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1902

BEING THE

ANNUAL REPORTS

OF THE VARIOUS

DEPARTMENTS AND INSTITUTIONS

For the Year 1901.

VOLUME II.

AUGUSTA
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1902

FIFTEENTH ANNUAL REPORT

OF THE

BUREAU

OF

INDUSTRIAL AND LABOR STATISTICS

FOR THE

STATE OF MAINE

1901.

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STATE OF MAINE.

OFFICE OF COMMISSIONER OF
INDUSTRIAL AND LABOR STATISTICS,
AUGUSTA, December 31, 1901.

To His Excellency, John F. Hill, Governor of Maine:

SIR: I have the honor to present the report of the Bureau of Industrial and Labor Statistics for 1901.

Very respectfully,

SAMUEL W. MATTHEWS,

Commissioner.

INTRODUCTION.

The most important investigation made by the Bureau during the past year has been that in relation to the extent and results of associated dairying. While such an investigation has been partially made by the Bureau and others in past years, the present investigation is much more complete and satisfactory, inasmuch as it has been carried on by personal examinations and inquiries, nearly every factory in the State having been visited by agents of the Bureau. In this way better results have been obtained than by merely sending blanks through the mails, as has been done heretofore. There are a large number of creameries and cheese factories located in different sections of the State, and much time and labor have necessarily been required in making this investigation. It is hoped that the facts herein given in relation to this important industry, together with the general facts contained in the article published in this report, may prove of interest and value.

The usual investigations and comparisons of the cotton and woolen industries have been made. The number of factories, mills and workshops erected and in process of erection, enlarged and improved, during the past year, with the amount of capital invested and number of hands to be employed, is very gratifying. The amount of capital invested has been exceeded but once during the past eleven years and the number of hands to be employed is the largest during the same time.

A brief article on the ice industry, with valuable tables, will be found both timely and important, recent developments in connection with this industry being at the present time of much interest to our people.

Other features of the report are an extended description of the commercial and business advantages of Portland, with statistics of its growth and development as a port of entry and departure

of foreign shipping, a description of the works and manufactures of the Portland Stone Ware Company, and a brief article on the mica, tourmaline and feldspar industries.

The usual compilation of facts and figures with regard to the steam and electric railway systems of the State is included in the report. A valuable abstract from the census bulletins, relating to the population of the State and conveniently arranged for reference and comparison, is also published. The report of the Inspector of Factories, Workshops, Mines and Quarries is included in this report, in compliance with the requirements of the law.

The conditions of labor during the past year have been very satisfactory and but few and slight labor disturbances have taken place. Labor has been in great demand and but few persons have experienced any difficulty in obtaining employment at good wages. The prospect of a continuance of this desirable condition of things is very favorable, as, according to the statements of employers and contractors, rarely, if ever, have so many contracts for the future been made as at the present time.

In his capacity as secretary of the Old Home Week State Association, the Commissioner publishes a brief report of the observances of Old Home Week, August 10-17, as an appendix to this volume.

The Commissioner desires to express his appreciation of the faithful and conscientious services rendered him in the prosecucution of his work by his efficient clerk, Major C. J. House, and special agent, Francis Wiggin.

THE COTTON INDUSTRY.

Complete returns from ten cotton mills were received at this office in 1897, ten in 1898, twelve in 1899, and ten in 1900. The same were tabulated and certain deductions drawn from the totals and averages shown. The present year, eleven such returns have been received, nine of which are identical with nine of those received last year. The following is the tabulation of the eleven returns received for the fiscal year ending June 30, 1901:

COTTON GOODS.

Consecutive number.	Capital invested.	Cost of material used.	Value of product.	Number weeks in operation.	Average Number Hands Employed.				Average Weekly Wages Paid.			Total wages paid.
					Total.	Men.	Women.	Children under 16 years.	Men.	Women.	Children under 16 years.	
1	$900,000	$856,516	$1,577,965	50	1,625	1,040	504	81	$6 95	$5 41	$3 86	$513,613
2	340,000	168,666	270,406	52	291	133	151	7	7 50	6 50	3 00	79,986
3	4,961,219	2,335,193	3,454,000	47	3,344	1,334	1,847	163	7 36	6 16	3 08	1,016,014
4	1,000,000	592,000	1,120,000	49	1,227	544	620	63	8 23	5 72	2 35	394,853
5	500,000	119,967	226,091	52	282	152	130	–	8 50	5 80	–	93,698
6	1,500,000	387,860	816,227	52	928	320	562	46	8 20	5 70	4 18	314,603
7	798,500	402,416	761,716	50	700	309	314	77	9 00	6 25	2 80	248,577
8	115,500	245,022	402,200	52	258	133	125	–	7 74	4 84	–	84,979
9	1,200,000	719,679	1,419,267	52	1,735	721	1,002	12	8 68	6 66	3 30	625,709
10	1,100,000	494,517	980,059	50	1,025	455	500	70	7 50	4 50	3 00	295,846
11	1,000,000	280,978	531,524	52	630	213	411	6	7 25	5 57	2 48	199,905
	$13,415,219	$6,602,814	$11,559,455	50¾	12,045	5,354	6,160	525	$7 74	$5 90	$3 15	$3,867,783

The totals and averages of the above table are as follows:

Capital invested	$13,415,219
Cost of material used	6,602,814
Total wages paid	3,867,783
Value of product	11,559,455
Average time run in weeks	50¾

Total number of hands employed	12,045
Men	5,354
Women	6,166
Children under 16 years	525
Average weekly wages of men	$8.14
Women	6.03
Children	3.33

Comparisons are made of the results of the above figures and those obtained from similar tabulations in 1897, 1898, 1899, and 1900, with those given by the United States census reports of the cotton industry for the State in 1880 and 1890. The two main items entering into the production of cotton goods are raw material and labor. Outside of these, which we lump together under the name of "margin," are included interest on capital invested, wear and tear of machinery, taxes and insurance, repairs of buildings, salaries, breakage and waste, profits, etc. Taking the value of the product as a basis, the following table will show the percentages of the three items, raw material, wages and margin at the dates indicated.

Items.	1880.	1890.	1897.	1898.	1899.	1900.	1901.
Raw material	55.0	55.2	57.9	52.4	51.8	53.9	57.1
Wages	22.0	28.5	33.1	34.8	36.6	35.0	33.5
Margin	23.0	16.3	9.0	12.8	11.6	11.1	9.4
Totals	100	100	100	100	100	100	100

Referring to the above table, it will be seen that the percentage of raw material entering into a given product, which reached its lowest point, 51.8 in 1899, has increased to 57.1. The percentage of wages, which had shown a constant increase and reached its highest point, 36.6 in 1899, has fallen off to 33.5, although the average rate has slightly increased. The percentage of margin which was at its lowest, 9.0 in 1897, and has shown some fluctuations since, has fallen to 9.4, being one and seven-tenths per cent less than last year.

The following table will show the average annual product and the average annual earnings per employe, including men, women and children, for the years named.

Per Employe.	1880.	1890.	1897.	1898.	1899.	1900.	1901.
Annual product.	$1,132 70	$1,094 61	$873 89	$777 98	$818 34	$914 57	$959 69
Annual earnings	249 73	312 50	289 50	270 91	300 00	319 62	321 11

The average annual product per employe shows a constant decrease between 1880 and 1898, the fall off amounting to $345.72 during the eighteen years, but the past three years show an increase of $181.71.

In average annual earnings per employe there was an increase from 1880 to 1890 of $62.77, from 1890 to 1898 a decrease of $41.59, and during the past three years an increase of $50.20, a net increase since 1880 of $71.38.

Nine of the eleven returns received this year are from the same mills from which certain nine returns were received in 1900, and fair comparisons can be made between the results of the tabulations of these two sets of returns for 1900 and 1901 as follows:

Capital invested, 1900	$12,766,994
Capital invested, 1901	12,959,719
Increase	$192,725
Cost of material used, 1900	$5,761,677
Cost of material used, 1901	6,189,126
Increase	$427,449
Total wages paid, 1900	3,730,610
Total wages paid, 1901	3,702,818
Decrease	$27,792
Value of product, 1900	$10,481,884
Value of product, 1901	10,886,849
Increase	$404,965
Average weekly wages of men, 1900	$7.51
Average weekly wages of men, 1901	7.75
Increase	$ .24

Average weekly wages of women, 1900	$5.66
Average weekly wages of women, 1901	5.91
Increase	$ .25
Average weekly wages of children, 1900	$3.26
Average weekly wages of children, 1901	3.16
Decrease	$ .10
Average number of men employed, 1900	5,253
Average number of men employed, 1901	5,088
Decrease	165
Average number of women employed, 1900	5,855
Average number of women employed, 1901	5,890
Increase	35
Average number of children employed, 1900	527
Average number of children employed, 1901	518
Decrease	9
Average total number of employes, 1900	11,635
Average total number of employes, 1901	11,496
Decrease	139
Average number of weeks in operation, 1900	51.7
Average number of weeks in operation, 1901	50.4
Decrease	1.3

THE WOOLEN INDUSTRY.

In 1900, returns from twenty-eight woolen mills were tabulated, while this year but twenty-four complete returns have been received. The following table will show the condition of the industry in these twenty-four mills for the year ending June 30, 1901, and furnishes a basis from which comparisons are made with former years.

WOOLEN GOODS.

Consecutive number.	Capital invested.	Cost of material used.	Value of product.	Number weeks in operation.	Average Number Hands Employed.				Average Weekly Wages Paid.			Total wages paid.
					Total.	Men.	Women.	Children under 16 years.	Men.	Women.	Children under 16 years.	
1	$144,000	$78,281	$139,808	52	90	60	30	–	$8 25	$6 00	–	$35,134
2	100,000	154,025	210,724	52	120	95	25	–	8 00	5 00	–	48,007
3	150,000	180,000	262,300	52	150	85	65	–	8 50	7 00	–	58,000
4	169,800	238,410	365,365	52	215	160	55	–	7 04	4 80	–	72,338
5	50,000	132,711	241,762	52	108	66	42	–	8 65	6 40	–	43,900
6	125,000	96,231	201,364	52	125	95	30	–	9 00	6 00	–	45,743
7	50,000	30,000	65,000	42	60	45	15	–	10 50	7 50	–	24,570
8	200,000	212,812	301,154	50	176	114	54	8	9 50	6 50	$3 50	67,545
9	75,000	133,544	205,000	52	100	75	25	–	7 50	6 00	–	44,671
10	300,000	245,256	384,957	51	181	133	48	–	10 00	6 90	–	70,140
11	120,000	86,844	155,701	52	123	73	50	–	8 58	5 20	–	46,052
12	22,500	100,000	183,090	52	75	57	15	3	8 00	6 00	4 50	29,346
13	40,000	62,489	98,654	52	60	40	20	–	9 00	8 10	–	27,114
14	146,000	130,000	246,000	52	114	64	50	–	11 00	6 50	–	53,515
15	100,000	102,257	167,402	48	78	46	32	–	9 61	7 02	–	32,000
16	60,000	76,000	140,000	51	70	43	27	–	9 00	7 50	–	29,425
17	413,963	238,027	370,391	52	218	140	70	8	9 50	7 50	3 25	89,901
18	160,000	211,647	275,774	52	180	112	65	3	6 50	5 50	3 00	56,816
19	9,000	41,375	100,000	52	45	32	12	1	9 00	4 50	3 00	22,051
20	10,000	45,520	77,683	52	52	35	15	2	9 00	7 00	4 50	18,861
21	100,000	85,965	128,244	50	53	27	26	–	9 00	7 50	–	25,551
22	324,560	327,078	531,392	52	250	160	90	–	9 00	7 50	–	101,790
23	160,209	216,670	327,425	52	193	108	83	2	7 50	7 00	3 00	75,320
24	796,064	91,009	344,827	49	376	307	56	13	9 50	7 20	4 25	130,923
	$3,826,036	$3,316,151	$5,524,017	51	3,212	2,172	1,000	40	$8 76	$6 58	$3 74	$1,248,743

Similar comparisons are made as in the cotton industry. On the basis of the value of the product, the following table shows

the percentages of raw material, wages and margin at the different periods named.

