1906	31,624	23,870	6,787	838	129
1900	36,240	30,131	5,193	796	120
1895	30,455	26,350	3,878	36	191
1890	18,568	16,853	1,420	169	126
1885	13,708	11,950	1,500	13	185

The production of sea-island cotton in 1909, according to returns of ginners, was 94,791 bales, equivalent to 36,440,000 pounds. Nearly 24 per cent of this crop was exported, as compared with 27 per cent of the previous year's crop, and 38 per cent of the crop of 1907. The United Kingdom took more than two-thirds of the entire amount exported during the year ending August 31, 1910, and France most of the remainder. The fact that the quantity of sea-island cotton exported and the quantity consumed in this country during the year amounted to 98,353 running bales indicates a considerable depletion in the stocks of this kind of cotton on hand.

EXPORTS AND IMPORTS OF COTTON MANUFACTURES.

Table 12 distributes the exports of domestic manufactures of cotton for the last fiscal year, by countries to which exported.

The condition shown by comparing the statistics of this table with those of Table 13 is suggestive. According to Table 12, the total value of cotton goods of domestic manufacture for 1910 amounted to $33,398,672, whereas according to Table 13 the imports of cotton manufactures into the United States during the same year amounted to $66,473,143 in value. It will be seen from these figures that the value of cotton manufactures exported during the year was equal to only about one-half of the value of cotton manufactures imported.

An inspection of the figures of the two tables will show with what countries our export trade in cotton goods is greatest, and the character of foreign manufactures of cotton which our country demands. Of the total value of the exports of cotton manufactures during the past year, $10,102,094 represents the value of unbleached cloths; $1,351,040, the value of bleached cloths; and $8,519,674, the value of dyed, colored, or printed cloths. The exports of American yarn and thread amounted to $463,404 in value, of which 36 per cent went to South America, 29 per cent to China, and 24 per cent to Canada. Our trade in yarn and thread with the Far East is insignificant, that market being controlled by the United Kingdom, British India, and Japan. The growing interest of Central and South American countries in the cotton manufactures of the United States is gratifying, and suggests the advisability of a careful study by the manufacturers of this country of the conditions and possibilities of trade in those localities. The most noticeable expansion in the exports of cotton manufactures for the past year was in the goods sent to the Philippines, the value of which amounted to $2,936,398, as compared with $1,059,042 for 1909. Of the total value of cotton manufactures exported, $4,733,566 went to Europe; $12,972,522 to Canada, Mexico, and other countries of North America; $3,359,926 to South America; $11,633,251 to Asia; and the remainder, $699,407, to Africa.

TABLE 12.—EXPORTS OF DOMESTIC MANUFACTURES OF COTTON, BY COUNTRIES TO WHICH EXPORTED, FOR THE YEAR ENDING JUNE 30, 1910.

[Compiled by the Bureau of Statistics, Department of Commerce and Labor.]

COUNTRY.	Total value.	CLOTHS.						CLOTHING AND OTHER WEARING APPAREL.		COTTON WASTE.		Yarn and thread (value).	All other manufactures of cotton (value).
		Unbleached.		Bleached.		Dyed, colored, or printed.							
		Square yards.	Value.	Square yards.	Value.	Square yards.	Value.	Knit goods (value).	All other (value).	Pounds.	Value.		
Aggregate	$33,398,672	152,754,158	$10,102,094	19,371,650	$1,351,040	137,821,239	$8,519,674	$1,175,147	$4,549,914	54,311,226	$3,129,034	$463,404	$4,108,365
Europe	4,733,566	5,985,487	653,755	170,792	16,709	618,521	61,020	554,174	414,870	46,039,425	2,604,963	13,016	415,059
United Kingdom	2,857,625	1,863,011	349,236	29,623	3,853	348,194	35,457	525,346	314,880	17,428,982	1,318,706	12,619	297,528
Germany	896,351	47,334	6,514	2,984	486	63,123	6,076	9,301	23,163	20,549,046	818,770	210	31,831
Turkey (incl. Asiatic Turkey)	272,310	3,745,054	251,330	104,018	8,764	60,981	5,542	803	2,073	.....	.....	.....	3,798
Belgium	260,083	1,104	301	.....	.....	2,897	229	307	2,785	5,303,060	245,145	.....	11,316
Italy	54,364	2,458	296	.....	.....	1,462	156	4,597	11,170	300,178	25,936	.....	12,209
Netherlands	62,232	4,341	830	.....	.....	.....	.....	5,985	34,835	538,402	17,586	.....	2,996
France	124,140	669	71	.....	.....	50,722	5,817	3,483	7,664	931,737	87,503	150	10,452
Norway	15,458	14,053	7,695	.....	.....	4,742	489	1,208	2,324	.....	.....	.....	3,742
Portugal	11,754	48,951	6,510	4,804	481	18,205	2,136	127	877	.....	.....	.....	1,623
Russia (incl. Asiatic Russia)	31,692	19,161	7,724	19,842	1,872	19,830	2,056	251	2,042	400	38	.....	17,709
Denmark	16,578	9,633	2,386	.....	.....	.....	.....	152	5,236	180,097	5,403	.....	3,401
Spain	88,058	.....	.....	.....	.....	.....	.....	279	276	802,221	85,618	.....	1,885
Sweden	9,995	3,191	2,616	4,499	576	.....	.....	2,233	1,015	5,156	250	.....	3,305
All other Europe	32,926	226,527	18,246	5,022	677	48,365	3,062	102	6,530	146	8	37	4,264
North America	12,972,522	10,783,862	939,788	10,178,110	726,435	68,022,817	4,351,956	439,711	3,001,331	7,831,532	487,308	142,012	2,883,981
Canada	5,242,511	1,769,790	182,549	2,620,258	241,992	5,793,426	521,258	162,288	1,590,832	6,818,009	414,687	125,083	2,003,822
Mexico	772,127	318,384	63,459	355,165	37,118	899,420	85,602	11,139	274,709	57,431	3,620	8,786	287,694
Panama	1,066,969	416,268	48,377	231,176	21,059	4,324,764	248,827	101,940	521,473	248,054	13,878	616	110,799
San Salvador	200,683	968,139	50,549	126,266	7,642	2,303,082	135,070	75	1,527	3,739	250	108	5,462
Honduras	359,230	587,066	32,435	416,361	27,121	3,708,228	214,160	4,428	31,838	6,142	372	.....	48,876
Guatemala	258,928	848,187	48,473	277,875	19,328	2,435,220	140,400	1,789	11,415	21,188	1,252	.....	36,271
Nicaragua	228,711	375,856	24,951	292,882	21,275	1,665,969	114,722	1,270	32,204	10,684	759	118	33,412
Costa Rica	259,318	733,726	43,578	153,008	8,646	2,880,406	155,809	1,808	30,675	38,402	2,192	325	16,285
British Honduras	137,786	129,034	10,355	130,521	9,792	1,029,150	59,876	5,337	31,326	7,310	391	11	20,698
Cuba	1,644,498	948,140	182,479	2,434,370	147,422	9,493,324	602,482	105,378	309,742	555,970	45,351	3,732	247,912
Haiti	1,220,290	1,072,085	67,516	1,003,845	67,103	16,723,287	1,073,922	1,277	4,199	5,414	394	3	5,876
Santo Domingo	619,192	1,109,563	69,554	763,157	53,409	6,444,521	445,911	13,362	18,471	21,180	1,386	449	16,590
British West Indies	769,242	1,145,651	84,951	1,277,168	57,084	8,588,775	461,991	21,672	105,899	27,478	2,014	245	35,386
Dutch West Indies (incl. Miquelon)	114,989	334,226	26,087	56,960	3,784	1,383,626	72,135	335	7,952	659	50	.....	4,646
Danish West Indies	22,860	11,322	1,787	3,948	311	141,486	9,535	653	7,165	8,499	600	.....	2,809
French West Indies	5,306	7,350	1,396	6,868	664	32,921	2,090	44	490	596	50	.....	572
Bermuda	49,882	9,075	1,292	28,282	2,625	115,212	8,166	6,916	21,414	777	62	2,536	6,871
South America	3,359,926	9,740,446	769,101	6,435,103	413,087	27,605,845	1,540,739	24,204	130,566	162,166	12,358	167,663	302,208
Chile	666,133	1,288,282	95,061	5,141,489	314,187	3,248,950	186,551	3,635	4,324	6,292	538	18,867	42,970
Colombia	892,886	1,769,959	96,988	323,735	19,675	13,923,684	674,883	193	30,819	24,920	1,653	35,367	33,308
Brazil	388,760	174,202	34,177	90,599	12,075	1,993,153	155,379	2,114	50,751	53,460	4,291	18,810	111,163
Argentina	428,352	1,535,225	193,632	148,618	18,021	520,975	44,079	250	14,817	40,063	2,987	94,619	59,947
Venezuela	289,797	1,687,077	111,933	202,552	13,464	2,293,057	139,097	632	4,052	22,295	1,683	.....	18,936
Guiana	72,849	161,471	12,522	8,531	909	881,582	48,793	2,290	4,352	1,510	93	.....	3,890
Uruguay	84,814	526,550	56,820	3,243	181	58,106	5,205	9,079	3,916	.....	.....	.....	9,613
Peru	158,476	968,143	71,674	95,733	7,788	670,194	62,421	2,784	7,367	2,510	156	.....	6,286
Ecuador	165,396	133,901	13,714	45,785	8,237	2,330,052	124,283	1,667	7,898	10,936	945	.....	13,652
Bolivia	211,833	1,493,895	82,180	374,818	23,550	1,686,092	100,048	1,560	2,270	.....	.....	.....	2,225
Paraguay	630	1,741	400	.....	.....	.....	.....	.....	.....	180	12	.....	218
Asia and Oceania	11,633,251	117,572,196	7,275,115	2,568,251	192,462	41,180,423	2,533,888	131,787	847,896	275,208	24,209	140,713	487,181
China	5,847,392	92,452,575	5,609,713	543,298	29,817	2,045,282	122,788	17,717	22,265	.....	.....	2,210	42,882
Aden	464,413	9,094,520	464,413	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
British India	732,184	6,663,987	473,666	150,000	11,392	3,093,000	238,998	640	1,930	.....	.....	.....	5,558
Japan	71,484	91,166	13,027	30,942	3,985	70,130	7,251	1,018	8,290	43,690	3,000	.....	34,913
Hongkong	259,014	945,021	86,297	25,159	3,814	158,770	17,021	9,210	3,856	.....	.....	133,608	5,208
Australasia and Tasmania	962,154	1,293,706	110,277	157,614	25,448	4,418,367	398,263	67,691	284,483	7,000	501	3,538	71,953
Philippine Isls.	2,936,398	6,451,578	462,122	1,587,213	107,777	29,691,162	1,595,378	32,457	420,737	220,978	20,389	1,357	296,181
All other Asia and Oceania	360,212	579,643	55,600	74,025	10,229	1,703,712	154,189	3,054	106,335	3,540	319	.....	30,486
Africa	699,407	8,672,167	464,335	19,394	2,347	393,633	32,071	25,271	155,251	2,895	196	.....	19,936
British East Africa	376,782	7,222,545	374,848	11,807	1,079	.....	.....	.....	122	.....	.....	.....	733
British South Africa	218,829	42,138	10,802	3,253	937	359,203	29,526	20,970	144,290	2,895	196	.....	2,108
All other Africa	103,796	1,407,484	78,685	4,334	331	34,430	2,545	4,301	10,839	.....	.....	.....	7,095

The imports of cotton manufactures into the United States for the year ending June 30, 1910, by countries from which imported, are shown in Table 13.

As indicated by the statistics of this table, more than one-half of the value of all imports of cotton manufactures represents that of laces and embroideries, which come from Switzerland, France, Germany, and the United Kingdom. Of the value of bleached and unbleached goods imported, amounting to $9,040,667, about 82 per cent represents the value of goods coming from the United Kingdom, which also contributed more than four-fifths of the value of the importations of thread and yarn. Practically all of the value of imports of hosiery and knit goods, or 92 per cent, represents the value of goods imported from Germany. It will be observed that the United States imported thread and yarn to the value of $4,317,788, and exported the same class of goods to the value of only $463,404.

TABLE 13.—IMPORTS OF COTTON MANUFACTURES, BY COUNTRIES FROM WHICH IMPORTED, FOR THE YEAR ENDING JUNE 30, 1910.

[Compiled by the Bureau of Statistics, Department of Commerce and Labor.]

COUNTRY.	Total value.	CLOTHS.						CLOTHING, READY-MADE, AND OTHER WEARING APPAREL.		Laces, embroideries, etc. (value).	THREAD AND YARN.		All other manufactures of cotton (value).
		Bleached, dyed, or printed.		Not bleached, dyed, or printed.		Plushes, velvets, velveteens, etc.							
		Square yards.	Value.	Square yards.	Value.	Square yards.	Value.	Hosiery and knit goods (value).	Other wearing apparel (value).		Pounds.	Value.	
Total	$66,473,143	56,304,388	$8,455,360	5,642,713	$585,307	986,952	$432,524	$6,462,375	$3,857,236	$36,828,162	8,879,916	$4,317,788	$5,534,391
Europe:													
United Kingdom	20,365,696	47,740,192	6,901,557	5,127,561	490,289	609,534	221,706	88,535	314,217	6,167,697	7,155,379	3,602,622	2,579,073
Germany	16,707,993	1,943,096	351,658	94,883	15,734	258,827	123,542	5,922,061	1,968,792	6,566,597	1,006,918	415,058	1,344,551
France	11,820,515	2,693,470	651,056	153,939	45,570	115,533	85,663	208,920	1,299,773	8,723,329	265,978	98,625	707,579
Switzerland	15,463,607	1,986,786	269,277	238,683	29,467	.....	.....	205,836	25,428	14,418,400	447,519	199,828	315,371
Belgium	522,323	115,486	19,405	.....	.....	1,696	724	382	45,651	344,382	3,454	1,388	110,391
Austria-Hungary	659,844	601,119	94,536	9,301	1,288	.....	.....	91	52,917	143,889	.....	.....	367,123
Italy	125,661	36,326	5,160	76	6	109	191	168	16,763	90,447	319	154	12,772
Spain	57,965	150,020	36,317	.....	.....	.....	.....	7,760	7,862	3,318	.....	.....	2,708
Netherlands	73,164	12,958	2,349	78	12	460	142	5	14,810	52,311	.....	.....	3,535
Turkey, including Asiatic Turkey	156,228	26	3	1,387	264	.....	.....	2	9,695	134,846	.....	.....	11,418
All other Europe	42,545	1,472	365	570	91	.....	.....	26,232	2,852	10,419	56	39	2,547
America:													
Canada	21,470	5,260	801	968	100	18	13	103	8,156	2,204	36	13	10,080
Mexico	29,765	12,758	756	4,300	1,021	.....	.....	846	745	24,933	.....	.....	1,464
All other America	10,441	74	40	3	1	8	4	40	2,846	6,415	.....	.....	1,095
Asia:													
Japan	292,951	999,006	121,400	10,964	1,464	717	539	1,301	42,465	70,502	199	49	55,231
China	16,306	134	40	.....	.....	.....	.....	.....	8,184	4,294	.....	.....	3,788
British India	44,789	139	21	.....	.....	.....	.....	.....	635	42,091	.....	.....	2,042
All other countries	61,880	6,066	619	.....	.....	.....	.....	93	35,445	22,088	58	12	3,623

Table 14 shows the value of exports and imports of cotton manufactures for the years 1900, and 1902 to 1910.

The annual exports of cotton manufactures are subject to wide fluctuations. Those for 1910 were valued at $33,398,672, or only about three-fifths of the amount reported for 1906, which was $52,944,033. This decline is due primarily to a falling off in the exports to China, which decreased in value from $29,814,075 in 1906 to $5,847,392 in 1910, and affords a striking illustration of the necessity for a wider range of markets for American cotton manufactures. It would appear that the decrease in the demand for our fabrics in China during the export year 1910 was due chiefly to the fact that in the early fall of 1909 the market was well stocked with American goods, and to the disparity between prices later in the year and those that prevailed during the two previous years.

American goods are regarded as worth from 15 to 25 per cent more than goods manufactured by the Japanese mills, which are being sold in China and Manchuria at the low prices of 1908, when raw cotton was selling at about 10 cents per pound in this country. It is stated that, because of her cheap labor, Japan can manufacture fabrics from American-grown cotton at a cost from 10 to 25 per cent less than the American mills.[1] The average daily wage of men in Japanese cotton mills is 23 cents, of women 16 cents, and of children, of whose labor there is an abundant supply, 8 to 10 cents. In view of this condition and of England's strong hold on the trade of the Orient, the hope of American manufacturers in this market lies in expanding their trade in special brands of goods which already hold a commanding position in the East because of quality and popularity. A number of mills in the United States manufacture very valuable brands of export sheetings, which will be in demand in the export market so long as their quality is maintained. Although the exports from this country to China and

[1] Cotton (Atlanta), September, 1910.

Manchuria are falling off, those to our possessions in the East are increasing on account of a favorable tariff and those to the Latin-American countries on account of closer commercial relations.

TABLE 14.—VALUE OF EXPORTS AND IMPORTS OF COTTON MANUFACTURES, BY COUNTRIES TO WHICH EXPORTED AND FROM WHICH IMPORTED, FOR THE YEAR ENDING JUNE 30: 1900 AND 1902 TO 1910.

[Compiled by the Bureau of Statistics, Department of Commerce and Labor.]

COUNTRY.	1910	1909	1908	1907	1906	1905	1904	1903	1902	1900
Exports.										
Total	$33,398,672	$31,878,566	$25,177,758	$32,365,412	$52,944,033	$49,666,080	$22,403,713	$32,216,304	$32,108,362	$24,003,087
Europe:										
United Kingdom	2,857,625	2,092,212	2,487,349	2,274,014	2,042,377	1,446,409	1,352,212	1,269,346	1,458,962	1,256,729
Germany	896,351	1,035,235	1,140,332	1,185,492	971,647	601,541	1,074,278	1,106,832	601,953	385,683
All other Europe	979,590	738,992	972,741	965,549	654,353	383,692	336,574	322,508	386,930	270,229
America:										
Canada	5,242,511	3,712,506	3,279,519	3,507,446	3,587,567	3,030,341	3,139,508	3,046,125	2,820,781	2,691,992
Mexico	772,127	646,488	869,244	934,910	821,302	880,074	732,380	597,742	661,721	958,889
Central America	2,511,625	2,456,345	2,363,424	2,636,591	2,260,618	2,052,298	1,741,714	1,251,975	1,114,874	1,176,142
British West Indies (including Bermuda)	819,124	950,876	687,311	836,047	713,885	659,382	486,027	763,620	619,647	435,949
Cuba	1,644,498	1,906,964	1,585,376	1,608,653	1,507,473	1,330,260	684,212	416,970	378,081	612,252
Haiti	1,220,200	1,258,197	742,978	617,659	822,815	524,860	484,960	572,077	627,040	745,663
Other North America	762,347	579,181	577,516	828,737	452,468	650,342	557,809	582,090	420,369	500,290
Brazil	388,760	265,177	373,545	548,367	636,374	823,120	786,860	686,640	607,535	436,118
Chile	666,133	490,016	616,814	989,059	898,155	764,468	694,594	613,835	439,293	531,131
Colombia	892,886	823,216	624,587	874,813	693,021	896,143	943,487	1,484,261	810,661	310,360
Peru	158,476	104,760	132,409	155,792	112,797	157,202	162,785	124,411	103,519	113,332
Venezuela	289,797	346,443	319,937	439,160	429,645	438,094	547,080	499,603	500,857	333,294
Other South America	963,874	1,005,291	692,939	843,830	902,684	1,105,447	564,586	598,481	609,585	355,556
Asia and Oceania:										
China	5,847,392	8,067,472	3,413,248	5,955,331	29,814,075	28,017,190	4,139,000	13,719,413	16,494,248	8,804,778
British East Indies	732,184	760,677	296,807	684,990	655,346	486,843	453,721	720,826	577,724	524,419
British Australasia	962,154	979,440	1,039,426	1,229,627	1,285,085	1,079,179	807,269	848,575	918,688	622,228
Aden	464,413	1,312,265	998,736	1,995,713	1,634,134	1,140,875	1,435,764	1,634,620	(1)	(1)
Philippine Islands	2,936,398	1,059,042	836,845	1,646,874	403,896	850,244	322,259	316,570	(1)	(1)
Other Asia and Oceania	690,710	605,024	711,534	813,339	[2] 862,092	[3] 1,761,726	421,561	358,707	1,436,843	1,838,346
Africa	699,407	682,747	415,141	733,419	782,224	586,350	535,073	681,077	508,005	455,309
All other countries	.....	.....	.....	.....	.....	.....	.....	.....	11,046	[4] 584,398
Imports.										
Total	66,473,143	62,010,286	68,379,781	73,704,636	63,043,322	48,919,936	49,524,246	52,462,755	44,460,126	41,296,239
Europe:										
United Kingdom	20,365,696	19,951,548	22,421,517	22,971,167	19,446,227	15,089,333	16,831,493	18,685,784	16,376,611	17,110,588
Germany	16,707,993	14,859,770	18,036,650	18,212,531	16,459,615	14,332,763	14,156,596	14,136,286	11,071,974	8,863,297
France	11,820,515	11,959,565	11,669,509	15,309,399	13,038,125	8,701,625	7,996,644	8,529,531	7,440,592	5,623,340
Switzerland	15,463,607	13,533,057	14,478,092	15,286,363	12,578,536	9,728,717	9,526,442	10,095,362	8,716,253	8,975,580
Belgium	522,323	558,974	635,846	591,576	458,557	354,214	305,001	301,578	254,753	321,863
Austria-Hungary	659,844	490,658	280,236	293,965	218,974	113,833	152,655	157,771	119,773	107,128
Italy	125,661	66,399	182,792	237,965	97,520	41,281	58,922	57,460	37,673	10,093
Spain	57,965	49,027	84,811	62,252	86,952	57,400	57,753	54,899	55,572	2,747
Netherlands	73,164	47,745	17,333	85,325	60,116	48,880	26,223	27,690	8,808	11,417
Turkey (including Asiatic Turkey)	156,228	90,564	89,552	69,637	43,725	42,796	48,033	67,724	54,238	68,355
All other Europe	42,545	33,192	41,678	65,704	72,600	34,072	39,112	92,815	16,636	8,217
America:										
Canada	21,470	10,877	20,912	48,496	10,467	19,429	11,485	8,782	14,997	6,527
Mexico	29,765	23,414	28,787	40,720	39,110	44,154	52,062	44,024	46,590	33,328
All other America	10,441	4,778	4,347	4,966	2,074	2,465	10,302	1,774	2,079	1,400
Asia:										
Japan	292,951	236,062	305,270	333,881	316,278	202,736	181,286	143,234	153,876	71,066
China	16,306	11,180	29,028	21,853	14,657	25,618	24,199	14,663	20,967	25,073
British India	44,789	21,984	44,036	43,311	67,872	50,441	23,375	27,626	51,603	47,742
All other countries	61,880	61,492	9,385	25,525	31,917	30,179	22,663	15,752	17,131	8,418

[1] Included in "Other Asia and Oceania."
[2] Includes exports to Japan, valued at $393,628.
[3] Includes exports to Japan, valued at $1,430,710.
[4] Includes value of exports to Hawaii.

The value of imports of cotton goods during 1910 was $66,473,143, compared with $62,010,286 in 1909, $73,704,636 in 1907, and $41,296,239 in 1900. Practically all of the increase in the importation of cotton goods during the last decade is due to the importation of hosiery and other knit goods from Germany and of laces and embroideries from Switzerland and France.

TRADE IN COTTON FOR THE UNITED STATES.