Items.	1880.	1890.	1897.	1898.	1899.	1900.	1901.
Raw material ...	64.2	65.9	65.4	60.1	65.5	55.9	60.0
Wages	15.6	21.7	25.1	23.4	21.7	21.9	22.6
Margin.	20.2	12.4	9.5	16.5	12.8	22.2	17.4
Totals	100	100	100	100	100	100	100

As compared with 1900, the percentage of raw material entering into the total product of 1901 has increased 4.1 per cent, and the percentage of wages .7 of one per cent, while the percentage of margin has decreased 4.8 per cent.

The average annual product and earnings per employe are shown in the following table for the periods named.

Per Employe.	1880.	1890.	1897.	1898.	1899.	1900.	1901.
Annual product.	$2,160 28	$1,739 84	$1,389 86	$1,602 67	$1,635 40	$1,900 24	$1,719 81
Annual earnings	337 51	377 03	348 79	375 20	354 71	416 10	388 77

The average annual product per employe, which fell off $770.42 between 1880 and 1897 and showed an increase of $510.38 in the next three years, has again fallen off $180.43 during the past year, while the average annual earnings per employe, including men, women and children, show a decrease from last year of $27.33, but are still $51.26 higher than in 1880 and $11.74 above the highest point reached at any of the above dates excepting 1900.

Nineteen of the returns from woolen mills tabulated this year are from mills from which returns were received in 1900, while the other five are from mills from which no returns were received for that year, or if received, were too defective for use. The following comparisons are made between the business of the above mentioned nineteen mills for 1900 and 1901.

Capital invested, 1900	$2,633,509
Capital invested, 1901	2,586,472
Decrease	$47,037

Cost of material used, 1900	$2,673,941
Cost of material used, 1901	2,725,204
Increase	$51,263
Total wages paid, 1900	$982,324
Total wages paid, 1901	949,567
Decrease	$32,757
Value of products, 1900	$4,533,740
Value of products, 1901	4,341,871
Decrease	$191,869
Average weekly wages of men, 1900	$8.84
Average weekly wages of men, 1901	8.58
Decrease	$ .26
Average weekly wages of women, 1900	$6.54
Average weekly wages of women, 1901	6.42
Decrease	$ .12
Average weekly wages of children, 1900	$3.73
Average weekly wages of children, 1901	3.44
Decrease	$ .29
Average number of men employed, 1900	1,621
Average number of men employed, 1901	1,611
Decrease	10
Avreage number of women employed, 1900	760
Average number of women employed, 1901	801
Increase	41
Average number of children employed, 1900	26
Average number of children employed, 1901	24
Decrease	2

Total average number of employes, 1900.....	2,407
Total average number of employes, 1901.....	2,436
Increase	29
Average number of weeks in operation, 1900.....	51.5
Average number of weeks in operation, 1901.....	51.1
Decrease	.4

FACTORIES, MILLS AND SHOPS BUILT DURING 1901.

In response to the following inquiries: "How many and what kinds of factories, mills and shops for manufacturing purposes, have been enlarged, completed, or are in process of erection during 1901?" "Estimated cost of same?" "Probable number of hands they will employ?" answers have been returned by the officers of nearly every city, town and plantation in the State. Ninety-four cities, towns and plantations report building in this line as follows:

ANDROSCOGGIN COUNTY.

Towns.	Buildings.	What done.	Cost.	Help.
Auburn	Shoe factory	Enlarged	$10,000	100
Lewiston	Shirt factory	New	10,000	
Turner	Butter factory	New	4,000	7

AROOSTOOK COUNTY.

Ashland	Lumber mill	New	65,000	200
Caribou	Lumber mill	New	2,000	25
Grand Isle	Starch factory	New	6,000	12
Houlton	Paint shop	New	4,000	12
Littleton	Starch factory	New	3,000	7
Mars Hill	Starch factory and dry house	New	4,500	8
Van Buren	Lumber mill	New	34,000	60
Hamlin Pl	Starch factory	New	2,000	11
Merrill Pl	Lumber mill	New	2,000	15
St. John Pl	Lumber mill	New	10,000	10
Stockholm Pl	Lumber mill	New	5,000	20
Westfield Pl	Saw and shingle mill	New	1,000	12

CUMBERLAND COUNTY.

Brunswick	Paper box factory	New	12,000	50
Portland	Stone cutting shed	Remodeled	15,000	250
Standish	Steam saw mill	New	5,000	15
Westbrook	Warp mill	Enlarged	50,000	60
Westbrook	Silk mill	New building	50,000	25

FRANKLIN COUNTY.

Towns.	Buildings.	What done.	Cost.	Help.
Eustis	Wood novelty mill	New	$35,000	35
Farmington	Ear protector factory	New	1,800	150
Farmington	Enameling shop	Enlarged	1,000	
Freeman	Saw mill	Improved	500	6
New Vineyard	Spool bar mill	New	1,500	8
Rangeley	Steam lumber mill	New	10,000	15
Strong	Toothpick factory	Enlarged	1,000	45
Wilton	Woolen mill	New	10,000	40
Rangeley Pl	Lumber mill	New	10,000	25

HANCOCK COUNTY.

Aurora	Box mill	Enlarged	500	2
Bluehill	Stave mill	New	500	4
Bucksport	Saw mill	Addition	300	7
Gouldsboro	Sardine factory	New	2,500	100
Swan's Island	Sardine factory	Enlarged	300	50
Verona	Steam saw mill	New	500	5

KENNEBEC COUNTY.

Albion	Tannery	New	10,000	12
Gardiner	Paper mill	Addition	8,400	14
Gardiner	Woolen mill	Machinery	500	6
Manchester	Saw mill	New	400	7
Monmouth	Canning shop	New	3,000	75
Mount Vernon	Wood novelty shop	New	1,000	
Sidney	Saw mill	New	1,500	
Sidney	Grist and shingle mill	New	1,000	
Waterville	Shirt factory	Enlarged	4,500	150

KNOX COUNTY.

South Thomaston	Saw mill	Machinery	1,000	6
South Thomaston	Granite polishing mill	New		
Thomaston	Three lime kilns	New	2,000	20

LINCOLN COUNTY.

Boothbay Harbor	Four sardine factories	Enlarged	2,300	
Boothbay Harbor	Electric light plant	New	10,000	
Boothbay Harbor	Gas plant	New	4,000	
Dresden	Boat shop	Enlarged	150	3
Newcastle	Saw mill	Machinery	200	

OXFORD COUNTY.

Albany	Saw mill	New	1,500	10
Andover	Saw mill	Enlarged	1,000	6
Byron	Birch mill	New	2,000	20
Greenwood	Saw mill	New	2,000	4
Mexico	Lumber mill	New	4,000	6
Oxford	Saw mill	New	700	10
Paris	Excelsior mill	Machinery	800	6
Rumford	Paper mill	New	800,000	700
Rumford	Lumber mill	New		
Rumford	Two store houses	New		
Sweden	Lumber mill	Improved	500	3

PENOBSCOT COUNTY.

Bangor	Mattress factory	New	2,500	8
Bangor	Machine shop	New	8,000	12
Brewer	Paper mill	New	100,000	50
Holden	Grist and stave mill	New	8,000	8
Lincoln	Two saw mills	New	4,000	20
Millinocket	Pulp and paper mill	Completed	1,500,000	500
Newport	Woodworking mill	New	2,000	3
Winn	Lumber mill	New	10,000	30
Stacyville Pl	Lumber mill	New	2,000	8

PISCATAQUIS COUNTY.

Towns.	Buildings.	What done.	Cost.	Help
Brownville	Peg and shank wood mill	Enlarged	$5,000	25
Brownville	Slate shed	New	3,000	20
Greenville	Veneering mill	Enlarged	500	
Guilford	Lumber mill	Machinery	4,000	
Guilford	Saw mill	New	2,000	10
Milo	Lumber mill	New	75,000	100
Milo	Spool factory	New		
Wellington	Shingle mill	New	250	
Bowerbank Pl.	Saw mill	New	200	

SAGADAHOC COUNTY.

Richmond	Lumber mill	New	10,000	60

SOMERSET COUNTY.

Bingham	Saw mill	New	1,500	10
Embden	Lumber mill	Enlarged	3,000	10
Fairfield	Pulp mill	New	500,000	150
Fairfield	Pulp mill	Enlarged		
Fairfield	Furniture factory	New		
Fairfield	Wood novelty mill	New		
Hartland	Clothing factory	New	5,000	50
Madison	Paper mill	Commenced	2,000,000	1,200
New Portland	Canning factory	New		8
St. Albans	Shovel handle factory	New	1,500	10
Bigelow Pl.	Birch mill	New	1,500	10
Flagstaff Pl	Wood novelty mill	New	4,000	30
Mayfield Pl	Spool bar mill	New	1,500	12

WALDO COUNTY.

Searsmont	Shook mill	New	500	3
Winterport	Creamery	Enlarged	1,000	3

WASHINGTON COUNTY.

Addison	Sardine factory	New	6,000	75
Calais	Machine shop		1,500	4
Columbia Falls	Lumber mill	New	8,000	45
Eastport	Sardine factory	Enlarged	5,000	200
Eastport	Fertilizer plant	Enlarged	30,000	25
Jonesport	Sardine factory	New	12,000	130
Lubec	Five sardine factories	New	25,000	1,000
Lubec	One sardine factory	Rebuilt		
Milbridge	Steam saw mill	New	2,000	
Vanceboro	Stave mill	New	3,000	15

YORK COUNTY.

Buxton	Leather factory	New	50,000	15
Hollis	Lumber mill	Machinery	1,500	8
Hollis	Grist mill	Enlarged	1,000	2
Kennebunk	Trunk factory	Enlarged	500	10
Limington	Lumber mill	New	2,500	7
Waterboro	Grist mill	New	1,500	1

RECAPITULATION.

Counties.	Number of towns.	Number of buildings.	Total cost.	Hands employed.
Androscoggin	3	3	$24,000	107
Aroostook	12	12	138,500	392
Cumberland	4	5	132,000	400
Franklin	8	9	70,800	324
Hancock	6	6	4,600	166
Kennebec	7	9	30,300	264
Knox	2	3	3,000	26
Lincoln	3	8	16,650	3
Oxford	8	11	812,700	765
Penobscot	8	9	1,636,500	639
Piscataquis	6	9	89,950	158
Sagadahoc	1	1	10,000	60
Somerset	10	13	2,518,000	1,490
Waldo	2	2	1,500	6
Washington	8	14	92,500	1,494
York	5	6	57,200	43
Total	94	121	$5,638,200	6,337

TOTALS FOR ELEVEN YEARS.

Years.	Number of towns.	Number of buildings.	Total cost.	Hands employed.
1891	86	110	$3,023,850	4,278
1892	89	114	2,128,000	4,312
1893	81	108	841,725	2,526
1894	48	55	663,700	1,039
1895	75	102	1,367,800	2,797
1896	62	77	1,055,900	1,470
1897	74	95	827,600	2,339
1898	64	72	675,100	2,024
1899	103	138	6,800,700	4,990
1900	114	167	2,174,825	5,539
1901	94	121	5,638,200	6,337

ICE.

TABLE SHOWING THE MAINE AND HUDSON ICE CUT, 1880-1900.

Year.	Maine harvest.	Hudson harvest.	Hudson capacity.
1880	1,426,800	800,000	2,500,000
1881	994,800	2,558,000	2,650,000
1882	1,227,200	1,954,700	2,728,700
1883	1,364,500	3,017,600	3,100,000
1884	1,118,000	3,026,000	3,100,000
1885	1,490,400	3,019,500	3,200,000
1886	1,368,400	2,355,500	3,259,000
1887	1,311,100	3,226,000	3,367,000
1888	1,037,000	3,330,500	3,330,500
1889	1,529,600	2,742,000	3,432,000
1890	3,092,400	.....	3,425,000
1891	1,285,000	2,624,000	3,425,000
1892	1,435,900	2,500,000	3,525,000
1893	1,444,000	3,407,839	3,454,400
1894	1,600,800	2,638,500	3,459,500
1895	1,413,500	3,409,000	3,528,500
1896	1,466,000	2,735,500	3,450,400
1897	1,526,500	2,675,033	3,716,381
1898	1,242,500	2,172,400	4,183,434
1899	1,326,430	4,300,293	4,316,331
1900	723,780	1,430,670	4,215,970

It is not the intention to give in this article a history of the ice industry of Maine, but rather to show the cut of ice for a series of years both in Maine and on the Hudson, together with the capacity of the Hudson ice houses, and to treat somewhat of the present condition and future prospects of the industry in our State.

The growth of the industry in Maine for a long series of years was very gradual. The early shipments of ice from the Kennebec, commencing as early as 1826 according to authentic accounts, proved at first to be an unprofitable business, and during the early days, as a rule, ice was stored here only during the mild winters when the crop was short on the Hudson, and at such times the business was more or less remunerative, but not until about 1860 could the business be considered a permanent one, and not until 1880 did it reach the large proportions which it sustained unbroken for the next two decades.

By referring to the above table it will be seen that, during the twenty-one years from 1880 to 1900 inclusive, the ice cut in Maine in but two instances fell below 1,000,000 tons, and in one instance went above 3,000,000 tons, while in the remaining eighteen years it ranged in round numbers from 1,000,000 to 1,600,000 tons. The average for the twenty-one years was 1,401,172 tons.

On the Hudson during the same time the crop has but once been an entire failure, once it fell below 1,000,000 tons, twice between 1,000,000 and 2,000,000 tons and once it went above 4,000,000 tons, while in the remaining seventeen years it ranged in round numbers, from 2,100,000 to 3,400,000 tons. The average for the twenty-one years was 2,567,763 tons. The total annual average for both Maine and the Hudson for the twenty-one years was 3,968,935 tons, which is somewhat less than the capacity of the Hudson houses.

In 1901 the entire cut of ice for shipment in Maine was confined to that of Henry Lord & Company of Bangor and amounted to only 16,000 tons, but there was left over in the various houses, both on the Kennebec and Penobscot, old ice to the amount of about 400,000 tons, of which considerably more than 300,000 tons have been shipped, so that the entire lot of ice houses in the State are now practically empty. The houses have generally been repaired during the past summer and according to present indications there will be at least half a million tons stored for shipment the coming winter, though mild weather conditions would have a tendency to increase the amount to be stored in Maine.

The ice, like many other lines of business, has been evolutionary in its progress. Starting with minor operations by individuals and firms, then, until a recent period, carried on by corporations composed largely of outside parties, it has finally by a process of absorption, come into the hands of a wealthy syndicate, by whom, with a few exceptions, the entire ice business on the Hudson as well as in Maine is now managed and controlled. What the local effect of this last stage in this process of evolution may be, is the problem in which our people are at present much interested. The fact that no ice was cut in Maine by the syndicate in 1901 and the probability that not much more than one-third of the average cut will be made in 1902, and the further fact that the present storage capacity of the Hudson houses is

more than sufficient for the average annual cut, both in Maine and on the Hudson, suggests grave apprehensions as to the future extent of the business in this State compared with that of the last two decades.

THE DAIRY BUSINESS OF MAINE.

At the suggestion of many of the progressive farmers and dairymen of the State, the Bureau of Industrial and Labor Statistics has, during the past season, investigated the dairy business of Maine, especially in connection with the creameries and cheese factories in the State. This investigation has been carried on principally by personal interviews, the special agent, to whom was assigned the work, having visited the larger part of the dairy plants in the State. He was received everywhere with the utmost courtesy, and all information asked for was freely given as far as possible. It was the design of the bureau to make the investigation as full and complete as the conditions would allow, in order to determine the value of this great industry to the State.

We present below a list of the creameries and cheese factories in Maine as they appear at the present time.

LIST OF CREAMERIES IN MAINE.

Androscoggin County.

Turner Center Dairying Association, Auburn.
New England Creamery Company, Livermore Falls.
Livermore Dairying Association, Livermore.
Poland Dairy Company, Poland.
Turner Center Dairying Association, Turner Center.
Turner Creamery, South Turner.

Aroostook County.

Fort Fairfield Creamery, Fort Fairfield.
Houlton Creamery, Houlton.
New Sweden Creamery, New Sweden.
Pine Tree Creamery Company, Sherman Mills.

Cumberland County.

Portland Creamery, Bridgton.
Portland Creamery, Portland.
Presumpscot River Creamery, South Windham.

Franklin County.

Sandy River Creamery Company, Phillips.

Hancock County.

Bucksport Creamery, Bucksport.
Ellsworth Creamery Company, Ellsworth.

Kennebec County.

Cushnoc Creamery Company, Augusta.
Fayette Co-operative Creamery Association, North Fayette.
Gardiner Creamery, Gardiner.
Pittston Creamery Association, East Pittston.
Jayne's Creamery Company, Waterville.
Winthrop Creamery, Winthrop.
Monmouth Creamery, Monmouth.

Knox County.

Rockland Creamery Company, Rockland.
Warren Creamery, South Warren.

Lincoln County.

Damariscotta Creamery Company, Damariscotta.

Oxford County.

New England Creamery Company, Canton.
West Paris Creamery, West Paris.
Waterford Creamery Company, South Waterford.

Penobscot County.

Bangor Creamery Company, Bangor.
Hopkins Creamery, Bangor.
Maine Creamery Company, Bangor.
Penobscot Packing and Dairy Company, Corinth.
Enterprise Creamery Company, Dexter.

Hillside Creamery, Exeter.
Lee Creamery Company, Lee.
Corinna Creamery, Corinna.
Charleston Creamery, Charleston.
Patten Creamery, Patten.

Piscataquis County.

Riverside Creamery Company, Foxcroft.
Milo Creamery, Milo.

Somerset County.

Sparkling Spring Creamery, Norridgewock.
Hathorn Farm Creamery, Pittsfield.
Skowhegan Creamery, Skowhegan.
Solon Creamery Company, Solon.
Carrabassett Creamery Company, East New Portland.

Waldo County.

Monroe Creamery, Monroe.
Belfast Creamery, Belfast.
Crystal Spring Creamery, Unity.

York County.

Saco and Biddeford Creamery Association, Biddeford.
Saco Valley Creamery, Hollis.
Honeysuckle Creamery, Limerick.
Clover Leaf Creamery, Limerick.
Sanford Creamery Association, Sanford.

LIST OF CHEESE FACTORIES IN MAINE.

Androscoggin County.

North Turner Cheese Company, Turner.
Leeds Center Dairying Association, Leeds.
North Livermore Cheese Company, Livermore.

Aroostook County.

Caribou Cheese Factory, Caribou.
Linneus Cheese Factory, Linneus.
Presque Isle Cheese Factory, Presque Isle.

Oxford County.

East Dixfield Dairying Association, East Dixfield.
Dixfield Center Cheese Factory, Dixfield.

Penobscot County.

Mountain Cheese Factory, Simpson's Corner, (Dixmont.)
Stetson Cheese Factory, Stetson.
Newburg Cheese Factory, North Newburg.
Cold Spring Cheese Company, Dixmont.
Carroll Cheese Factory, Carroll.

Piscataquis County.

East Sangerville Cheese Factory, Sangerville.

Somerset County.

Ripley Cheese Factory, Ripley.
St. Albans Cheese Association, St. Albans.

The creameries in the State which have been in operation during the year number fifty-four, though not all as independent plants. Those located at Belfast, Bridgton, Bucksport, Canton, Charleston, Corinna, Corinth, East Pittston, Fort Fairfield, Foxcroft, Milo, Monmouth, Monroe, Patten, South Windham and Turner Center are branches of other creameries. The cheese factories number sixteen. This investigation shows the number of plants engaged in associated dairying somewhat above the number given in the United States Census of 1900, several new plants having been started since the date of taking the census. While the creameries are in continuous operation, the cheese factories run only about four months out of the year on the average.

To facilitate the business of gathering data, special blanks were prepared containing the following questions:

1. Name of Company or Association,.....
2. Cooperative or proprietary,.....
3. Location, ...
4. Capital invested, ...
5. Number of patrons,.....
6. Number of cows contributing June 30, 1901,.....
7. Cost of milk or cream for year ending June 30, 1901,.....

8. Cost of milk per quart or gallon,.....; of cream per pound of butter fat,.....
9. Value of production for year ending June 30, 1901,.....
10. Number of pounds of butter.....or cheese..... manufactured year ending June 30, 1901.
11. Number of gallons of cream sold year ending June 30, 1901, ...
12. Value of cream sold year ending June 30, 1901,.....
13. Of cows contributing to factory, how many Jerseys,.....; how many Holsteins,.....; how many Guernseys,.....; how many Herefords,.....; other breeds,.....
14. Number of hands employed,.....
15. Number of weeks in operation,.....
16. Average daily or weekly wages paid,.....
17. Value of waste products, year ending June 30, 1901,.....
18. Largest sum paid per cow for milk or cream, year ending June 30, 1901,.....
19. Smallest sum paid per cow for milk or cream, year ending June 30, 1901,.....
20. Has the grade of cows been raised since factory was built? .....
21. Where are your products sold?.....

To the printed questions we added on the blank page of the circular used the following:

Has the number of cows in your town and vicinity been increased as a result of the opening of your creamery?

Have the farms of owners of cows contributing to your creamery been increased in fertility and value since the establishment of the factory?

How many pounds of butter on the average ought a fair cow to make in a year?

What in your judgment is the best ration for a cow in order to produce the best results?

In answer to the question, "Has the number of cows in your town and vicinity been increased as a result of the opening of your creamery?" the response was invariably, "Yes." In some instances the reply was that the number of cows had been more than doubled. In response to the question, "Have the farms of owners of cows contributing to your creamery been increased in

fertility and value since the opening of the factory?" the answers were unanimously, "Yes," and generally the words, "Very much so," were added. In response to the same questions addressed to the cheese factories, in two instances the answers were, "No," to both questions. To all the rest the answers were "Yes." Thus the testimony is practically all one way in regard to the beneficial influence exerted by the factory in the increased number of cows and the increased fertility of the farms.

In answer to the question, "How many pounds of butter ought the average cow to produce yearly?" the replies vary greatly. Some answered 150 pounds, some 200, some 250, and one, who was probably nearer right than any of the others, replied, "Twice as much as she does now."

In response to the question, "What is the best ration for a cow in order to produce the best results?" the following are among the answers returned:

"Equal parts of cottonseed and gluten, and as much corn meal and bran, about one quart each."

"Cottonseed meal in reasonable quantity, with bran or shorts, when they can be obtained unadulterated. Also some corn meal, if the cow is thin in flesh."

"Good high ground pasture and pure water."

"Bran, flour middlings and Indian meal mixed, equal parts in weight."

One answer is "We try to prolong June conditions as much as possible. Therefore when grass begins to fail we begin to feed peas, oats and Hungarian grass for the first part of the season, and later on we feed corn. From September to June we feed corn twice a day to all our herd, the corn being run through a cutter and stored in a silo, ears and stalks together."

"As many pounds of grain per day as the cow will make pounds of butter per week, the ration being bran and cottonseed meal or gluten, with a little corn meal."