Table 15 shows the production, average net weight of bale, value of lint per pound, consumption, domestic exports, and net imports of raw cotton from 1790 to 1909.

TABLE 15.—ANNUAL PRODUCTION, CONSUMPTION, EXPORTS, AND NET IMPORTS OF RAW COTTON, FOR THE UNITED STATES: 1790 TO 1909.

Production.—The production statistics relate, when possible, to the year of growth, but when figures for the growth year are wanting, those for a commercial crop which represents the trade movement have been taken. The statistics of production for the years 1790 to 1898, inclusive, have been compiled from publications of the United States Department of Agriculture; for the years 1899 to 1909, inclusive, and for other dates, when available, census figures are used.

Value of lint.—From 1902 to 1909, inclusive, the value of lint per pound relates to upland cotton of the average grade marketed prior to April 1 of the following year; from 1890 to 1901, inclusive, it is the average price of middling cotton on the New Orleans Cotton Exchange; and from 1790 to 1889, inclusive, it is taken from reports of the United States Department of Agriculture.

Consumption.—The statistics of consumption for the years 1790 to 1894, inclusive, have been compiled from publications of the United States Department of Agriculture, and those for the years 1895 to 1903, inclusive, from the reports of Latham, Alexander & Co. Census figures are used for the years 1904 to 1909, inclusive, and for other dates when available. The statistics relate to the 12 months during which the crop of the specified year was chiefly marketed, and not to the calendar year specified.

Domestic exports and net imports.—For the years 1790 to 1819, inclusive, these statistics have been compiled from American state papers, and for the years 1820 to 1909, from Commerce and Navigation of the United States, published by the Bureau of Statistics, Department of Commerce and Labor. From 1790 to 1842, inclusive, the statistics of exports relate to the 12 months beginning with October 1 of the specified year; from 1843 to 1866, inclusive, to the 12 months beginning with July 1; and from 1867 to 1909, inclusive, to the 12 months beginning with September 1. The statistics of imports relate to the same period as the statistics of consumption.

YEAR.	PRODUCTION.				Consumption (equivalent 500-pound bales).	Exports of domestic cotton (equivalent 500-pound bales).	Net imports (equivalent 500-pound bales).	YEAR.	PRODUCTION.				Consumption (equivalent 500-pound bales).	Exports of domestic cotton (equivalent 500-pound bales).	Net imports (equivalent 500-pound bales).
	Running bales, counting round as half bales (number).	Equivalent 500-pound bales, gross weight (number).	Average net weight of bale (pounds).	Value of lint per pound, upland cotton (cents).					Running bales, counting round as half bales (number).	Equivalent 500-pound bales, gross weight (number).	Average net weight of bale (pounds).	Value of lint per pound, upland cotton (cents).			
1909	10,386,209	10,315,382	475	14.3	4,559,002	6,484,429	151,395	1849	[1] 2,469,093	1,975,274	429	12.3	575,506	1,270,763	485
1908	13,432,131	13,587,306	484	9.2	5,198,963	8,889,724	165,451	1848	2,866,938	2,615,031	436	7.5	586,032	2,053,204	22
1907	11,325,882	11,375,461	480	11.5	4,493,028	7,779,508	140,869	1847	2,439,786	2,128,433	417	8.0	537,427	1,628,549	558
1906	13,305,265	13,595,498	490	10.0	4,974,199	8,825,237	202,733	1846	1,778,651	1,603,763	431	11.2	385,916	1,054,440	122
1905	10,725,602	10,804,556	482	10.9	4,877,465	6,975,494	133,464	1845	2,100,537	1,806,110	411	7.9	363,365	1,095,116	386
1904	13,697,310	13,679,954	478	8.7	4,523,208	9,119,614	130,182	1844	2,394,503	2,078,910	415	5.6	337,730	1,745,812	[2] 680
1903	10,015,721	10,045,615	480	12.2	3,980,567	6,290,245	100,298	1843	2,030,409	1,750,060	412	7.7	298,872	1,327,267	517
1902	10,784,473	10,827,168	481	8.2	4,187,076	6,960,880	149,113	1842	2,378,875	2,035,481	409	7.2	278,196	1,584,594	1,835
1901	9,748,546	9,675,771	489	8.1	4,080,287	6,928,697	190,030	1841	1,683,574	1,398,282	397	7.8	222,461	1,169,434	107
1900	10,245,602	10,266,527	480	9.3	3,603,516	6,860,917	116,610	1840	1,634,954	1,347,640	394	9.5	245,045	1,060,408	1,210
1899	9,507,786	9,459,935	476	7.6	3,687,253	6,221,541	134,778	1839	2,063,915	1,653,722	383	8.9	236,525	1,487,882	297
1898	11,189,205	11,435,368	489	4.9	3,672,097	7,655,281	103,223	1838	1,360,532	1,092,980	384	13.4	221,738	827,248	319
1897	10,897,857	10,985,040	482	5.6	3,472,398	7,839,467	105,802	1837	1,801,497	1,428,384	379	10.1	195,100	1,191,905	355
1896	8,532,705	8,515,640	477	7.3	2,841,394	6,126,185	114,712	1836	1,423,930	1,129,016	379	13.2	176,449	888,423	[2] 510
1895	7,161,094	7,146,772	477	8.2	2,499,731	4,761,505	112,001	1835	1,360,725	1,061,821	373	16.5	184,731	847,203	427
1894	9,901,251	10,025,534	484	5.9	2,983,665	6,961,372	99,399	1834	1,253,406	962,343	367	17.4	166,523	774,718	1,574
1893	7,493,000	7,433,056	474	7.5	2,300,276	5,307,295	59,405	1833	1,225,895	930,962	363	12.9	149,159	769,436	308
1892	6,700,365	6,658,313	475	8.4	2,415,875	4,485,251	85,735	1832	1,114,286	815,900	350	12.3	142,352	649,397	69
1891	9,035,379	8,940,867	473	7.3	2,846,753	5,896,800	64,394	1831	1,069,444	805,439	360	9.4	130,895	644,430	[2] 22
1890	8,652,597	8,562,089	473	8.6	2,604,491	5,850,219	45,580	1830	1,026,393	732,218	341	9.7	129,938	553,960	22
1889	7,472,511	7,472,511	478	11.5	2,518,409	4,928,921	18,334	1829	1,076,696	763,598	339	10.0	89,723	596,918	378
1888	6,938,290	6,923,775	477	10.7	2,309,250	4,730,192	15,284	1828	953,079	679,916	341	9.9	84,788	529,674	[2] 40
1887	7,046,833	6,884,667	467	10.3	2,205,302	4,519,254	11,983	1827	805,970	564,854	335	10.3	84,516	421,181	597
1886	6,505,087	6,314,561	464	10.3	2,049,687	4,301,542	7,552	1826	1,057,402	732,218	331	9.3	103,535	588,620	74
1885	6,575,691	6,369,341	463	9.4	2,094,682	4,200,647	8,270	1825	817,308	533,473	312	12.2	.....	409,071	79
1884	5,682,000	5,477,448	460	10.5	1,687,108	3,730,170	7,144	1824	751,748	449,791	286	18.6	.....	352,900	26
1883	5,713,200	5,521,963	462	10.6	1,813,865	3,733,369	11,247	1823	656,028	387,029	282	14.7	.....	286,739	932
1882	6,949,756	6,833,442	470	10.6	2,038,400	4,591,331	4,716	1822	704,698	439,331	298	11.4	.....	347,447	110
1881	5,456,048	5,136,447	450	12.2	1,849,457	3,376,521	3,261	1821	636,042	376,569	283	14.3	.....	289,350	[2] 196
1880	6,605,750	6,356,998	460	11.3	1,865,922	4,453,495	5,447	1820	575,540	334,728	278	14.3	100,000	249,787	427
1879	5,755,359	5,466,387	454	12.0	1,500,688	3,742,752	7,578	1819	632,576	349,372	264	17.0	.....	255,720	[2] 4,571
1878	5,074,155	4,745,078	447	10.8	1,457,266	3,290,167	5,049	1818	446,429	261,506	280	24.0	.....	175,994	[2] 4,454
1877	4,773,865	4,494,224	450	11.3	1,458,667	3,197,439	5,046	1817	465,950	271,967	279	34.0	.....	184,942	3,086
1876	4,474,069	4,118,390	440	11.7	1,314,489	2,839,418	4,832	1816	439,716	259,414	282	26.0	.....	171,299	2,048
1875	4,632,313	4,302,818	444	13.0	1,255,712	3,037,650	4,498	1815	369,004	209,205	271	29.0	.....	163,894	[2] 44
1874	3,832,991	3,528,276	440	15.0	1,098,163	2,504,118	3,784	1814	254,545	146,444	275	21.0	51,778	165,997	[2] 266
1873	4,170,388	3,873,750	444	17.0	1,213,052	2,682,631	3,541	1813	304,878	156,904	246	15.5	.....	35,458	101
1872	3,930,508	3,650,932	444	18.2	1,115,691	2,470,590	10,016	1812	304,878	156,904	246	12.5	.....	38,220	3,133
1871	2,974,351	2,756,564	443	20.5	1,146,730	1,824,937	6,374	1811	325,203	167,364	246	10.5	.....	57,775	897
1870	4,352,317	4,024,527	442	17.0	1,026,583	2,922,757	1,802	1810	286,195	177,824	297	15.5	35,565	124,116	431
1869	[1] 3,011,996	2,409,597	440	24.0	796,616	1,987,708	3,026	1809	328,000	171,548	250	16.0	33,473	186,523	[2] 560
1868	2,366,467	2,198,141	444	29.0	860,481	1,300,449	1,870	1808	334,821	156,904	224	16.0	.....	101,981	[2] 1,601
1867	2,519,554	2,345,610	445	24.9	844,044	1,502,756	345	1807	289,855	167,364	276	19.0	.....	21,261	6,297
1866	2,097,254	1,948,077	444	31.6	715,258	1,401,697	[2] 1,035	1806	285,714	167,364	280	21.5	.....	127,889	1,485
1865	2,269,316	2,093,658	441	43.2	614,540	1,301,146	10,322	1805	304,348	146,444	230	22.0	.....	71,315	961
1864	300,000	299,372	477	83.4	344,278	17,789	68,798	1804	261,044	135,983	249	23.0	23,013	76,780	456
1863	450,000	449,059	477	101.5	219,540	23,998	52,405	1803	222,222	125,523	270	20.0	.....	70,068	183
1862	1,600,000	1,596,653	477	67.2	287,397	22,770	67,695	1802	231,092	115,063	238	19.0	.....	75,424	[2] 1,153
1861	4,500,000	4,490,586	477	31.3	369,226	10,129	61,731	1801	210,526	100,418	228	19.0	.....	47,768	[2] 170
1860	3,849,469	3,841,416	477	13.0	841,975	615,032	.....	1800	153,509	73,222	228	44.0	18,829	41,822	8,696
1859	[1] 5,387,052	4,309,642	461	11.0	845,410	3,535,373	.....	1799	88,889	41,841	225	28.0	16,737	35,580	8,870
1858	4,018,914	3,758,273	447	12.1	867,489	2,772,937	.....	1798	66,667	31,381	225	44.0	.....	19,065	7,532
1857	3,257,339	3,012,016	442	12.2	550,708	2,237,248	.....	1797	48,889	23,013	225	39.0	.....	18,720	7,761
1856	3,093,737	2,873,680	444	13.5	761,614	2,096,565	1,678	1796	44,444	20,921	225	34.0	.....	7,577	7,336
1855	3,665,557	3,220,782	420	10.3	731,484	2,702,863	2,295	1795	35,556	16,736	225	36.5	.....	12,213	8,737
1854	2,982,634	2,708,082	434	10.4	641,391	2,016,849	4,425	1794	35,556	16,736	225	36.5	.....	9,414	8,592
1853	3,074,979	2,766,194	430	11.0	663,204	1,975,666	1,141	1793	22,222	10,460	225	33.0	.....	3,565	5,127
1852	3,416,214	3,130,338	438	11.0	736,468	2,223,141	1,423	1792	13,333	6,276	225	32.0	.....	1,097	5,503
1851	3,126,310	2,799,290	428	9.5	617,468	2,186,461	512	1791	8,889	4,184	225	29.0	.....	277	1,112
1850	2,454,442	2,136,083	416	12.1	422,626	1,854,474	330	1790	6,667	3,138	225	26.0	11,000	379	697

[1] Equivalent 400-pound bales.

[2] Excess of foreign exports over total imports.

WORLD'S CONSUMPTION OF COTTON, AND TRADE IN COTTON AND ITS MANUFACTURES, FOR SELECTED COUNTRIES.

Statistics of the number of active cotton spindles and of the mill consumption of cotton throughout the world in 1910 and 1900 are shown in Table 16.

TABLE 16.—*World's active cotton spindles and mill consumption of raw cotton: 1910 and 1900.*

[The statistics for the United States were collected by the Bureau of the Census. Those for other countries have been compiled from a number of sources. Among them are Ellison's Annual Review of the Cotton Trade, Liverpool; the Commercial and Financial Chronicle, New York; Cotton Facts, New York; reports of the International Federation of Master Cotton Spinners' and Manufacturers' Associations, Manchester; and statistics furnished by the secretary of the Russian Cotton Committee, St. Petersburg; Mitsui & Co., Osaka; E. T. Craig, Mexico City; and W. R. Grace & Co., New York and Lima.]

COUNTRY.	Year.	Active spindles (number).	Mill consumption (bales).[1]
Total	1910	134,526,000	18,321,000
	1900	105,681,000	15,177,000
United States:			
Cotton-growing states	1910	[2] 10,740,000	2,292,000
	1900	4,368,000	1,523,000
All other states	1910	[2] 18,449,000	2,507,000
	1900	15,104,000	2,350,000
Europe:			
United Kingdom	1910	53,397,000	3,372,000
	1900	45,500,000	3,330,000
Germany	1910	10,200,000	1,660,000
	1900	8,000,000	1,400,000
Russia	1910	8,250,000	1,457,000
	1900	7,500,000	1,350,000
France	1910	7,100,000	951,000
	1900	5,500,000	700,000
Austria-Hungary	1910	4,643,000	785,000
	1900	3,300,000	675,000
Italy	1910	4,200,000	753,000
	1900	1,940,000	475,000
Spain	1910	1,853,000	265,000
	1900	2,615,000	400,000
Switzerland	1910	1,497,000	102,000
	1900	1,550,000	125,000
Belgium	1910	1,322,000	180,000
	1900	920,000	170,000
Greece	1910	99,000	25,000
	1900	70,000	17,000
Portugal	1910	476,000	58,000
	1900	230,000	60,000
Netherlands	1910	426,000	74,000
	1900	300,000	70,000
Sweden	1910	377,000	80,000
	1900	360,000	85,000
Denmark	1910	83,000	19,000
	1900	40,000	15,000
Norway	1910	74,000	11,000
	1900	35,000	10,000
Other European countries	1910	100,000	50,000
	1900	60,000	25,000

[1] The quantities for the United States are given in running bales, except that round bales are counted as half bales and foreign cotton has been reduced to equivalent 500-pound bales. Linters are included. For other countries the quantities are given in equivalent 500-pound bales.

[2] The statistics of spindles for 1910 in the United States relate to the calendar year 1909 and include all spindles which consumed cotton, while those for 1900 include spindles in cotton mills only.

TABLE 16.—*World's active cotton spindles and mill consumption of raw cotton: 1910 and 1900*—Continued.

COUNTRY.	Year.	Active spindles (number).	Mill consumption (bales).[1]
British India	1910	5,657,000	1,653,000
	1900	4,945,000	1,162,000
Japan	1910	2,005,000	1,028,000
	1900	1,274,000	700,000
China	1910	765,000	315,000
	1900	550,000	200,000
Brazil	1910	1,000,000	370,000
	1900	450,000	85,000
Canada	1910	855,000	119,000
	1900	550,000	110,000
Mexico	1910	733,000	140,000
	1900	470,000	125,000
Other countries	1910	225,000	55,000
	1900	50,000	15,000

[1] The quantities for the United States are given in running bales, except that round bales are counted as half bales and foreign cotton has been reduced to equivalent 500-pound bales. Linters are included. For other countries the quantities are given in equivalent 500-pound bales.

The statistics of Table 16 have been compiled from a number of sources, and while absolute accuracy is not claimed for all of the figures, they approximate the facts. According to this compilation, the number of active cotton spindles in the world has increased from 105,681,000 in 1900 to 134,526,000 in 1910, or 27.3 per cent. According to these figures, the consumption of cotton per spindle was 70.9 pounds in 1900, compared with 67.2 pounds in 1910. While this decrease has been due in part to the fact that the spindles were operated to a greater percentage of their capacity in 1900 than during the past year, it is probably due more largely to the increasing manufacture of finer goods.

It must be kept in mind that the world's total consumption of cotton is not shown in Table 16, as in a number of countries large quantities are grown and consumed which do not enter into commercial channels and which can not be estimated with any certainty.

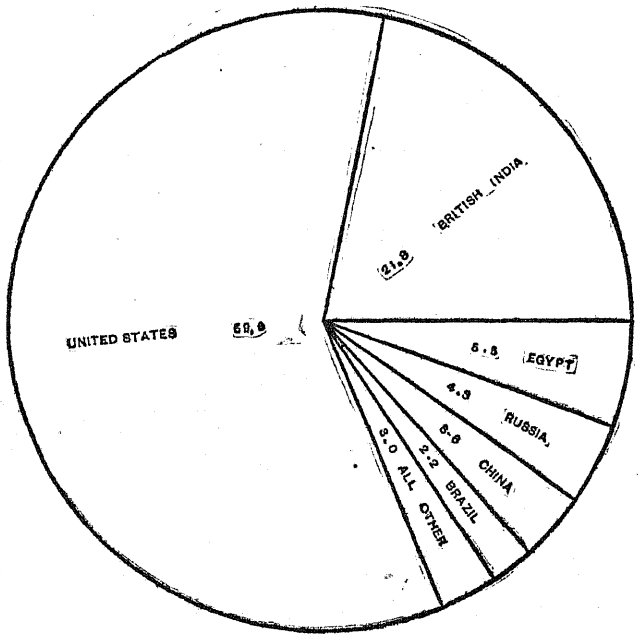
The fluctuations in the world's commercial supply of cotton are measured practically by the variation of the annual production of cotton in the United States, as this country furnishes about two-thirds of the total commercial supply. It will be seen from Table 16 that the consumption of cotton during the year ending August 31, 1910, was 18,321,000 bales

of 500 pounds gross weight. It is impracticable to reduce the consumption figures to net-weight bales, as it is not known how much foreign-grown cotton reported for countries other than the United States is expressed in net-weight bales and how much in gross-weight bales. Assuming, however, that the consumption statistics for foreign countries have been returned in net-weight bales, and reducing the American consumption figures to net-weight bales, the world's consumption is estimated at 18,079,000 bales of 500 pounds net. The world's commercial production of cotton in 1909 amounted to 16,558,000 bales, or 1,521,000 bales less than the consumption for the year ending August 31, 1910. The world's consumption of cotton during the year ending August 31, 1909, amounted to 19,397,000 bales, and the capacity of the mills has been increased by about 1,250,000 spindles during 1910. For this reason the potential consumption of the mills of the world at the present time is estimated to be not less than 20,000,000 bales. Furthermore, the stocks of manufactured goods have materially decreased, so that, in 1910, a world crop equal to this consumption requirement of 20,000,000 bales is needed. Of this, the United States would be expected to contribute at least 13,500,000 bales in order to keep the mills operating during the year, and to prevent a further reduction in the already low supply of raw cotton.

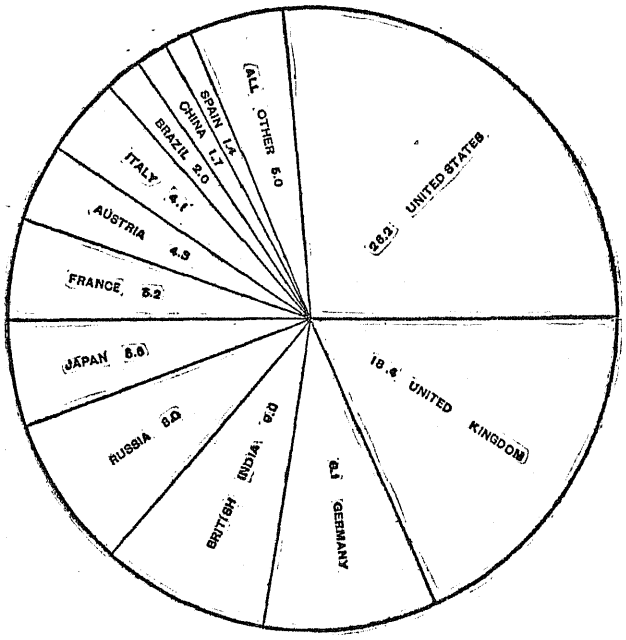
The relative importance of the several countries in the production and consumption of cotton is graphically presented by Diagram 2.

DIAGRAM 2.—RELATIVE IMPORTANCE OF THE SEVERAL COUNTRIES IN THE PRODUCTION AND CONSUMPTION OF COTTON.

Proportion of world's mill supply of cotton contributed by each country (growth of 1909).



Proportion of total consumption, by countries (year ending August 31, 1910).



UNITED STATES.

In the early fall of 1909 American mills, as a rule, were running on full time, but it was not long before several influences contributed to a curtailment of the output. The most general complaint was that the price of raw cotton was too high, as compared with the selling value of the manufactured goods. The result of the curtailment is strongly brought out by comparison of the consumption for the year ending August 31, 1910, amounting to 4,799,000 bales, with the consumption for the preceding year, 5,241,000 bales. While the belief that the supply of raw material was insufficient for the year's operations was prompted by the early and active demand for cotton both at home and abroad, which contributed to speculative operations, yet the rise in the cost of the raw material has been more the result of natural than of artificial causes. Of late years there has been a material advance in the prices of practically all commodities, and cotton has shared in this. In the case of cotton this advance has also been furthered by a constantly broadening demand for this fiber in old as well as in new channels. Cotton is now relied upon in practically all of the textile manufactures, either as a primary or as a secondary material, and it is utilized in an increasing number of other manufacturing industries. A more detailed presentation of the cotton-manufacturing industry for the United States appears in earlier pages of this report.

EUROPE.

The year covered by the present report has been declared to have been in all probability the most un-

satisfactory which the cotton-manufacturing industry of Europe has experienced during the last quarter of a century. The year opened with a scarcity of orders for goods and with many spindles and looms running on short time, owing to high prices of raw material and an unfavorable trade outlook. To these unfortunate conditions was added the very short cotton crop of both the United States and Egypt. Spinners were required to pay a higher average price for their raw cotton than had ever been necessary within the memory of most of them, and the demand for cotton goods still continued weak. As a result the whole industry was forced upon short time throughout the entire year, and the output thus restricted. The large cotton crop of India contributed the only relief experienced during the year, but this worked to the advantage more particularly of the continental spinners, who resorted to the manufacture of the coarser yarns which could be made from the Indian fiber.[1]

UNITED KINGDOM.

As indicated in Table 16, there are in the United Kingdom 53,397,000 active spindles, or about 39.7 per cent of all the active spindles in the mills of the world. The country's place in the cotton-manufacturing industry is, however, not adequately represented by the number of its spindles, since it manufactures goods of a much finer grade and higher value than do other countries. For instance, the average consumption of cotton per spindle in the United Kingdom is 60.5 pounds per ring spindle and 29.5 pounds per mule spindle, the latter class of spindles being about five times as numerous as the former. On the basis of the total number of spindles and the quantity of cotton consumed, the consumption for the year ending August 31, 1910, was 31.6 pounds per spindle, compared with 82.2 pounds for the United States, 81.4 pounds for Germany, 67 pounds for France, 88.3 pounds for Russia, 84.5 pounds for Austria-Hungary, and 146.1 pounds for British India. Thus, while the United Kingdom had 39.7 per cent of the spindles of the world, its consumption of cotton last year was only about 18.4 per cent of the total mill consumption for the world. The mills of the country obtained about 80 per cent of their supply of raw material from the United States, about 15 per cent from Egypt, and about 2 per cent from British India. As indicated by Table 17, a considerable portion of the cotton imported into the United Kingdom is brought in for transshipment to other countries, a condition due to the excellent shipping facilities and trade relations of this country.