The above are fair specimens of the answers received, all of which would seem to agree that cottonseed meal, bran and cornmeal should constitute the principal ingredients of the cow's ration, although opinions seem to differ as to the amount and proportions. These should probably vary to correspond with other conditions, and very likely no two owners would exactly agree.

Each would probably experiment till he obtained the best results from his own herd.

Many other questions were asked during visits and personal interviews, especially in regard to the influence exerted by the factory in encouraging farmers in the vicinity to increase the number of cows, and to improve their farms, their buildings, etc. The questions on the blank were very generally answered, although some proprietors and managers confessed their inability to answer correctly all of them. One proprietor said of question 13, asking how many Jerseys, how many Holsteins, how many Guernseys, how many Herefords, how many of other breeds contributed to the factory, "These questions are corkers, I don't believe the patrons know themselves." Questions 18 and 19 puzzled many. Question 18 asks for the largest sum paid per cow for milk or cream for one year, and question 19 asks for the smallest sum paid per cow for milk or cream for one year. These three questions, however, were so generally answered that we had no difficulty in coming to the conclusions given elsewhere.

Summarizing the figures returned on the blanks in answer to the questions asked, we find some very interesting facts, as follows:

Number of patrons of creameries.....	7,887
Number of patrons of cheese factories.....	800
Total	8,687
Number of cows contributing to creameries....	41,543
Number of cows contributing to cheese factories,	3,890
Total	45,433
Sum paid patrons of creameries for cream.....	$1,420,600 25
Sum paid patrons of cheese factories for milk...	50,649 75
Total	$1,471,250 00
Number of pounds of butter manufactured.....	4,273,750
Number of pounds of cheese manufactured.....	562,775
Number of gallons of cream sold by creameries,	1,115,236

Value of product of creameries	$1,939,892 75
Value of product of cheese factories	61,905 25
Total	$2,001,798 00
Capital invested in creameries	$189,000 00
Capital invested in cheese factories	33,828 00
Total	$222,828 00
Number of laborers and gatherers for creameries,	499
Number of laborers and gatherers for cheese factories	47
Total	546

The largest sum paid per cow for cream for one year was $108, and the smallest $22.

ITEMS OF INTEREST DEDUCED FROM THE RETURNS.

Butter and Cream.

Of the fifty-four creameries in the State we find sixteen combined with other creameries in the nature of branches, so that fifty-four creameries are represented by thirty-eight creamery plants. The large increase in the cream trade in recent years has had a tendency towards combination and we find nearly all the branch creameries engaged in the work of collecting and forwarding cream to the creamery of which each forms a part. There were sold from the creameries last year 1,115,236 gallons of cream, a large portion of this going to Massachusetts, and some to Rhode Island.

In speaking of the thirty-eight establishments embracing fifty-four creameries, we shall use the word plant to denominate each establishment. Of these thirty-eight plants, then, we find that twenty-nine are proprietary and nine co-operative. The total capital invested in plants is $189,000. Fifteen of the plants make butter only, while the remaining twenty-three all make butter and sell cream except one, which makes no butter but devotes itself entirely to selling cream. Another of the twenty-three plants, having seven branches, makes the selling of cream its principal business, the amount of butter it makes being comparatively small. The return from one of the strictly butter

plants was somewhat defective and is omitted in the following calculations.

Fourteen plants, making butter only, yield the following results: Number of pounds of butter per cow for the year at each plant, 103 lbs., 133 lbs., 150 lbs., 151 lbs., 151 lbs., 152 lbs., 155 lbs., 170 lbs., 171 lbs., 171 lbs., 181 lbs., 193 lbs., 220 lbs., 267 lbs. The average amount paid by these plants for cream per pound of butter fat was 22½ cents.

These fourteen plants with 5,450 cows manufactured 894,933 pounds of butter, or an average of 164 pounds per cow. The average price received by these fourteen plants per pound for butter was 22¾ cents, or $38.95 per cow. Thirteen of these plants with 5,345 cows paid $161,912.35 for cream, or an average of $30.29 paid to patrons per cow, and the amount paid to patrons for cream sufficient to make one pound of butter averaged 18.47 cents. Three plants with 2,135 cows made 389,430 pounds of butter, or 182 pounds per cow. One plant made 268 pounds of butter per cow. The foregoing fourteen plants average 63,924 pounds of butter each. As far as we could learn, cream is bought by the butter factories instead of milk. It will be noted that these fourteen strictly butter plants are small establishments, the number of cows averaging 389 to a plant, while taking the thirty-eight creamery plants as a whole, they average 1,093 cows to a plant. They are generally located off the main lines of transportation, where the shipping of cream would be inconvenient and expensive and where for that reason the prices paid for cream are lower than at convenient shipping points.

The twenty-three plants which make butter and also sell cream, report 35,961 cows, and $1,240,575 paid for cream, or $34.50 paid to patrons per cow. These plants received for butter and cream sold $1,574,554, or $43.78 per cow. The whole amount of cream sold by these twenty-three plants is 1,115,236 gallons and the value of cream sold is $762,881 or 68½ cents per gallon, on the average. Five plants sold 921,910 gallons of cream at an average of 69 cents per gallon. One plant sold 260,384 gallons of cream, receiving therefor $195,289, or 75 cents per gallon. Several plants sold cream at $1.00 per gallon, and one plant reports cream sold at $1.50 per gallon. The price of cream varies according to the per cent. of butter fat it contains.

The thirty-eight plants report 7,887 patrons and 41,543 cows, or about five and one-fourth cows to a patron on the average. The amount paid patrons for cream averages $34.20 per cow, and the total value of productions, including waste product, averages $46.70 per cow. The prices paid for cream per pound of butter fat vary somewhat, ranging from 20 cents to 25 15-17 cents, the average being about 23 cents. In the matter of breeds we find by the answers returned that the Jersey cow is still the favorite for dairy purposes. The number of laborers in the thirty-eight plants is 499, including those in the factories and the collectors of cream. The average wages are $1.53 per day for all classes, but those in the factories receive from $1.75 to $2.00 per day, while collectors as a general thing are paid by the week or the month. In many cases the collectors receive $30 per month if they find their own team, and from $20 to $25 per month if the plant finds the team. One plant, which employs 160 laborers in all, pays them uniformly $50 per month, the entire wages for the year amounting to $96,000. We found no establishment making both butter and cheese, as was the case formerly to some extent. The great demand for cream from our summer resorts, also from Massachusetts and other states, is revolutionizing the whole creamery business, and the prospect now is that the cream trade will increase rather than diminish. The outlook for the creameries in Maine is very encouraging.

In 1895 this bureau made an investigation of the creamery business of Maine by sending blanks through the mails, and although some plants failed to make returns and the returns received were in some cases defective, yet from the definite data received certain results were obtained. The comparison of these results with like results obtained in the present investigation, which is given below, will be of interest from the fact that the figures show so slight a variation.

In 1895, eighteen creamery plants with 8,065 cows, paid for cream an average of $34.22 per cow, while in 1901, thirty-eight creamery plants with 41,543 cows, paid for cream an average of $34.20 per cow.

In 1895, the average price received by the factories for butter was 22½ cents per pound, while in 1901 the average price received was 22¾ cents per pound.

In 1895, ten plants with 4,515 cows, making butter exclusively, manufactured on the average 166 5-7 pounds per cow, while in 1901, fourteen plants with 5,450 cows, making butter exclusively, manufactured 164 pounds per cow.

In 1895, ten plants with 4,515 cows, making butter exclusively, paid for cream an average of $30.99 per cow, while in 1901, thirteen plants with 5,345 cows, making butter exclusively, paid for cream an average of $30.29 per cow.

In 1895, ten plants with 4,515 cows, making butter exclusively, paid for cream sufficient to make one pound of butter, 18.6 cents, while in 1901, thirteen plants with 5,345 cows, making butter exclusively, paid for cream sufficient to make one pound of butter, 18.47 cents.

Cheese.

At one time, some twenty-five years ago, sixty cheese factories were to be found in the State of Maine, while to-day there are sixteen in operation. The capital invested in the sixteen factories aggregates $33,828, or an average of $2,114 per factory. Five of the factories are proprietary and eleven of them co-operative. These factories have 800 patrons and 3,890 cows, or 4⅞ cows to a patron on the average. The whole product of the sixteen factories was 562,775 pounds of cheese. The average number of pounds per cow in the different factories was as follows: 89 lbs., 108 lbs., 127 lbs., 128 lbs., 133 lbs., 138 lbs., 140 lbs., 140 lbs., 144 lbs., 160 lbs., 160 lbs., 166 lbs., 167 lbs., 169 lbs., 170 lbs., 180 lbs. As the length of running time is not uniform in this industry, the variations in the amount of cheese made per cow in the different factories is due more to the length of time run than to the daily average of milk furnished per cow.

The average number of pounds per cow in all the factories was 144⅔. The average number of cows per factory was 243. The milk for this 562,775 pounds of cheese cost $50,649.75, or 9 cents per pound of cheese manufactured. There were received for the product $61,905.25, or an average of 11 cents per pound. The amount paid patrons for milk for the season of about four months averaged $12.66 per cow, and the total value of production, including waste product, averaged $15.47 per cow. Six factories with 1,600 cows produced 267,100 pounds of cheese, or 167 pounds per cow.

The wages of the 47 operatives in the cheese factories, including the milk collectors, averaged about the same as in the creameries, that is, in the factories the operatives received generally from $1.75 to $2.00 per day, while collectors received from $20 to $30 per month. The factories operated on the average about four months, and .the total amount paid in wages was $6,772. All wages mentioned in these dairy articles are regarded as exclusive of board.

The market for the cheese manufactured is mostly in this State and the supply is not equal to the demand. One or two of the returns from cheese factories gave a rather pessimistic view of this industry while the remainder spoke in terms of encouragement. Whether the cheese industry is profitable or not to the patrons may be a question, but there is no question as to the profitableness of manufacturing butter and selling cream in associated dairying.

GENERAL ITEMS.

Of the whole number of cows contributing to the factories, the Jerseys constitute seven-twelfths. The remaining five-twelfths is divided between the Ayrshires, Holsteins, Guernseys, Herefords and a few Durhams.

The Cooley cans are still mainly used by patrons for separating cream, although some owners of large herds use separators. In the principal dairy states, separators are now mainly used, and the use of them is constantly on the increase.

Under the direction of the officers of the State Dairymen's Association and by vote of its members, a cream and milk testing station has been established and is now in operation in Auburn. This furnishes a place where the composite samples of every patron can be sent and tested by expert workmen who stand between the sellers and the buyers. This testing station is located in the fine building of the Turner Center Dairying Association, and is in charge of Prof. Purinton. He does all the testing for the 2,500 patrons of the Turner Center Association, to the entire satisfaction of all concerned, and he stands ready to do the testing for all patrons in the State. As far as we could learn, the proprietors of factories would prefer that the testing

should be done by disinterested parties. In the testing station in Auburn the Babcock test only is used.

The shipping of milk and cream from this State to Massachusetts and Rhode Island has grown to large proportions. Last year there were sold from Maine factories 1,115,236 gallons of cream, and the greater part of this quantity went out of the State. In Boston and Providence, also in some other cities, local dealers in milk and cream display signs bearing the words, "Maine Cream for Sale Here," thus proving that in the quality of cream the State of Maine leads. The principal shipping points are Portland, Bangor, Belfast, Ellsworth, Waterville, Gardiner, Livermore Falls and Winthrop. Cream intended for the retail trade is generally made to test from 42 to 45 per cent. of butter fat. Such cream is largely obtained by running fresh, thin cream through separators. If it is not all Pasteurized it should be. Of course cream commands different prices according to its thickness, so we find the prices ranging from fifty cents to one dollar and fifty cents per gallon. The demand for cream from our own summer resorts increases yearly, while the demand from other states can hardly be met with the present supply. Large quantities of milk are also shipped out of the State, especially from along the lines of the Boston and Maine railroad in York county. At one time last summer 400 gallons of milk and 600 of cream were being sent to Massachusetts daily from the town of Winthrop. There would seem to be great possibilities for our farmers and dairymen in this matter of producing and selling cream.