According to the reports of the recent British census, 7,029,622,000 yards of cotton piece goods, valued at about $409,270,000, were woven for sale during the year 1907. The total output of single yarn is given as 1,826,000,000 pounds, valued at about $480,000,000.

During the past two years the prosperity of the cotton-manufacturing industry of the United Kingdom has been seriously threatened by too rapid an increase in the number of mills as well as by overproduction, together with the short cotton crop of the United States and Egypt in 1909. Labor troubles have been frequent, especially since May, 1910, when the Master Cotton Spinners' Association demanded a 5 per cent reduction in wages. On July 15, however, at a joint meeting of the master spinners and operatives, a settlement of the wage question was reached and an agreement made which is to continue in force for the next five years, during which time no demand for either an advance or a reduction in the present wages is to be made. This agreement affects 50,000,000 spindles and about 160,000 operatives, and should tend to prevent the constant disturbance of trade which has resulted from repeated applications for advances or from reductions in wages.

Notwithstanding the conditions mentioned, however, more cotton has been consumed per spindle during the year just closed, for the time actually in operation, than for the preceding year, because of the fact that the mills have, in many instances, been working on considerably coarser counts. It may be stated in this connection that there has been a very marked decrease in the consumption of cotton per spindle in the United Kingdom since 1890. At that time the country had 43,750,000 spindles, which consumed 3,227,000 bales. For 1910 the number of active spindles was 53,397,000, with a consumption of 3,372,000 bales. The consumption in the United Kingdom during the year ending August 31, 1907, was 3,893,000 bales, however, and it is probably safe to assume that its present capacity for a 12-month period under normal conditions is about 4,000,000 bales.

CONTINENTAL EUROPE.

Germany.—In the number of active spindles and in the quantity of cotton consumed Germany leads the countries of continental Europe, and is surpassed only by the United Kingdom and the United States. As shown in Table 16, the number of cotton spindles in Germany increased from 8,000,000 in 1900 to 10,200,000 in 1910, or 28 per cent, while during the same decade the quantity of cotton consumed increased from 1,400,000 bales to 1,660,000 bales, or 19 per cent. This indicates a reduction per spindle from 87.5 pounds in 1900 to 81.4 pounds in 1910. About two-thirds of the mill supply is secured from the United States, and practically all of the remainder is imported from India and Egypt. Raw cotton is the largest single import of Germany, and cotton manufactures the largest export. According to Table 17,

[1] Ellison's Annual Review of the Cotton Trade, and the Commercial and Financial Chronicle of New York.

the imports of raw cotton in 1909 amounted to 2,006,062 bales and the exports to 210,353 bales, leaving the amount retained for consumption 1,795,709 bales. The value of cotton manufactures imported during the year was $64,349,488, while the value of the exports was $95,524,870, indicating for these goods a balance of trade of $31,175,382 in favor of Germany.

During the past year the cotton-manufacturing industry in Germany experienced probably the worst depression in its history. Practically all of the mills were compelled to resort to short time, and since January, 1910, the working hours have been reduced from 65 to 58 hours per week. It has proved difficult to make sales of goods, and manufacturers have complained that the price offered for cotton goods has not advanced in proportion to the advance in the price of the raw material.

France.—The number of active spindles in France increased from 5,500,000 in 1900 to 7,100,000 in 1910, or 29 per cent, and the consumption of cotton from 700,000 bales in 1900 to 951,000 bales in 1910, or 36 per cent. France ranks fourth among the European countries in the manufacture of cotton goods and third in the exports of cotton manufactures. As shown in Table 17, the quantity of raw cotton imported in 1909 amounted to 1,404,258 bales, of which 213,198 bales were reexported, thus making the amount retained for consumption 1,191,060 bales. The cotton manufactures imported into the country during the same period were valued at $13,624,804 and those exported at $64,619,295, leaving a balance of trade in these goods of $50,994,491 in favor of France. The present condition of the cotton-manufacturing industry is, however, not satisfactory. Short time was frequently resorted to during the last year, and there appeared a tendency among cotton mills to manufacture woolen and linen goods, possibly under the influence of a change in fashion, which has recently favored woolen and linen materials in the manufacture of lace products.

Russia.—As indicated in Table 16, the number of cotton spindles in Russia increased from 7,500,000 in 1900 to 8,250,000 in 1910, or 10 per cent, and the quantity of cotton consumed from 1,350,000 bales in 1900 to 1,457,000 bales in 1910, or 8 per cent. While the increase in the number of spindles during the last decade was relatively small, a notable advance has taken place in the past 20 years. In 1850 the spindles numbered about 2,500,000, while in 1890 they numbered 3,750,000, a gain of but 50 per cent in 40 years; but in the 20-year period from 1890 to 1910 they have increased 120 per cent, and that, too, without correspondingly increasing the country's imports of cotton. The increased requirements for raw cotton have been met largely by the development of cotton growing in the Russian Provinces of central Asia. The leading cotton-manufacturing districts of Russia are Moscow, with about 5,000,000 spindles; the Baltic Provinces, with about 1,800,000; and Poland, with about 1,250,000. As indicated in Table 17, the quantity of raw cotton imported by Russia in 1909 was 811,255 bales of 500 pounds each, and the amount exported 27,436 bales, leaving a balance of 783,819 bales for home consumption. The same table shows that in 1909 cotton manufactures were imported to the value of $14,174,430, while the country exported such goods to the value of $10,689,328.

It is reported that the ravages of cholera in Russia at the present time are having a depressing effect upon the sale of cotton goods, and that the mills are in consequence being operated only five days per week. The outlook otherwise is promising, as an average grain crop this year will give the peasant class greater purchasing power than last year.[1]

Austria-Hungary.—The number of active spindles in Austria-Hungary at the present time is reported as 4,643,000, compared with 3,300,000 in 1900, an increase of 41 per cent in the past 10 years. The quantity of cotton consumed during the decade increased from 675,000 bales to 785,000 bales, or 16 per cent. The supply of cotton comes from the United States and India in the proportion of about two-thirds from the former and one-third from the latter country. Not until recent years has this country been able to supply its own demand for cotton manufactures, and it is interesting to observe that for 1909 the value of its exports of these goods exceeded that of the imports by only about $800,000, the former amounting to $13,257,962 and the latter to $12,449,783. There was a lessened home demand for cotton manufactures during the past year, attributable largely to the unsatisfactory grain crop of 1909, which so affected all lines of industry that spinners were unable to market yarns except at a loss. The weaving mills secured some advantage from this condition, and hence have not suffered to the same extent as the spinners.

Belgium.—The number of active spindles in Belgium increased from 920,000 in 1900 to 1,322,000 in 1910, or 44 per cent, while the consumption of cotton increased during this period from 170,000 bales to 180,000 bales, or 6 per cent. Because of the manufacturing and trade conditions of the past year, however, the consumption of cotton was 30,000 bales less than for the year ending August 31, 1909. In 1909, according to Table 17, this country imported 577,364 bales of cotton and reexported 280,969 bales, leaving the amount of cotton retained for consumption 296,395 bales. The value of cotton manufactures imported in 1909 amounted to $49,209,711 and the value of those exported to $54,004,530, making the balance of trade in favor of this country in respect to these manufactures $4,794,819.

Italy.—Of all the cotton-manufacturing countries, none shows a more interesting development than Italy,

[1] Cotton (Manchester), October 29, 1910.

where the number of active spindles was only 1,940,000 in 1900, as compared with 4,200,000 in 1910. The quantity of cotton consumed has in consequence increased remarkably during the decade, the figures being 475,000 bales in 1900 and 753,000 bales in 1910. The figures for 1909 were even larger than for 1910, the number of spindles being about 5,000,000, and the quantity of cotton consumed 941,000 bales. The increase in the number of spindles is greatly out of proportion with the increase in the quantity of cotton consumed, owing to the marked development in the production of the finer grades of goods within the period shown. As indicated in Table 17, Italy imported 839,096 bales of cotton in 1909, and exported 39,671 bales, leaving 799,425 bales retained for home consumption. The value of cotton goods imported amounted to $7,250,834, while the exports amounted to $25,646,333, indicating, in respect to these manufactures, a balance of trade in favor of Italy of $18,395,499.

Other European countries.—The manufacture of cotton is an important industry in a number of other European countries, among which may be mentioned the following: Spain, with 1,853,000 active spindles; Switzerland, with 1,497,000; Portugal, with 476,000; the Netherlands, with 426,000; Sweden, with 377,000; Greece, with 99,000; Denmark, with 83,000; and Norway, with about 74,000. The relative position of some of these countries in the manufacture of cotton and in the trade in cotton goods may be seen in Tables 16 and 17.

BRITISH INDIA.

According to the statistics in Table 16, the number of active cotton spindles in British India increased from 4,945,000 in 1900 to 5,657,000 in 1910, or 14 per cent, and the quantity of cotton consumed from 1,162,000 bales in 1900 to 1,653,000 bales in 1910, or 42 per cent. In addition to the cotton consumed in the mills, it is estimated that about 650,000 bales of 500 pounds each are used annually in the homes of the people.

For the year covered by this report British India ranked second in the production of cotton, and fourth in its manufacture, as measured by the consumption of raw material. The spindles used consist of approximately 1,697,000 mule and 3,960,000 ring spindles. The lower grade of yarn can be better spun on the mule than on the ring spindle, and until recently it has been considered that the mule spindle alone was suitable for Indian cotton. Recent improvements, together with the fact that cotton is consumed more rapidly on the ring spindle and at less cost for labor, are influencing new mills to adopt this spindle and the older mills to substitute it for the mule spindle. The tendency is for yarn mills to engage in weaving, the reason possibly being that here, as in other countries, the cloth market is farther removed from the raw material, and hence is more stable than the yarn market.

The cotton-manufacturing industry of British India practically dates from 1854, when a spinning mill was built near Bombay. The growth of the industry is reflected in the steady increase in the number of spindles, as shown by the following figures: 1876, 1,100,000 spindles; 1880, 1,462,000 spindles; 1890, 3,274,000 spindles; 1900, 4,945,000 spindles; and 1910, 5,657,000 spindles.[1] More than one-half of the mills are located in Bombay and environs.

As shown in Table 17, the exports of cotton in 1910 amounted to 1,704,252 bales, while 26,867 bales were imported. The cotton imported into India is used mainly for spinning fancy goods and for mixing with native cotton. The value of the cotton goods exported during the year was $40,216,450, while the imports of cotton manufactures amounted to $178,372,463.

JAPAN.

The growing importance of the cotton-manufacturing industry of Japan is indicated by the statistics of Table 16, which show that the consumption of cotton has increased from 700,000 bales in 1900 to 1,028,000 bales in 1910 and the number of spindles from 1,274,000 to 2,005,000 during the same period. The large consumption of cotton per spindle indicated is due probably to the fact that the mills are usually operated day and night and are for the most part equipped with ring spindles, which consume considerably more cotton than mule spindles. Almost all the home-grown cotton in the country in 1910, amounting to approximately 5,000 bales, is used in the manufacture of batting and wadding for winter clothing, and practically all of the cotton used in the Japanese mills is imported. The increase in the imports of raw cotton into Japan shown for 1909 was in the staple grown in India and China, importations from the United States having fallen off.

The hand looms of this country are decreasing and small establishments operated by water power, oil, and electricity are increasing.[2] Japan has now some 37 mills in operation, employing about 92,000 men, women, and children. It is estimated, however, that there are still about 1,000,000 hand looms in Japan, producing probably one-third of the cotton cloth used by the natives. The yearly value of the cotton products of this country is estimated at $50,000,000, of which over $29,000,000 worth is exported.

Reference to Table 17 shows that the value of cotton manufactures imported into Japan in 1909 was $8,883,720, whereas such goods were exported to the value of $29,260,177. Great Britain supplied practically all of the cotton goods imported, the United States supplying goods to the insignificant amount of about $25,000.

[1] Special Report, International Federation of Master Cotton Spinners' and Manufacturers' Associations (Manchester).

[2] Consular and Trade Reports, Bureau of Manufactures, Department of Commerce and Labor.

CHINA.

The number of cotton spindles in China has increased from 550,000 in 1900 to 765,000 in 1910, and the estimated quantity of cotton consumed from 200,000 bales in 1900 to 315,000 bales in 1910. These figures relate, of course, only to the cotton mills, and do not include the large quantity of cotton consumed by hand looms in the homes of the people. It is estimated that 60 per cent of the inhabitants are yet clothed with the product of these hand looms, although the natives are adopting foreign yarns with marked rapidity.

As already stated, American manufacturers imported during the past year 7,129 bales of Chinese cotton, using it along with the domestic product in the manufacture of knit underwear, carpets, rugs, curtains, and similar goods. The demand for this product for like purposes in the United Kingdom, Germany, and Italy is increasing. The total exports from this country at the present time amount to about 600,000 bales annually.

As shown in Table 17, China ranks second in the value of cotton manufactures imported, being surpassed by British India alone. The table shows that of the total value of imports, $39,352,410, or more than two-fifths, represents the value of yarn and thread, the yarn being used almost entirely on hand looms in the manufacture of cloth. Of the total imports of yarn and thread, the United States furnished an amount valued at only $135,818.

BRAZIL.

The number of cotton spindles in Brazil is estimated at 1,000,000, an increase in the last decade of more than 120 per cent. In 1900 only 85,000 bales of cotton were consumed, compared with 370,000 bales in 1910, the consumption being more than quadrupled during the decade. The consumption per spindle is large, indicating the production of the coarser grades of goods.

The development of the industry since 1900 has been remarkable. Cotton mills are now to be found in every state, and the demand for the factory cloth and the resulting increase in the consumption of cotton has so drawn upon the local supply that a decreasing quantity of the home-grown fiber is available for export. The output of the mills is insufficient to meet the local demand, as indicated by the statistics of Table 17, which show the importation of cotton manufactures in 1909 to the value of $15,032,953, of which $8,669,100 represents the value of cloth. The Brazilian mills produce excellent cloth, suitable to the climate and local requirements, but confine their products chiefly to the lower grades of goods, while England, with more modern machinery and more expert labor, meets the demand for the higher classes of textiles.

MEXICO.

The number of spindles operated in the Mexican mills increased from 470,000 in 1900 to 733,000 in 1910, or 56 per cent, and the consumption of cotton increased from 125,000 bales to 140,000 bales, or 12 per cent. The local mills are not meeting the demand for cotton manufactures, as is indicated by the fact that during the last fiscal year the imports of these goods into Mexico amounted to about $5,390,000 in value. The importations of raw cotton in 1900 amounted to 19,769 bales, compared with 36,097 bales during the last fiscal year. Practically all of this cotton was supplied by the United States, a negligible quantity being secured from Egypt.

The manufacture of cotton in Mexico by machinery dates back some 75 years. The industry, however, grew very slowly until 1894, when a boom occurred, and a number of mills were started, in most cases by men who knew little or nothing of the business. For a time the mills made large profits, but as they confined their outputs to coarse goods, the market became, in 1899, so overstocked and competition became so keen that a number of mills were forced to shut down. Owing to this condition and to the general stringency of the money market during the last three years, the Mexican mills have been passing through a period of depression, and the present situation shows little improvement.[1] In proportion to the area and population of the country, agriculture is not carried on extensively in Mexico, and the result is that it takes much longer to recover from a financial crisis than is the case in a country like the United States, where the moving of vast crops soon puts money into circulation.

The climate and local conditions do not favor cotton manufacturing in Mexico. All mill machinery is of English manufacture, and, with the bulk of the mill supplies, must be imported under heavy freight and duty charges. The mills are usually small, averaging about 5,000 spindles and 180 looms each, which are operated, as a rule, by water power. Practically all of the mills weave their own yarn, only 12 confining their operations to spinning. The cotton goods imported into Mexico are supplied chiefly by the United Kingdom, Germany, and the United States, in the order named.

CANADA.

As indicated in Table 16, the number of spindles in Canadian mills increased from 550,000 in 1900 to 855,000 in 1910, or 55 per cent, and the quantity of cotton consumed from 110,000 bales in 1900 to 119,000 bales in 1910, or 8 per cent. In addition to raw cotton there are imported annually into Canada about 5,000,000 pounds of cotton waste and 1,000,000 pounds of cotton yarns. According to Table 17, the value of cotton manufactures imported during the last fiscal

[1] Special Agent Series, No. 31, Bureau of Manufactures, Department of Commerce and Labor.

year was nearly $18,000,000, having more than doubled during the last decade.

OTHER COUNTRIES.

There are a number of other countries which must be taken into consideration in arriving at an adequate idea of the world's cotton manufactures and of the development and progress in this industry. Among the countries of increasing importance in this connection may be named Asiatic Turkey, French Indo-China, Peru, Argentina, Australia, the Philippines, and Cuba. The relative positions of several of these countries are indicated by the statistics of Table 17.

IMPORTS AND EXPORTS OF COTTON AND COTTON MANUFACTURES.

Table 17 shows for the more important countries the trade in cotton and cotton goods for the latest fiscal year for which figures are available.

TABLE 17.—*Imports and exports of raw cotton and of cotton manufactures, for selected countries.*

[Compiled by the Bureau of Statistics, Department of Commerce and Labor. Owing to many differences in the methods employed by the several countries in classifying their imports and exports of cotton manufactures and in presenting the same, it is very difficult, if not impracticable, to harmonize the conditions so as to present strictly comparable statistics. The statistics relate to the calendar year, except those for the United States, Cuba, and Mexico which are for the fiscal year, and those for Canada and British India relate to the year ending March 31.]

COUNTRY.	Year.	Raw cotton (equivalent 500-pound bales).	VALUE OF COTTON MANUFACTURES.			
			Total.	Cloth.	Yarn and thread.	All other.
Imports.			*Dollars.*	*Dollars.*	*Dollars.*	*Dollars.*
Austria-Hungary	1909	897,268	12,449,783	1,883,637	7,291,354	3,274,792
Belgium	1909	577,364	49,209,711	12,477,752	9,774,000	26,957,959
Bulgaria	1909	5,420	5,384,428	2,612,131	2,342,814	429,483
Denmark	1907	38,720	7,981,040	5,499,360	1,155,080	1,326,600
France	1909	1,404,258	13,624,804	2,595,291	2,807,572	8,221,941
Germany	1909	2,006,062	64,349,488	12,729,668	42,550,354	9,069,466
Greece	1909	1,546	3,410,746	3,248,820	50,521	111,405
Italy	1909	839,096	7,250,834	3,984,271	924,636	2,341,927
Netherlands	1909	369,211	27,637,960	9,288,926	16,289,727	2,059,307
Norway	1909	16,680	3,985,855	432,578	815,390	2,737,887
Portugal	1909	64,643	3,245,069	1,969,108	276,110	999,851
Roumania	1909	4,211	6,963,668	2,570,695	3,107,120	1,285,853
Russia	1909	811,255	14,174,430	7,216,767	4,336,592	2,621,071
Servia	1909	409	2,849,257	1,407,857	1,276,333	165,067
Spain	1909	310,617	2,639,957	786,157	391,730	1,462,070
Sweden	1909	93,328	4,732,677	2,313,678	1,303,531	1,115,468
Switzerland	1909	164,816	16,138,150	7,046,404	5,160,148	3,931,598
United Kingdom	1909	4,377,522	46,313,504	11,724,412	1,422,152	33,166,940
Canada	1910	136,167	17,724,911	10,332,011	1,263,479	6,129,421
Cuba	1909	2,165	7,944,941	6,431,160	312,941	1,200,840
Mexico	1910	36,097	5,389,825	2,817,346	1,194,413	1,378,066
United States	1910	152,195	66,473,143	9,473,191	4,317,788	52,682,164
Argentina	1909	1,303	31,662,515	24,656,139	2,034,149	4,972,227
Brazil	1909	2,211	15,032,953	8,669,100	2,553,458	3,810,395
Chile	1908	1,515	9,652,323	3,893,105	961,589	4,797,629
Peru	1907	.....	3,409,972	3,165,313	244,659	.....
China	1909	30,101	86,493,637	34,466,167	39,352,410	12,675,060
Japan	1909	1,005,566	8,883,720	6,936,308	621,419	1,325,993
Korea	1909	882	3,949,294	2,898,379	992,612	58,303
Siam	1909	760	4,192,756	1,928,141	505,152	1,759,463

TABLE 17.—*Imports and exports of raw cotton and of cotton manufactures, for selected countries*—Continued.

COUNTRY.	Year.	Raw cotton (equivalent 500-pound bales).	VALUE OF COTTON MANUFACTURES.			
			Total.	Cloth.	Yarn and thread.	All other.
Imports—Cont'd.			*Dollars.*	*Dollars.*	*Dollars.*	*Dollars.*
British India	1910	26,867	178,372,463	161,571,573	11,198,350	5,602,540
French Indo-China	1908	15,487	9,741,124	5,191,533	4,427,546	122,045
Dutch East Indies	1909	.....	10,641,261	5,376,749	1,742,185	3,522,327
Philippine Islands	1909	1,747	7,094,276	4,796,444	1,041,976	1,255,856
Australia	1909	1,929	30,464,672	15,872,915	1,819,200	12,772,557
New Zealand	1909	1,210	6,298,924	3,696,919	168,165	2,433,840
Egypt	1909	307	16,796,958	15,060,164	1,232,719	504,075
Algeria	1909	503	10,623,144	9,253,630	235,922	1,133,592
Tunis	1908	.....	1,818,903	1,472,529	130,878	215,496
Other French Africa	1907	.....	9,647,068	8,651,481	298,531	697,056
British South Africa	1909	.....	10,865,631	7,660,330	(1)	3,205,301
Other British Africa	1909	.....	13,392,635	7,817,267	(1)	5,575,368
German Africa	1909	.....	3,381,738	2,794,523	76,667	510,548
Finland	1909	144	2,601,782	444,454	568,911	1,678,417
Exports.						
Austria-Hungary	1909	50,189	13,257,962	7,477,902	2,174,983	3,605,077
Belgium	1909	280,969	54,004,530	14,428,685	9,492,935	30,082,910
France	1909	213,198	64,619,295	27,879,622	2,006,235	34,733,438
Germany	1909	210,353	95,524,870	31,128,972	23,287,824	41,108,074
Italy	1909	39,671	25,646,333	19,063,045	3,912,236	2,671,052
Netherlands	1909	129,054	16,116,466	9,786,029	2,280,063	4,050,374
Russia	1909	27,436	10,689,328	10,546,875	142,453	.....
Switzerland	1909	62,266	52,967,250	11,608,150	5,582,762	35,776,338
United Kingdom	1909	537,266	558,269,108	445,008,930	53,407,076	59,853,102
United States	1910	6,339,028	33,398,672	19,972,808	463,404	12,962,460
British India	1910	1,704,252	40,216,450	6,559,555	33,162,778	494,117
Japan	1909	5,144	29,260,177	12,846,997	15,931,327	481,853
Finland	1909	.....	1,053,795	922,080	131,715	.....

[1] Included in "All other."