By the returns we find that there were manufactured in the factories 4,273,750 pounds of butter last year. The market for this great production is largely local, our own summer resorts requiring enormous amounts. Still a great deal of butter is sent from Maine to Boston and other Massachusetts cities, also to Providence, New York and even to Chicago. The only creamery reporting shipments of butter to Chicago is the Poland factory, but very many reported shipments to Massachusetts, New York and New Hampshire.

Aroostook county has not as yet given much attention to Dairying, but there are several factories there, one of which deserves honorable mention. The Pine Tree Creamery Com-

POLAND CREAMERY, POLAND.

pany, of Sherman Mills, was the only dairy company in Maine to receive a gold medal at the World's Fair in Paris in 1900. This company also took first prize at the Eastern Maine Fair at Bangor in the fall of 1900, for print butter, and also first prize for tub butter.

The prices received for butter vary greatly, ranging from 17 cents to 30 cents per pound. We found one factory that had not sold any butter for several years at a less price than 25 cents per pound, and the price has oftener been 30 cents per pound. The market for this factory's product is entirely local. Our increasing summer resort business is bringing Boston prices to our very doors, and the dairymen of Maine have only to rise to the situation in order to make the Pine Tree State one of the must successful dairy states in the country.

The market for the cheese manufactured in Maine is mostly local, and the supply is not equal to the demand. A considerable number of the cheese factories are conducted on the co-operative plan, the result being highly satisfactory. There is no good reason why Maine butter and Maine cheese should not command the highest prices. Cream to be manufactured into butter should be gathered fresh and then Pasteurized. Let patrons and proprietors adopt this rule and adhere to it and the products of our factories will stand as high in our own and other markets as the dairy products of other states.

THE POLAND DAIRYING COMPANY.

The Poland factory makes all the butter used at the Poland Spring House, which famous summer resort requires from 250 to 300 pounds of butter daily during the season. This factory is up to date in every particular. The apparatus is the latest and most improved, and the most absolute cleanliness prevails throughout the building. The present building was erected two years ago. The owners contemplate building a piggery capable of accommodating 100 hogs, thereby utilizing all the waste from the factory. The number of cows has increased 30 per cent. in the vicinity since the establishment of the creamery, and the value of the farms has nearly doubled.

WATERFORD CREAMERY COMPANY.

The Waterford Creamery Company, at South Waterford, stands high as a butter maker. It was awarded a gold medal at the National Creamery Buttermakers' Convention at St. Paul, Minnesota, for highest score in the gathered cream class, in February, 1901. Also it had the highest score, 97¼, and was awarded the first premium, $40, at the New England Fair in 1900. The same year it had the highest score, 98, and was awarded the first premium, $60, at the Maine State Fair at Lewiston. It also had the highest score, 97½, on creamery butter at the Maine State Dairy Conference in 1900. It has received other prizes and awards at various times, all of which shows that Maine can compete with any state in the Union in the manufacture of excellent butter when her dairymen comply with the necessary conditions. The number of cows in the vicinity of the Waterford Creamery has more than doubled since the building of the factory, and the farms have noticeably increased in fertility and value during the same period.

TURNER CENTER DAIRYING ASSOCIATION.

The Turner Center Dairying Association is the largest dairying establishment in Maine, and is said to be one of the three largest in the United States. It is a corporation with an authorized capital of $500,000. Its officers are H. C. Haskell, president; Geo. B. Bradford, clerk; L. P. Bradford, treasurer; E. L. Bradford, manager. Its dairying plants are situated in Turner and Auburn, the most extensive being in Auburn. This concern has 2500 patrons, and the number of cows contributing is approximately 12,000. During the year ending Nov. 30, 1900, it paid out for cream $447,855. It manufactured during the same time 1,482,332 pounds of butter, and sold 260,384 gallons of cream. It received for cream sold $195,289, and the total value of its output was $543,529. It employs 160 hands including cream gatherers or collectors. The large and finely equipped building in Auburn, of which we present a cut on another page, was erected in the spring of 1899. It has every modern appliance in the way of dairy apparatus and machinery, and a walk through the building shows the most perfect system, skill and

TURNER CENTER CREAMERY, AUBURN.

DAIRY PRODUCTS OF FARMS IN MAINE.

In the preceding pages we have dealt with the dairy products of the factories, we will now consider briefly the dairy products of the farms.

The United States Census of 1900 gives the number of farms in Maine representing dairy cows as 49,161, and the number of dairy cows, 173, 592. The number of cows here given is 29,-261 more than the number returned for the same year to the Maine State Assessors' office by the local assessors of the several cities, towns and plantations of the State. The assessors, however, returned 27,289 three-year-olds and 50,151 two-year-olds, a total of 77,440. Considering that the number of steers raised in Maine is comparatively small, it would seem reasonable to expect to find among the 77,440 three and two-year-olds enough cows to make up the deficiency.

The total amount of milk produced on these farms for the year was 99,586,188 gallons, or an average of 573 gallons per cow, which would be a little over six and one-half quarts per day per cow, provided they were in milk the full year. There were sold from the farms during the year 15,979,003 gallons of milk and 2,816,733 gallons of cream including what went to the cheese factories and creameries.

There were manufactured on the farms 16,174,173 pounds of butter, of which 11,030,091 pounds were sold. There were also 425,102 pounds of cheese manufactured on farms, of which 365,-936 pounds were sold. The value of dairy products consumed on the farms amounted to $2,561,239, and the grand total of all dairy products of the farms in the State, for the year, is given as $8,182,344 in value. The accompanying table will show the volume and value of the dairy business on the farms of the State in detail by counties.

TABLE SHOWING THE DAIRY PRODUCTS ON THE FARMS OF MAINE.

Counties.	Number of farms reporting dairy cows.	Number of dairy cows.	Milk.		Butter.		Cheese.		Cream.	Total value of all dairy products.	Value of dairy products consumed on farms.
			Gallons produced.	Gallons sold.	Pounds produced.	Pounds sold.	Pounds produced.	Pounds sold.	Gallons sold.		
The State	49,161	173,592	99,586,188	15,979,003	16,174,173	11,030,091	425,102	365,936	2,810,733	$8,182,344	$2,561,239
Androscoggin	2,425	12,413	7,839,200	1,199,233	893,872	695,665	99,173	93,924	513,651	$656,452	$126,242
Aroostook	6,020	15,911	7,563,810	1,064,968	1,476,695	686,144	30,019	24,492	8,534	616,942	332,959
Cumberland	3,914	15,374	9,667,516	2,577,175	1,615,677	1,273,938	10,696	10,110	157,262	944,583	202,191
Franklin	2,115	7,790	4,172,724	284,060	650,946	430,596	37,185	30,220	167,807	334,399	134,271
Hancock	2,405	5,613	3,322,773	627,822	627,136	234,811	301	170	26,940	281,039	110,576
Kennebec	4,218	16,904	9,769,494	1,318,404	1,656,521	1,216,474	50,240	42,025	325,201	734,585	162,746
Knox	1,670	5,111	3,129,500	470,400	632,070	429,000	2,220	630	26,980	283,543	96,659
Lincoln	2,275	4,970	2,860,898	144,385	616,767	229,027	291	100	21,363	219,502	123,423
Oxford	3,736	16,861	9,824,093	1,212,612	950,935	699,126	46,733	40,130	659,963	716,837	209,483
Penobscot	5,258	20,526	11,644,242	2,684,463	1,709,062	1,138,265	12,337	9,524	347,220	1,002,881	261,856
Piscataquis	1,589	5,578	3,189,300	277,702	644,062	450,738	13,501	9,579	62,467	246,993	86,567
Sagadahoc	970	3,379	2,074,007	328,345	414,995	315,744	554	462	19,247	202,172	58,544
Somerset	3,778	14,426	7,823,506	845,360	1,240,070	903,210	97,870	83,170	276,434	548,799	188,316
Waldo	3,088	10,207	5,635,700	635,901	999,460	683,320	23,360	21,300	125,200	421,741	159,492
Washington	1,772	4,952	2,794,982	282,957	612,504	415,939	-	-	3,136	241,344	103,067
York	3,930	13,597	8,274,449	2,024,282	1,428,361	1,028,092	622	100	69,328	728,532	205,057

An examination of the statistics relating to the farms and those relating to the factories will show that the dairy business of Maine is one of its largest and most important industries. But large as are the dairy interests of the State, Maine cannot yet be considered as one of the large dairy states of the country. By way of comparison we add some interesting statistics of the dairy interests of the states of Vermont, Minnesota and Wisconsin, and of the Dominion of Canada.

VERMONT.

The State of Vermont has 183 creameries and 61 cheese factories. Vermont has about 35,000 farms, with 3,286,461 acres of improved land, or more improved land than the State of Maine. Vermont has 217,033 cows, and produced in 1890, 25,245,826 pounds of butter and 6,121,130 pounds of cheese.

MINNESOTA.

Minnesota is another great dairy state. We select this state because it lies as far north as Maine and its climate is considered even more rigorous. This state has 654,234 cows. It has 635 creameries and 60 cheese factories. The product of the creameries last year was worth $15,779,309, and of its cheese factories, $252,712. The state had a splendid exhibit of dairy products at the Pan American exposition at Buffalo, and among other things, exhibited a model of the state capitol done in butter, of which 1,400 pounds were required. This model attracted great attention, both on account of its artistic beauty, and also as a specimen of pure creamery butter. In conversation with the assistant dairy commissioner of Minnesota, we learned that since the establishment of the creameries, the patrons have increased and improved their herds of cows, have paid the mortgages on their farms, have added greatly to the fertility and value of the same, have erected beautiful houses and comfortable farm buildings, have furnished their houses well, and have given their sons and daughters liberal educations, and he attributes the greater part of these desirable results to the development of the dairy industry.

WISCONSIN.

The biennial report of Hon. H. C. Adams, the Dairy and Food Commissioner of the great dairy state of Wisconsin, presents these wonderful facts for the year 1900 for that State. "Butter produced at the factories, 80,000,000 pounds, worth $16,000,000; cheese produced at the factories, 60,000,000 pounds, worth $6,000,000; milk and cream consumed on farms, worth $8,400,000; increased value of cows, $2,500,000; making a total value of dairy products, $32,900,000." There are 1,500 creameries in the State and as many cheese factories. The commissioner goes on to say that the State contains 50% more cows than ten years ago, the number at present being 1,000,000, also that they average better in breeding and in economic milk-producing quality. Unprofitable cows are being weeded out, and the cow that can produce 300 pounds of butter per year is becoming a more familiar figure.

DOMINION OF CANADA.

The Dominion of Canada is noted for its dairy products. From a letter received from Hon. J. A. Ruddick, Chief of the Dairy Division in the department of Agriculture, we quote the following facts:

Number of cheese factories in Canada, 2,542; number of creameries, 765; number of combined butter and cheese factories, 454. There were exported in the season of 1900, 205,961,360 pounds of cheese, valued at $19,750,000. The exports of butter for the same period amounted to 26,000,000 pounds, valued at $5,222,000. The estimated annaual production of milk in Canada is 432,600,000 gallons, valued at $38,000,000. Anyone who has travelled through Canada must necessarily have taken notice of the large herds of fine lookng cows on almost every farm. Canada is essentally a stock-raising country, and her exports of dairy products through the port of Portland in our State reach enormous figures.

Facts concerning dairy products from Ohio, New York, Michigan, Indiana, Illinois, Iowa, Missouri, Kansas and Nebraska might be quoted *ad infinitum,* but examples enough have been given to prove conclusively that dairying, when carried on intel-

ligently, is a safe and lucrative business. The person who succeeds today in any branch of agriculture must have a special training for that branch, and dairying calls for skillful technical training as much as does any profession or callling in the world.