In respect to cotton manufactures the United Kingdom ranks first as an exporting country and British India as an importing country. Germany ranks second in exports, and is followed by France, Belgium, Switzerland, and British India, in the order named. In respect to the value of cotton goods imported China ranks next to British India and is followed by Germany and the United States. In view of the recent development of trade relations between the United States and Central American countries, it may be interesting to note that a report compiled by the Government of Honduras gives the total value of cotton manufactures imported into that country during the year 1907 as about $700,000, more than one-half of which represents imports from the United States. Out of the 20 American Republics lying south of the United States, there are only three—Honduras, Haiti, and the Dominican Republic—in which the United States leads in the trade in cotton manufactures. Germany controls the trade in these goods with Bolivia, and the United Kingdom, that with the remaining 16 republics.

THE RELATIVE IMPORTANCE OF THE LEADING TEXTILE FIBERS.

Because of the important position of the United States as a producer of textile materials, and the large aggregation of capital in the country employed in the manufacture of textiles, approximately accurate statistics of the supply of the leading textile fibers, distributed according to countries of production and showing the relative importance of the different fibers, will be of value to those concerned in the textile manufacture and trade. Such statistics for the years 1909, 1899, and 1889 are presented in Table 18.

TABLE 18.—WORLD'S PRODUCTION, IN POUNDS, OF THE LEADING TEXTILE FIBERS: 1909, 1899, AND 1889.

[The statistics for the United States were collected by the Bureau of the Census, except for wool, flax, and hemp for 1909. Those statistics, as well as the statistics for foreign countries, have been compiled from a number of sources. Among them are reports of the National Association of Wool Manufacturers, Boston; of the Flax Supply Association, Belfast; of Russian Commerce and Agriculture, St. Petersburg; and of the Silk Association of America, New York; data furnished by the International Flax Twine Company, Chicago; by the Columbia Rope Company, Auburn, N. Y.; and by Ralli Brothers, New York. Since it has not been practicable to secure satisfactory data in all instances, only an approximation to the facts is claimed for the statistics not collected by special inquiries.]

COUNTRY.	Growth year.	QUANTITY (POUNDS).					
		Cotton.	Wool.	Silk.[1]	Flax.	Hemp.	Jute.
Total	1909	8,505,191,000	2,695,622,000	85,048,000	1,872,127,000	1,453,186,000	2,918,000,000
	1899	7,034,968,000	[2] 2,706,200,000	60,812,000	1,142,482,000	1,525,875,000	2,200,000,000
	1889	5,873,856,000	[3] 2,419,700,000	40,066,000	1,007,224,000	1,470,248,000	1,860,000,000
United States	1909	5,157,691,000	328,000,000	.....	4,000,000	10,100,000	.....
	1899	4,729,968,000	310,000,000	.....	840,000	11,751,000	.....
	1889	3,736,256,000	270,000,000	.....	241,000	23,000,000	.....
Brazil	1909	180,000,000	1,130,000	.....	.....	.....	.....
	1899	150,000,000	1,500,000	.....	.....	.....	.....
	1889	120,000,000	1,875,000	.....	.....	.....	.....
Argentina	1909	.....	328,731,000	.....	.....	.....	.....
	1899	.....	370,000,000	.....	.....	.....	.....
	1889	.....	376,700,000	.....	.....	.....	.....
United Kingdom	1909	.....	133,705,000	.....	[4] 26,934,000	.....	.....
	1899	.....	140,200,000	.....	16,034,000	.....	.....
	1889	.....	147,500,000	.....	42,139,000	.....	.....
Russia	1909	360,000,000	380,000,000	(5)	1,594,000,000	1,021,223,000	.....
	1899	300,000,000	361,100,000	(5)	876,788,000	1,100,000,000	.....
	1889	166,000,000	291,500,000	(5)	705,011,000	1,000,000,000	.....
France	1909	.....	78,000,000	1,486,000	[4] 46,340,000	30,875,000	.....
	1899	.....	103,600,000	1,235,000	27,839,000	47,169,000	.....
	1889	.....	124,800,000	1,363,000	53,086,000	86,922,000	.....
Italy	1909	.....	21,500,000	9,373,000	[6] 44,800,000	150,000,000	.....
	1899	.....	21,400,000	7,415,000	[7] 44,741,000	[7] 166,843,000	.....
	1889	.....	21,400,000	6,350,000	31,736,000	186,458,000	.....
Austria-Hungary	1909	.....	41,600,000	838,000	[4] 104,332,000	144,513,000	.....
	1899	.....	64,300,000	605,000	112,809,000	145,531,000	.....
	1889	.....	54,300,000	589,000	99,536,000	143,868,000	.....
Turkey	1909	16,000,000	135,500,000	(5)	.....	.....	.....
	1899	25,000,000	100,500,000	(5)	.....	.....	.....
	1889	8,000,000	50,000,000	(5)	.....	.....	.....
British India	1909	1,801,000,000	50,000,000	[8] 518,000	.....	73,764,000	2,918,000,000
	1899	837,500,000	85,000,000	[8] 772,000	.....	27,755,000	2,200,000,000
	1889	1,200,000,000	72,000,000	[8] 463,000	.....	15,000,000	1,860,000,000
Japan	1909	(5)	.....	30,135,000	.....	18,963,000	.....
	1899	(5)	.....	12,388,000	.....	24,161,000	.....
	1889	(5)	.....	7,828,000	.....	(5)	.....
China	1909	300,000,000	42,253,000	35,697,000	.....	.....	.....
	1899	200,000,000	35,000,000	34,344,000	.....	.....	.....
	1889	200,000,000	(5)	21,771,000	.....	.....	.....
Egypt	1909	455,500,000	3,000,000	.....	.....	.....	.....
	1899	647,500,000	3,000,000	.....	.....	.....	.....
	1889	291,000,000	2,800,000	.....	.....	.....	.....
British South Africa	1909	.....	89,783,000	.....	.....	.....	.....
	1899	.....	100,000,000	.....	.....	.....	.....
	1889	.....	128,700,000	.....	.....	.....	.....
Australia	1909	.....	582,016,000	.....	.....	.....	.....
	1899	.....	410,000,000	.....	.....	.....	.....
	1889	.....	440,000,000	.....	.....	.....	.....
New Zealand	1909	.....	174,574,000	.....	.....	.....	.....
	1899	.....	100,000,000	.....	.....	.....	.....
	1889	.....	110,000,000	.....	.....	.....	.....
All other countries	1909	235,000,000	305,830,000	7,001,000	[4] 51,721,000	3,748,000	.....
	1899	145,000,000	500,600,000	4,053,000	63,431,000	2,615,000	.....
	1889	152,600,000	328,125,000	1,702,000	75,475,000	15,000,000	.....

[1] Does not include Tussah silk.
[2] Except for the United States and the United Kingdom, the figures are for 1900.
[3] Except for the United States, the figures relate to 1891.
[4] The figures relate to 1908.
[5] Included in "All other countries."
[6] The figures relate to 1902.
[7] The figures relate to 1895.
[8] Exports, instead of production

Of the total production of textile fibers for 1909, as shown in Table 18, the United States produced 31.3 per cent, while for the two most important fibers, cotton and wool, the corresponding proportion was 48.9 per cent. The world is, however, becoming every year more and more dependent upon cotton in the increasing fiber demands for the textile industry. Of the supply of this staple the United States is expected to produce about two-thirds, although in 1909, as indicated in the table, this country produced only 60.6 per cent of the supply. As already seen, this shortage in the production of cotton in the United States last year brought the cotton-manufacturing industry of the world into the most acute situation in which it has been since the period immediately following the Civil War.

The value of the American cotton-fiber crop last year was estimated at $700,000,000. Only about one-third of the average American crop is consumed at home. If the entire quantity were used in the manufactures of this country, the total value of cotton goods made therefrom would approximate $1,250,000,000. As two-thirds of our raw cotton is utilized by foreign manufacturers in the production of goods which are of finer average quality than those of domestic manufacture, the value of the goods manufactured from the average American cotton crop might be estimated at not less than $2,000,000,000.

As a further illustration of the industrial importance of American cotton it may be stated that not less than 9,000,000 persons are employed in its production and handling and in the industries for which it furnishes the raw material. Of this number, about 6,000,000 are farmers and farm laborers; about 1,000,000 are otherwise engaged, to some extent, with the raw material in the United States; and at least 2,000,000 are employed in foreign countries in connection with its transportation and in the manufactures of which it forms the basis.

The relative importance of the fibers shown in the table has undergone considerable change during the past century. Flax fiber, which was used to a larger extent than any other in 1800, now ranks fourth, and the quantity of flax produced is only about three times what it was at that time. In the same period the production of wool has increased from about 500,000,000 pounds to nearly 2,700,000,000 pounds, or more than fivefold, and that of cotton from about 300,000,000 pounds to 8,505,000,000 pounds, or more than twenty-eightfold. The increase in the production of jute is the most remarkable of all. The quantity in 1850 was 60,000,000 pounds, as compared with 2,918,000,000 pounds in 1909. The increases since 1889 are as follows: Cotton, 44.8 per cent; wool, 11.4 per cent; silk, 112.3 per cent; flax, 85.9 per cent; and jute, 56.9 per cent, while hemp shows a decrease. If the figures for 1908 were taken as the basis of comparison, the increase for cotton would be 81.8 per cent.

The total production for 1909 of the leading textile fibers, as shown in the table, was 17,529,174,000 pounds, of which cotton constituted 48.5 per cent; wool, 15.3 per cent; silk, less than one-half of 1 per cent; flax, 10.6 per cent; hemp, 8.2 per cent; and jute, 16.6 per cent. The total supply of these textile fibers in commercial channels at the beginning of the nineteenth century amounted to approximately 1,400,000,000 pounds, of which cotton formed about 22 per cent; wool, 33 per cent; silk, 2 per cent; and flax, 43 per cent.

On the basis of source the textile fibers may be divided into animal, which include wool and silk; vegetable, which include such fibers as cotton, flax, hemp, and jute; and mineral, of which asbestos is an example. Vegetable fibers may be further divided into soft fibers, as cotton, flax, hemp, and jute; and hard or root fibers, including sisal, istle, and the like. The ease and rapidity with which cotton fiber is transformed into yarn and its adaptability for all forms of woven fabrics are responsible for the manner in which it has outstripped all other fibers and for its extensive and increasing use.

Wool.—Of all textile fibers, wool is one of the most interesting, as well as the most difficult for the manufacturer to handle. The wide range within which the production of wool is possible, together with the desirable qualities it possesses as a material for clothing, have made it a most important factor in the history of civilization. Sheep can be raised in any country where warm clothing is needed, except in the polar regions, and it is natural that the woolen industry should spring up in primitive communities. For these reasons the wool-manufacturing industry has a place in practically all countries. As a country increases in population, however, the lands must necessarily be utilized for agriculture and the range for sheep is reduced. In recent years, consequently, the wool-growing industry in Europe and America has not kept up with that in newer countries, nor has the wool supply kept pace with the world's requirements. Nearly one-half of the world's present commercial supply of wool is produced in Australia, New Zealand, and Argentina.

In the last 20 years the production of wool in the United States increased only 21.4 per cent, compared with an increase of 50 per cent in the population. It is evident that this country is becoming more and more dependent on foreign countries for its wool supply. Its imports of this fiber in 1870 amounted to about 23 per cent of the requirements of the manufacturers, while in 1909 more than 44 per cent of the supply was imported. The failure of the wool supply to equal the textile demand has been met heroically by the ingenuity of the manufacturers in using substitute fibers, more especially cotton of wool-like characteristics, of which rough Peruvian is the most important variety.

Silk.—The world's production of animal silk has increased 112.3 per cent during the 20 years covered by Table 18. The leading countries in silk production are, in the order of their importance, China, Japan, and Italy. The demand for silk in recent years has been so much in excess of the supply that ingenious efforts have been made to discover a substitute, and the manufacture of artificial silk is assuming considerable importance. While the quantity of this artificial fiber produced is not included in the statistics of Table 18, yet, in view of the present interest in this novel manufacture, it has seemed well to present in the following paragraph certain information concerning it.

The founders of the artificial-silk industry in France have sought, not so much to secure a complete combination of the chemical elements of animal silk, but to produce an article possessing the principal technical properties of silk—more particularly tenacity, brilliancy, elasticity, and adaptability for bleaching and coloring. The idea of producing an artificial fiber having some of the properties of natural silk is very ancient. The earliest record noted on the subject is believed to be that of the physicist R. A. Ferchault de Reaumur, who in 1734 suggested a means of making a substitute for silk, but whose process was not developed. The first attempts which produced results of commercial value were those of Count Hilaire de Chardonnet, who in 1885 obtained a patent, which is probably the basic one for all processes, for making artificial silk from nitrated cellulose. Any cellulose material may be used as a basis in the manufacture of artificial silk, cotton stock probably being the most satisfactory. On account of the high prices of cotton, however, other substances are being used. Germany and England are producing the best artificial silk yarn, France having fallen off in this respect. The most important processes used in the manufacture of artificial silk are (1) the nitrocellulose process, (2) a process employing a cuprammonium solution of cellulose, and (3) a process in which viscose, or thiocarbonate of cellulose, is the basic material. The German yarn is made, as a rule, by the viscose process.

The number of establishments engaged in producing artificial silk is estimated to be about 30, distributed by countries approximately as follows: Germany, 7; France, 7; United States, 5; Belgium, 3; Austria, 3; Italy, 2; and England, Russia, and Spain, 1 each. Notwithstanding the number of establishments indicated as engaged in this manufacture in the United States, the quantity of artificial silk produced here is negligible, the American mills having as yet scarcely passed the experimental stage. Practically all of the present supply is manufactured in England, Germany, and France. The entire quantity of artificial silk produced last year amounted to approximately 12,000,000 pounds. About 50 per cent of this was made by the Chardonnet or nitrocellulose process, about 45 per cent by the cuprammonium process, and about 5 per cent by the viscose process. The average value per pound of the silk produced by the different processes is about $2 for the nitrocellulose process, $2.50 for the cuprammonium process, and $2 for the viscose process. The total consumption of artificial silk in the United States in 1909 amounted to 882,000 pounds, which was used largely in making lace trimmings and passamenteries, and decorations for ladies' hats.[1]

Flax.—Flax was among the earliest plants cultivated for a commercial fiber, and previous to the advent of the cotton gin its fiber was used more extensively than that of any other plant, and its cultivation was more or less general throughout the world. Among the vegetable fibers, flax, according to the table, still ranks next to cotton in commercial value, although the quantity produced is less than that of the cheaper fiber, jute. Russia produces more flax than all the rest of the world combined, but the best flax comes from Belgium. The production of flax fiber in the United States in 1909 is estimated at 4,000,000[2] pounds, but this does not include the material classed as tow prepared from the broken flax straw, and which is estimated at not less than 75,000,000 pounds. This tow is produced chiefly from the straw of a flax grown primarily for the seed for use in the manufacture of linseed oil, and, after having been boiled and chemically prepared, is used largely for heavy linings, such as those for refrigerator cars, replacing the former linings prepared from cork, hair, and charcoal. A large quantity of tow is also used for upholstering, only a relatively small amount being used in the textile industry.

Hemp.—Among the principal commercial fibers of the world, hemp occupies a place of decreasing importance, both relatively and absolutely. It had its origin in Western Asia, where it was cultivated for its fiber long before the Christian era, and, until the coming of cotton into commercial importance, ranked second only to flax among the vegetable fibers. It is still extensively cultivated in Russia, Austria-Hungary, and Italy, almost all of the world's commercial supply, as shown in Table 18, being produced in these three countries. Its production during the past 30 or 40 years has been greatly reduced, owing to the increasing use of jute and manila hemp. The decline in the hemp-growing industry in the United States has been remarkable. In 1909 the production in this country was only about 10,000,000 pounds, compared with 23,000,000 pounds 20 years ago, and with about 150,000,000 pounds 50 years ago. Practically all of the American crop is grown in Kentucky, though some is produced in California, Illinois, and Nebraska.

Jute.—Jute is the cheapest of the six principal commercial fibers shown in Table 18, but is used in greater quantities than any other except cotton. Practically

[1] American Silk Journal, January, 1910.
[2] International Flax Twine Company, Chicago.

the entire world's supply comes from India, where its production is rapidly increasing. Experiments show that it may be produced in the southern part of the United States, but expensive labor and the lack of machinery for the proper preparation of the fiber are deterrents to its production in this country. The manufacture of jute did not gain a firm footing until the time of the Civil War in the United States, when the high price of cotton caused a search for substitutes. It was at that time that jute was found adaptable for making bags and other articles for which cotton had previously been used, and Dundee, Scotland, became the chief center of the jute industry, which it held until the recent remarkable development of the industry in British India. There are about 50 mills in India engaged in the manufacture of jute, employing nearly 200,000 persons. Of the total production of jute in India in 1909, about 48 per cent was consumed in that country, 14 per cent in Great Britain, 8 per cent in Germany, and about 7 per cent in the United States.

Other fibers.—In addition to the fibers shown in Table 18, several others are consumed in large quantities, especially in the manufacture of cordage and twine. Among these may be mentioned manila hemp, sisal, New Zealand hemp, istle (or Tampico fiber), and ramie. Of these fibers, ramie, or China grass, is the most interesting, and is destined probably to become of the greatest commercial importance. While the plant is grown chiefly in China, Japan, India, and Java, experiments have proved that it can be cultivated successfully in the United States. Ramie may be used in the manufacture of knit underwear, and for mixing with silk. It is suitable for dress goods, upholstering, portières, table linens, incandescent gas-mantle frames, and for nearly all lines of goods made from silk or linen yarns. It is especially suitable where strength, luster, or absorbent properties are required. The lack of satisfactory mechanical methods for separating the fiber from the woody inner portion of the stalk and from the thin outer bark has made it impossible to produce the fiber with profit outside of countries where cheap skilled labor is abundant. The successful operation of a decorticating machine, which there are reasons to believe will be achieved in the near future, would be a most important step toward the production of ramie in this country. The outlook for the ramie industry at the present time is encouraging. A market has been established for hosiery and knit goods made from ramie, and a plant has recently been put into operation for the manufacture of incandescent gas-mantle frames from this fiber; furthermore, increasing quantities of it are being used in the manufacture of union silk goods.[1]

Another fiber which is being used in increasing quantities as a substitute for cotton is kapoc, sometimes called vegetable silk. It consists of the hairs from the pods of the kapoc tree which grows in the Tropics, Java furnishing the greater portion of that which enters into commerce. This fiber differs from true cotton in that the cells are thin walled and have corded edges which are twisted many times throughout their length, causing one fiber to interlock with others in spinning. The price of this fiber ranges from 9 to 16 cents per pound, and it is used largely in the manufacture of mattresses and in upholstering.

Table 19 shows, for the United States, the production, imports, exports, and consumption of the leading fibers for 1909, 1899, and 1889, together with the value per pound of the imports and exports, respectively.

The aggregate quantity of textile materials produced in the United States in 1909, as shown in the table, was 5,499,791,000 pounds. In 1889 the production of textile fibers in the United States amounted to 4,029,497,000 pounds, which indicates an increase of 36.4 per cent in the past 20 years. During this period the imports of textile materials have increased 87 per cent, and the exports 32 per cent. Since 1889 the consumption has increased from 2,079,463,000 pounds to 3,563,105,000 pounds, or 71.3 per cent.

In the consumption of silk the United States ranks next to China, utilizing more than one-fifth of the raw silk product of the world. The increasing importance of manila, sisal, and istle for use in the manufacture of cordage and twine is noteworthy. The increase in the quantity of jute imported has about kept pace with the increase in the production of cotton, by far the greater portion of the former material being used in the manufacture of bagging for covering cotton bales.

[1] Dr. L. H. Dewey, United States Department of Agriculture.

TABLE 19.—AMERICAN PRODUCTION, IMPORTS, EXPORTS, AND CONSUMPTION OF THE LEADING RAW TEXTILE FIBERS: 1909, 1899, AND 1889.

[The statistics for production were collected by the Bureau of the Census, except for wool, flax, and hemp for 1909. Those for imports and exports were obtained from the reports of the Bureau of Statistics, Department of Commerce and Labor. For some of the other figures, nonofficial sources have been consulted, and for these only an approximation to the facts is claimed. The statistics for production are for the growth year, those for imports and exports for the fiscal year beginning July 1, and those for consumption for the year beginning September 1.]

FIBER.	Year.	Production [1] (pounds).	IMPORTS.			EXPORTS (INCLUDING REEXPORTS).			Consumption (pounds).
			Quantity (pounds).	Value.	Average value per pound.	Quantity (pounds).	Value.	Average value per pound.	
Cotton	1909	5,157,691,000	76,098,000	$15,500,000	$0.204	3,242,215,000	$460,868,000	$0.142	2,279,501,000
	1899	4,729,968,000	67,399,000	7,961,000	.118	3,083,811,000	242,001,000	.078	1,923,703,000
	1889	3,736,256,000	8,606,000	1,393,000	.162	2,464,434,000	251,008,000	.102	1,193,375,000
Wool and hair of the alpaca goat and other like animals	1909	328,000,000	263,940,000	51,221,000	.194	3,927,000	869,000	.221	[2] 588,013,000
	1899	310,000,000	155,928,000	20,261,000	.130	7,903,000	1,219,000	.154	473,528,000
	1889	270,000,000	105,431,000	15,264,000	.145	3,520,000	590,000	.168	425,000,000
Silk, including cocoons	1909	.....	20,363,000	65,425,000	3.213	93,000	336,000	3.602	[2] 20,270,000
	1899	.....	11,289,000	44,568,000	3.956	119,000	453,000	3.799	10,336,000
	1889	.....	6,106,000	23,374,000	3.828	19,000	78,000	4.101	6,654,000
Flax	1909	4,000,000	28,585,000	3,536,000	.124	121,000	13,000	.108	[2] 34,964,000
	1899	840,000	15,606,000	1,646,000	.105	11,000	85	.009	16,981,000
	1889	241,000	18,028,000	2,188,000	.121	.....	.....	.....	[2] 18,269,000
Hemp	1909	10,100,000	14,388,000	1,040,000	.072	925,000	59,000	.063	[2] 23,563,000
	1899	11,751,000	7,616,000	450,000	.059	336,000	17,000	.051	25,589,000
	1889	[3] 23,000,000	[3] 81,964,000	[3] 7,342,000	.090	[3] 556,000	[3] 54,000	.098	[4] 104,408,000
Jute	1909	.....	152,667,000	3,728,000	.024	876,000	30,000	.034	[2] 151,791,000
	1899	.....	230,032,000	3,956,000	.017	60,000	1,000	.016	206,250,000
	1889	.....	202,493,000	3,250,000	.016	939,000	11,000	.011	[2] 201,554,000
Manila	1909	.....	208,887,000	10,517,000	.050	19,532,000	1,345,000	.069	[2] 189,355,000
	1899	.....	95,478,000	7,172,000	.075	2,287,000	246,000	.108	123,242,000
	1889	.....	(5)	(5)	.....	(5)	(5)	.....	(5)
Sisal	1909	.....	223,924,000	11,441,000	.050	2,211,000	128,000	.058	[2] 221,713,000
	1899	.....	172,303,000	11,782,000	.068	3,120,000	206,000	.066	146,353,000
	1889	.....	(6)	(6)	.....	(6)	(6)	.....	(6)
Other vegetable fibers	1909	.....	55,716,000	2,157,000	.039	1,781,000	89,000	.050	[2] 53,935,000
	1899	.....	37,410,000	1,366,000	.034	4,151,000	202,000	.049	[2] 33,259,000
	1889	.....	[7] 135,059,000	[7] 7,762,000	.057	[7] 4,856,000	[7] 311,000	.064	[8] 130,203,000

[1] Quantities are given in gross-weight figures.
[2] Consumption figures arrived at by subtraction.
[3] Includes manila.
[4] Arrived at by subtraction. Manila hemp is included.
[5] Included under "Hemp."
[6] Included under "Other vegetable fibers."
[7] Includes sisal.
[8] Arrived at by subtraction. Sisal is included.

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