STATES HAVING DAIRY COMMISSIONERS.

All of the great dairy states have either a dairy commissioner, a dairy bureau, or a food commissioner, while many other states not classified as dairy states have also daiiry commissioners. Following is a list of the states having dairy commissioners or departments with equivalent duties assigned to them.

California has a dairy bureau consisting of three citizens experienced in the manufacture of dairy products; period of office, four years; no compensation. They have charge of the inspection of live stock and the investigation of dairies and creameries for unsanitary conditions. They must include statistical matters in their annual reports.

Colorado has a dairy commissioner appointed by the governor, who must be a practical dairyman; period of office, two years. It is his duty to see that the state diary laws are complied with.

Connecticut has a dairy commissioner appointed by the governor; period of office, two years. His duties are similar to those of the dairy commissioner in Colorado.

Illinois has a state food commissioner, appointed by the governor; period of office, four years. His authority extends to all foods. He has two assistant commissioners, one an expert on dairy products, the other a chemist to be known as state analyst.

Indiana has a state inspector of foods, with authority to enforce the pure food laws of the state.

Iowa has a dairy commissioner appointed by the governor; term of office, two years. Milk dealers in cities must register with the dairy commissioner and receive permits from him. Tests of milk in factories must be accurate; certified test bottles are furnished by the commissioner.

Massachusetts has a dairy bureau consisting of three members of the board of agriculture, designated by the governor. Their duties are the same as those of a dairy commissioner.

Michigan has a dairy and food commissioner, appointed by the governor; term of office, two years. His authority extends to all

food and drink products. He must make detailed annual reports to the governor, and also issue popular monthly reports on foods, adulterations, etc.

Minnesota has a dairy and food commissioner, appointed by the governor; term of office, two years. His authority extends to all foods. He must make biennial reports to the governor, also issue frequent bulletins.

Missouri charges its board of agriculture with the enforcement of its pure food laws and the oversight of dairy products.

In Nebraska the governor of the state is food commissioner, and he appoints a deputy commissioner who must have a knowledge of dairy products. The deputy commissioner reports annually to the governor.

New Jersey has a dairy commissioner appointed by the state board of health. His authority extends to all foods.

New York has a commissioner of agriculture appointed by the governor; term of office, three years. He may appoint five expert butter and cheese makers to inspect factories, give instruction, etc. He may also appoint assistant commissioners, chemists, agents, clerks, etc., and fix their compensation. The dairy laws of New York are very full and explicit.

North Dakota has an assistant dairy and food commissioner, appointed by the commissioner of agriculture. He must be familiar with dairy products. He must make reports biennially. He acts also as director of farmers' institutes.

Ohio has a dairy and food commissioner elected by the people at the general elections; term of office, two years. His authority extends to all foods and drugs, and he may appoint and fix the compensation of experts, chemists, agents, etc. The appropriation for this department in 1900 was $50,340.

Oregon has a dairy and food commissioner elected by the people. He shall enforce the pure food laws, inspect creameries and give dairy instruction. He may appoint and fix the compensation of one deputy in each county.

Pennsylvania has a dairy and food commissioner, who shall have practical experience in the manufacture of dairy products. He is appointed by the governor and his term of office is four years. He makes a detailed annual report and his authority extends over all food products.

Utah has a dairy and food commissioner appointed by the governor; term of office, two years. His authority extends to all foods and drinks, and he makes biennial reports to the governor.

The State of Washington has a dairy and food commissioner, appointed by the governor. His term of office is four years. He may appoint six deputies at $3 per day. His authority extends to all food products.

Wisconsin has a dairy and food commissioner appointed by the governor. His term of office is two years. He may appoint an assistant commissioner, a chemist and a clerk, also an inspecting agent. His authority extends to all foods, drinks and drugs. He shall make biennial reports to the governor.

Many of the remaining states have very stringent laws in regard to milk products and the adulteration of foods and drinks.

The State of Maine has no food or dairy commissioner, but its pure food laws are stringent and when faithfully enforced would seem to be ample for the protection of the public. Below we present an abstract of the dairy laws of Maine.

The milk standard is 12 per cent solids, 3 per cent fat. All glassware used for testing milk delivered at factories must be tested for accuracy under the direction of the director of the experiment station. Specific gravity of sulphuric acid used in testing milk or cream must be at least 1.82. Persons using the Babcock test for apportioning the value of milk or cream must hold a certificate from the superintendent of the dairy school of the State College of Agriculture.

Skimmed milk must not be sold as pure milk. The sale of adulterated milk or diseased milk, and that from cows fed on distillery or brewery refuse, etc., is prohibited. Milk inspectors shall be appointed in towns of more than 3,000 inhabitants, and may be appointed in smaller towns. They are required to keep a record of the names and addresses of all dealers. Butter and cheese are defined as the products usually so called and manufactured exclusively from milk or cream, with salt and rennet, and with or without coloring matter. Any article in imitation of yellow butter or cheese and not made exclusively of milk or cream is prohibited.

THE PAN AMERICAN TEST.

In this connection we will present some facts obtained at the Pan American Exposition. As is well known, tests of different breeds of cows were made there, the tests lasting a week, and the results being posted at the rear of each cow's stall. We noted the following:

Guernsey, Cassiopeia.

Pounds of milk per week, 207.3.
Per cent. of butter fat, 4.45.
Pounds of butter, 10.85.
Value at 25 cents, $2.71.

Jersey, Gypsy.

Pounds of milk per week, 198.7.
Per cent. of butter fat, 4. 45.
Pounds of butter, 10.40.
Value at 25 cents, $2.60.

Ayrshire, Pearl. Canadian.

Pounds of milk per week, 229.7.
Per cent. of butter fat, 3.8.
Pounds of butter, 10.26.
Value at 25 cents, $2.56.

Holstein, Beauty.

Pounds of milk per week, 299.5.
Per cent. of butter fat, 3.5.
Pounds of butter, 12.33.
Value at 25 cents, $3.08.

Shorthorn, Miss Molly.

Pounds of milk per week, 249.6.
Per cent. of butter fat, 3.55.
Pounds of butter, 10.42.
Value at 25 cents, $2.60.

Dutch Belted, Belle of Warwick.

Pounds of milk per week, 216.
Per cent. of butter fat, 4.2.
Pounds of butter, 10.67.
Value at 25 cents, $2.67.

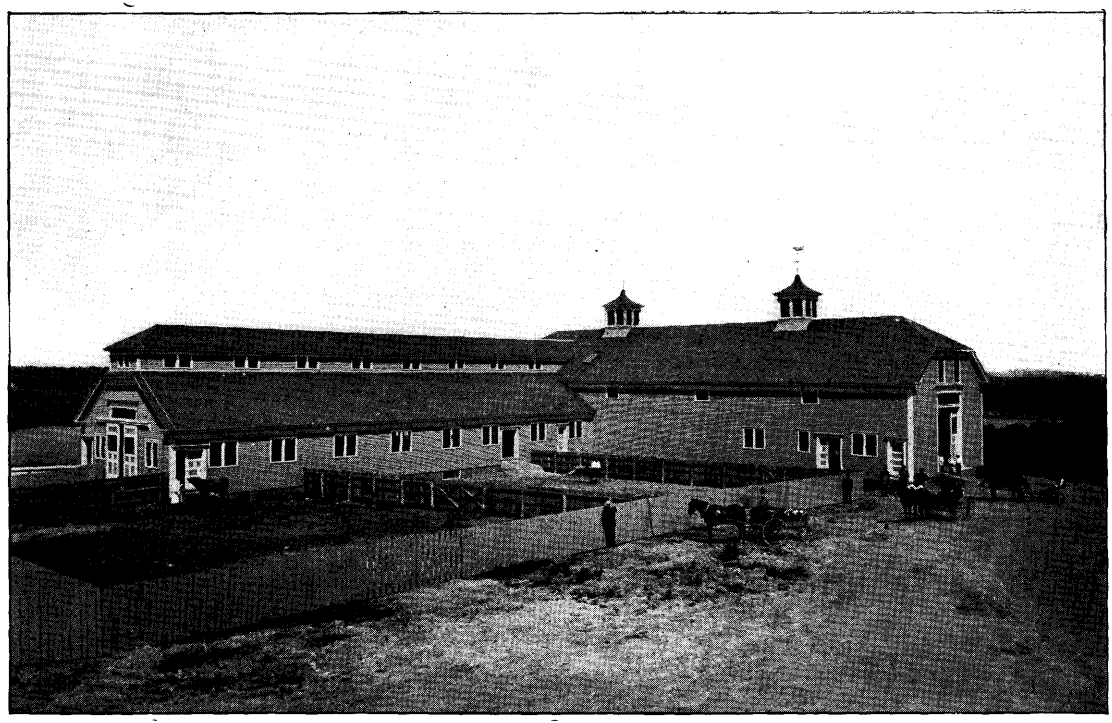
An examination of the above tests discloses the fact that the Holstein cow, "Beauty," led in the quantity of milk produced and in the amount of butter made, but that she stood lowest in the per cent. of butter fat. The Guernsey cow, "Cassiopeia," and the Jersey cow, "Gypsy," stood nearly the same in everything, with a slight difference in favor of the Guernsey in the quantity of milk produced. Which breed of cows would be most profitable would depend on the cost of keeping and several other considerations, such as value for beef, etc. In Minnesota and other parts of the West, the Durhams or Shorthorns are becoming favorite dairy cows, and doubtless they possess many excellent qualities.

There seems to be a growing impression among dairymen that the best cows should be able to produce 300 pounds of butter each annually, and examples could be cited where small herds of Jerseys, Guernseys, Ayrshires, Holsteins and Durhams have averaged 300 pounds of butter per cow for a year.

BREEDS OF DAIRY CATTLE.

The domestic cattle of the world are probably descended from one parent stock, but variations began at an early period. In various parts of the world there are now cattle so distinct in their characteristics as to justify their claim to be regarded as breeds, and these breeds exceed one hundred in number. The differences which chiefly distinguish the breeds of the present day are the result of artificial treatment by man, the work of skillful breeders having definite objects in view. The different breeds of cattle to be found in the United States all came from Great Britain and the western portions of Europe. The principal breeds of dairy cattle in the United States at the present time are, Ayrshires, Brown Swiss, Devons, Guernseys, Dutch Belted, Holstein-Friesians, Jerseys, Polled-Durhams, Red Polls, Shorthorns and Herefords.

The Ayrshires originated in the county of Ayrshire in the southwest part of Scotland, a county that stretches 80 miles along the lower portion of the river Clyde and the Irish sea. The first Ayrshires in America were brought to New York in 1822. They were imported into New England in 1830 and into Canada in 1837. Some of the characteristics of the Ayrshires are as follows: The natural hardihood of constitution renders



COW BARN OF HIRAM RICKER & SONS, SOUTH POLAND.

these cattle admirably adapted to grazing on broken and rugged pastures and in more severe weather than would be conducive to the well-being of cows of some other breeds. It is the characteristic of the Ayrshire that she carries her weight only and lives only to serve dairy interests with the utmost economy in the utilization of food, yet she responds promptly and profitably to liberal feeding. Ayrshires are of medium size, the cows weighing from 900 to 1,100 pounds, averaging probably 1,000 pounds. They are short legged, fine boned and very active. The prevailing color of the body is red and white, variously proportioned; in spots, not mixed. The Ayrshire cow is a large and persistent milker. A yield of 5,500 pounds a year, as an average for a working herd in good hands, is depended upon and often realized. In the records of one herd the milk averaged 4¼ per cent of butter fat, and the cows averaged 353 pounds of butter each in one year.

The Brown Swiss, as the name implies, came from Switzerland. They were first imported into the United States in 1869. They are not numerous, but where they have become known they have made a very favorable impression among the dairymen. The cows weigh from 1,200 to 1,400 pounds, and often more. They are brown in color, but the brown runs through various shades and often into a mouse color. They give a generous flow of milk and hold out well. Six thousand pounds per cow in a year is a common record, and single instances are known of 8,000 and even 10,000 pounds. The milk averages from 3½ to 4 per cent of butter fat. These cattle are good for beef as well as for the dairy, and the flesh is said to be fine-grained, tender and sweet.

The Devons came from Devonshire in the southwestern part of England, and were among the very first cattle that were brought to this country. The characteristics of the Devon are compactness and general beauty, hardiness, activity, intelligence, docility, aptitude to fatten and quality of milk. They are red in color, varying from a rich dark red to pale chestnut, but no black or white except sometimes a little white hair in the switch of the tail. These cattle do well in the most hilly and rigorous parts of New England. As a rule the Devons do not yield large quantities of milk and are not persistent milkers, yet some specimens

bred and selected for dairy purposes have made good records, producing 40 and even 50 pounds of milk per day. The milk is rich in quality with a large per cent of butter fat and total solids. The Devons are considered good beef producers in the United States, but are not regarded as good as other breeds for dairy purposes.

The Dutch Belted cattle came from Holland and are jet black in color, with a broad band or belt of pure white encircling the body. As milk producers the belted cows seem to give good satisfaction, although the milk is not above the average in quality. The claim of a leading breeder is that these cattle are deep milkers, practical, profitable, thrifty, and picturesque in the extreme when seen as a herd in the pasture.

The Guernseys came from the island of Guernsey in the English channel and were first brought to this country about the year 1850. They were at first known as Alderneys, but between 1870 and 1875 they became known as a distinct breed. The breed has steadily increased in numbers and as steadily grown in favor wherever introduced. The Guernseys are a size larger than the Jerseys, stronger boned, and a little coarser in appearance. They are light in color, yellow and orange predominating, with considerable white, usually in large patches on the body and on the legs. The cows of this breed produce liberal quantities of milk and it is of uncommon richness in butter fat and in natural color. They are to be especially recommended as butter cows as well as for market milk where quality secures a relatively high price. They possess great power of assimilating food and converting it into milk, yet they are delicate feeders rather than gross. Many records of the production of Guernseys in this country have been made. One herd of 104 animals of all ages gave 5,317 pounds of milk and 318 pounds of butter per head in a year. Another herd of fifteen cows made a record of 6,626 pounds of milk and 418 pounds of butter. The mixed milk of this breed is often found to average fourteen to fifteen per cent of total solids and five to six and one-half per cent of butter fat. On the island of Guernsey the beef of the native cattle is highly prized, and young cattle are said to fatten easily at a profit.

In the great dairy test at the Pan-American Exposition, the Guernseys finished in the lead on the six months' trial. The

three highest cows in the entire lot of fifty were Guernseys. The Guernseys won both prizes, for butter fat and churned butter, which are the principal requisites for a dairy cow.

The strongly marked black and white cattle of North Holland and Friesland constitute one of the oldest and most notable of the dairy breeds. Holland has been noted for its dairy products for a thousand years, and the great bi-colored beasts upon which this reputation has been gained have been slowly but surely developing their present form of dairy excellence. These cattle have been known by several different names both in Europe and America, as Holland cattle, Dutch cattle, Holsteins, Dutch-Friesians, Netherland cattle and Holstein-Friesians, but now they are usually denominated simply Holsteins.

The Holsteins were imported into this country for dairy purposes in 1857 and since that time they have increased rapidly by importations and by breeding and are now found in all parts of the country. The striking features in the appearance of this breed are the color markings of black and white and the large size of the animals. In size the Holsteins are the largest of all the dairy breeds. The cows range in weight from 1,000 to 1,500 pounds, averaging about 1,250 pounds. The breed is famous for enormous milk producers. Records are abundant of cows giving an average above their own live weight monthly for ten or twelve consecutive months. One herd of 12 cows averaged 8,805 pounds of milk each a year for four years. The milk of these large producers is, however, rather thin, low in percentage of total solids, and deficient in butter fat. The cows are favorites for dairymen doing a milk supply business, when the product is not below the standards fixed by state and municipal laws. There are on the other hand many cows with fine records as butter producers, and entire herds of good size have averaged over 17 pounds of butter each per week. One herd averaged 308 pounds of butter per cow annually for four years. The Holsteins are found in large numbers in Massachusetts, Connecticut, New York, Pennsylvania, Ohio, Indiana, Michigan, Wisconsin, Minnesota, Iowa, Missouri, Nebraska, Kansas, Colorado and California.

The Jerseys originated in the island of Jersey in the English channel. A few Jersey cattle, then known as Alderneys, were

brought to the United States prior to 1840, but inportations did not become active till after 1850. From that time to the present, however, the Jersey cattle have increased so rapidly in America that no other breed is so numerous wherever dairy cows are kept, from the St. Lawrence to the Gulf of Mexico, and from ocean to ocean. The Jerseys are the smallest in size of the noted dairy breeds, the cows ranging from 700 to 1,000 pounds in weight. In color the breed varies more than any other, from brown to deep black, various shades of yellow, fawn, tan and creamy white; also mouse color, squirrel gray, light red and a few brindle. The Jersey cows are noted for persistence in milking, making a long season of profit, with great evenness of product until near its close. Herd records are numerous. One herd of 25 cows showed an average yield of 5,668 pounds of milk and 342 pounds of butter per cow in a year. The characteristic of the milk of this breed is a high percentage of total solids, especially of butter fat. From 4 to 5 per cent of butter fat is a usual rate, and in many instances the rate is higher. Good herds are depended upon to produce from 350 to 400 pounds of butter for every milking animal fed the full year. Jerseys are heavy feeders and have great capacity for assimilating and turning to profit all kinds of cattle forage. The Jersey cow is essentially a machine for producing milk, butter making milk. The owner should depend for profit solely upon the produce of the cow while she is alive.

Polled Durhams comprise the only breed of cattle which has originated in America. Red is the prevailing color. They should be, and generally are, classed as belonging to the beef breeds; yet so many animals of dairy excellence appear among them that they are not out of place in this list. At the Columbian exposition in Chicago the Polled Durhams were entered as "general purpose" cattle, and for that class they received the highest honor in competition with representatives of several other breeds of similar character.

The Shorthorns or Durhams originated in England in the county of Durham. They were introduced into this country soon after the Revolutionary War, first into Virginia and Kentucky. Now Shorthorns are more generally distributed throughout the country than any other breed. The Shorthorns are a beef breed and have been for generations; but there have always been good

dairy cows among them, and the Shorthorn herd in the famous dairy cow test at the Columbian Exposition made a most creditable record. In point of size the Shorthorns are probably among the largest among pure breeds of cattle. The cows will range from 1,200 to 1,600 pounds each in weight. The colors have always been red and white, with various blendings of the two. In milk and butter records the breed compares favorably with other breeds. One herd of 10 cows, from 3 to 12 years old, averaged 7,750 pounds of milk each in a year. The Shorthorn milk is of good quality, rather above the average. Herds of 40 cows have averaged 209 pounds of butter each in a year. A herd of 10 cows averaged 325 pounds of butter each in a year, and single cows have averaged much more. The Durhams or Shorthorns are found in large numbers in Wisconsin and Minnesota, and they are being introduced into Maine quite extensively.

A small number of Herefords were returned in answer to question 13 on the blanks. The Herefords originated in Herefordshire, England, and this breed of cattle is noted for its fine working qualities. It may develop into a good dairy breed also, but, unless we are misinformed, would hardly be classed with other breeds at the present time in essential dairy qualities.

The following table, showing some facts from tests of dairy cows at the World's Columbian Exposition in Chicago in 1893, will be interesting to dairymen:

Breed	Average per cent butter fat—per cent.	Average cost of food eaten per day—cents.	Average cost of producing 100 pounds of milk—cents.	Average cost of producing 1 pound butter fat—cents.
Ayrshire	3.60	14.5	78.5	21.5
Devon	4.60	10.3	94.0	20.5
Guernsey	5.20	13.5	82.8	15.8
Holstein	3.43	17.2	74.7	21.5
Jersey	5.40	13.9	94.7	17.4
Shorthorn	3.97	14.3	78.7	19.4

The man who is trying to form a dairy herd need not go far in this country to find the best breed for milk supply, the best for butter making, or the best for the cream trade. There is no special cow for cheese making; the best butter cow is the best for cheese; this fact has been demonstrated beyond dispute.

BARNS.

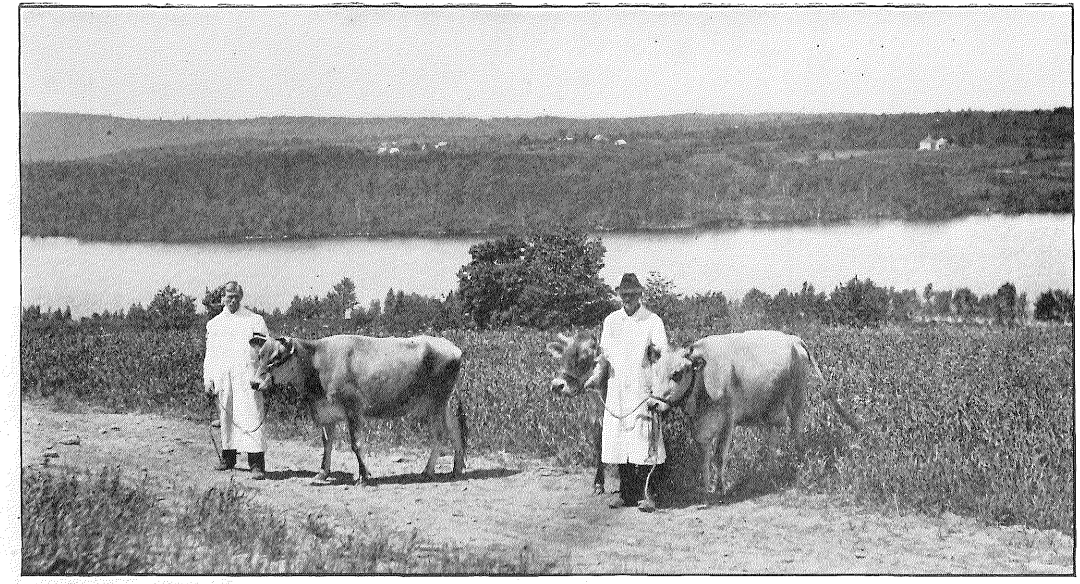
The intelligent and progressive farmer or dairyman has come to the conclusion that the large and lofty barn in which to keep cattle and crops, the manure and the farm implements, all within four rectangular walls and under one roof, can no longer be regarded as perfection. It is well to house all the forage, and a large storage building may be necessary. The best modern practice calls for a separate or slightly connected building for the cows, with no manure cellar under them, and preferably no forage above them. The cow house should be on the ground level rather than in the basement, and should be light, dry and roomy. We present a cut on another page of the fine cow barn of Hiram Ricker & Sons, erected two years ago at South Poland. The room for their magnificent herd of dairy cows is in a wing attached to the main building.

THE HERD OF HIRAM RICKER AND SONS.

The herd of Hiram Ricker and Sons numbered, when we were there last summer, 65 head, made up of carefully selected cows from several breeds. Of course the main purpose of this herd is to furnish pure milk and cream for the Poland Spring House. In the height of the season the house requires 60 gallons of cream daily. The cream is obtained by means of a separator run by steam power, located in a separate building near by. About two years ago Hiram Ricker and Sons purchased the Shaker farm situated about a mile from the Poland Spring House and will eventually increase their herd of cows to a hundred or more. It is hardly necessary to state that no poor or unprofitable cow will be retained in this herd.

THE HAY CROP OF MAINE.

In the year 1900 the number of acres mown in the State of Maine was 937,774, and the number of tons of hay harvested was 843,997. There was a falling off throughout the entire country in that year in the hay crop. The average number of acres mown in Maine for the last ten years would not vary much from 1,000,000, and the average amount of hay produced yearly during the same period would be about 950,000 tons. This is a low average per acre as compared with hay production in other



COWS FROM DAIRY HERD OF HIRAM RICKER & SONS.

states. In 1900 the State of Maine stood forty-first in the United States in the production of hay per acre, that is, forty states out of the forty-five in the Union produced more hay per acre than did Maine. In 1899 Maine stood forty-second in the production of hay per acre, and in 1898 it stood forty-third. In quality, however, the hay of Maine will compare favorably with that of any other state. But we find the great dairy states producing far more hay per acre than does Maine. The yield in Maine per acre in 1900 was .90 tons. Vermont yielded in that year 1.24 tons per acre, Ohio yielded 1.06 tons, Michigan, 1.29 tons, Indiana, 1.21 tons, Illinois, 1.27 tons, Wisconsin, 1.15 tons, Minnesota, 1.16 tons, Iowa, 1.42 tons, Missouri, 1.29 tons, Kansas, 1.32 tons, Nebraska, 1.38 tons, while nearly all of the Pacific states averaged over two tons per acre.

If we come down to towns in our State, we shall find that those towns where the creamery has been patronized for several years produce the most hay per acre. The special agent who investigated the dairy business for the bureau of statistics was in the town of Winthrop in the midst of the haying season, and he travelled through one neighborhood, the farmers of which all kept dairy cows. It is safe to say that not an acre of grass land was mown in that neighborhood which had not two tons or more of hay upon it. The same might be said of Skowhegan and of many other towns. Not only do the farms of patrons produce more hay, but they are generally free of mortgages, the houses and farm buildings are well built, handsome and comfortable, and there is a general air of thrift and prosperity around them.

In Vermont and other dairy states no patron of a cheese factory or creamery would think of depending on hay and meal only in feeding his herd of cows. The silo has come to be an important adjunct in the matter of preparing food for the dairy herd, and good, sweet ensilage is now relied upon as much as hay. In producing a high quality of ensilage, Maine can compete with any state. The fact is that Maine ought to have and could have four times as many creameries as she has to-day. The county of Aroostook is more than half as large as the state of Vermont and has a soil full as fertile and productive, yet Aroostook has only four small creameries and three cheese factories, while Vermont has 183 creameries and 61 cheese factories.

TABLE SHOWING HAY AND FORAGE CROPS OF 1899, IN MAINE, BY COUNTIES.

Counties.	Wild, salt and prairie grasses.		Millet and Hungarian grasses.		Alfalfa or lucern.		Clover.		Other tame and cultivated grasses.		Grains cut green for hay.		Forage crops.		
													Sown for forage.		Corn-stalks.
	Acres.	Tons.	Acres.	Tons.	Acres.	Tons.	Acres.	Tons.	Acres.	Tons.	Acres.	Tons.	Acres.	Tons.	Tons.
The State	17,874	16,051	4,676	7,754	93	108	6,781	8,963	1,214,124	1,027,258	14,212	20,967	12,494	52,831	2,842
Androscoggin	581	418	745	1,338	2	3	87	144	61,800	53,261	1,292	2,042	1,305	6,573	492
Aroostook	287	247	3	2	-	-	3,856	5,212	119,209	133,338	560	658	99	304	211
Cumberland	1,315	1,272	1,078	1,802	12	12	157	168	99,377	68,082	1,501	2,522	1,053	6,913	99
Franklin	428	343	452	780	2	4	306	412	69,336	59,900	287	496	361	1,356	5
Hancock	1,758	1,288	79	113	-	-	57	59	32,765	28,532	601	868	344	981	24
Kennebec	422	412	510	967	23	19	234	170	122,903	101,397	1,542	2,256	1,028	5,614	418
Knox	333	294	35	65	-	-	1	1	32,465	26,076	278	510	75	151	-
Lincoln	557	546	52	78	-	-	40	45	45,106	36,143	240	261	78	168	10
Oxford	5,044	4,519	846	1,385	7	8	354	557	87,062	77,996	2,134	3,249	3,298	10,311	470
Penobscot	1,453	1,428	392	448	1	2	247	365	141,130	130,805	1,505	1,880	1,454	5,808	106
Piscataquis	212	155	34	67	-	-	237	409	45,416	39,246	349	573	234	1,092	119
Sagadahoc	971	994	150	205	5	5	9	17	25,907	17,851	389	772	134	749	44
Somerset	442	365	112	217	-	-	590	769	121,162	94,785	924	1,284	712	3,564	346
Waldo	918	734	57	108	-	-	307	328	92,066	65,690	522	774	274	2,107	237
Washington	974	993	128	173	36	50	33	43	30,572	29,782	465	770	43	120	-
York	2,179	2,043	3	6	5	5	266	264	87,848	64,374	1,623	2,052	2,002	7,020	261

No state in the Union is more favorably situated in regard to markets for dairy products than Maine. Every year sees larger numbers of summer tourists coming to her unrivalled resorts. Bar Harbor, Kineo, Old Orchard, Poland Spring and the almost countless smaller beaches and hotels demand and must have the best butter and cream. The demand for cream from Boston and other large cities grows more urgent every year. The hillsides and valleys of the Pine Tree State can be made to supply this demand. Her waters are the purest and her grasses are the most nutritious in the world. The present number of cows, about 173,000, should be doubled, the present number of factories quadrupled, and in a few years there would be no cry of abandoned farms or that farming does not pay in the good State of Maine.

THE DAIRY SCHOOL AT THE UNIVERSITY OF MAINE.

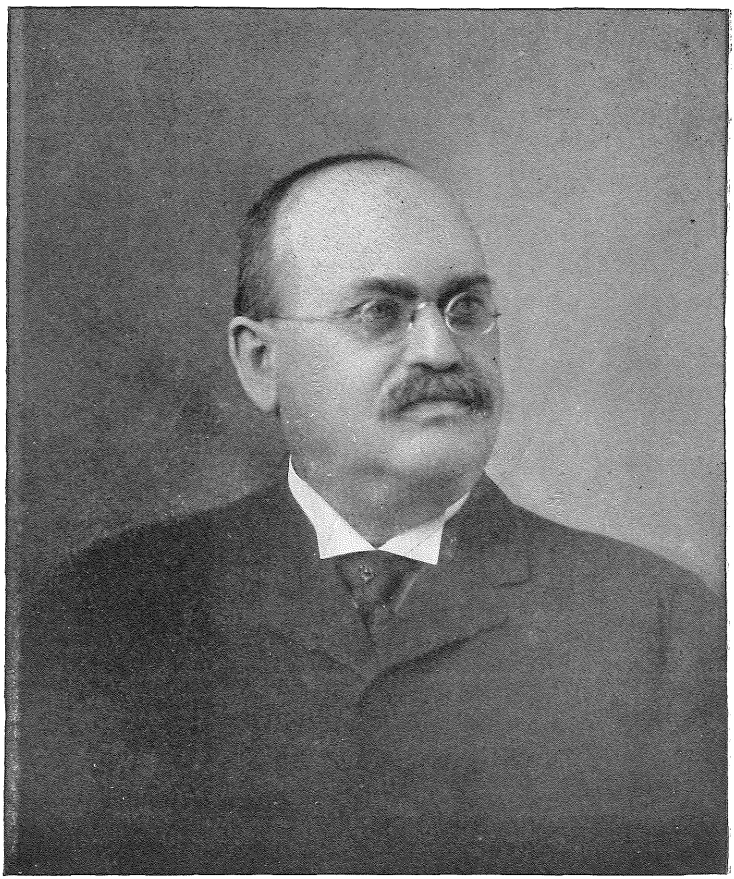
DAIRY BUILDING, UNIVERSITY OF MAINE.

The following is an outline of the dairy instruction given at the University of Maine. Aside from the instruction given to the students in the regular four years' course in agriculture, there are shorter courses in the special industries for persons who can remain but a short time. There are short courses in general agriculture, dairying, horticulture and the poultry industry.

The short course in dairying is held in the winter and covers six weeks time. Students are admitted without regard to age

or sex. No entrance examinations are required. The instruction is given in the dairy building which is a two story structure built for the special purpose of dairy instruction. It is well equipped with steam power and a full line of dairy machinery and appliances.

Milk is studied from its production through all the changes until it is sent to market, condensed into butter and cheese. Students work with the cream separator, pasturizer, vats, churn, butter worker, etc. Bacteria and ferments are studied and their value is illustrated in the different qualities of butter and cheese produced. After a student has attended two winter courses and worked two years in a creamery or cheese factory, if his work is satisfactory, a certificate is given him.

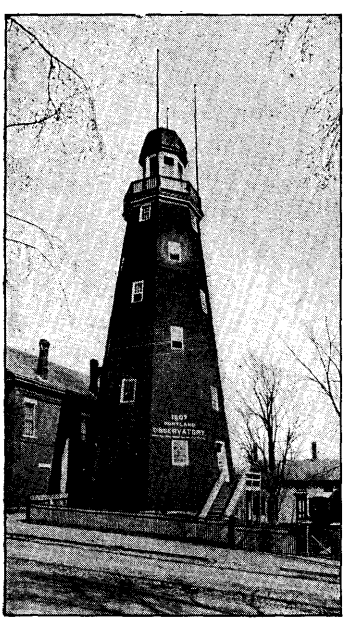


MAYOR F. E. BOOTHBY, PORTLAND.

PORTLAND AND ITS TERMINAL FACILITIES.

THE CITY.

Portland, the commercial metropolis of Maine, is situated in the southwestern part of the State, on Casco bay, in 43 degrees 39 minutes north latitude and 70 degrees 13 minutes west longitude. By rail it is 108 miles north-northeast of Boston and 297 miles southeast of Montreal. The peninsula on which the main city is built is about three miles in length, has an average breadth of three-quarters of a mile, and rises in the west to 175 feet in Bramhall's hill and in the east to 161 feet in Munjoy's hill, the latter being crowned by an observatory. By the annexation of Deering in 1898, the geographical area of the city was quadrupled and a beautiful residential section was added. The population of the city by the census of 1900 was 50,145.



OBSERVATORY.

Probably no city in the world is more favorably situated for health, pleasure and commerce, than Portland. Its inhabitants take just pride in its well kept streets, its many fine shade trees, its beautiful parks, its handsome public buildings and its many costly and artistic private residences. The city is supplied with

an abundance of pure water from Sebago lake, a sheet of water fourteen miles long and eleven miles wide.

Sixteen islands lying in Casco bay form a part of the city of Portland, namely: Peaks, Long, Cushing's, House, Great Diamond, Little Diamond, Crotch, Hope, Little Chebeague, Jewell's, Cow, Ram, Marsh, Overset, Crow and Pumpkin Knob. Many of these islands are famous summer resorts and are thickly dotted with summer cottages.

THE HARBOR AND WHARVES.

The peninsula on which the main city of Portland is situated projects towards the northeast. On the south it divides from South Portland, formerly a part of Cape Elizabeth, by an arm of the bay called Fore river, constituting the inner harbor, between Portland bridge and the breakwater on one side, and Fish point on the other, having an area of 627 acres. On the north side of the peninsula lies Back cove, which, with the exception of a narrow channel, is laid bare at low tide.

With forty feet depth of water at low tide, vessels of any size can enter the outer harbor at any time, day or night, and lie at anchor inside of a line connecting the breakwater with Fort Gorges, and distant not more than half a mile from the Grand Trunk wharves. The entrance to the main part of the harbor of Portland has always been good, but prior to the improvements made by the government the approach to the inner harbor was obstructed by a shoal, known as the middle ground, over which the depth was only from eight to ten feet at mean low tide, while between it and Stamford ledge the greatest available depth was only sixteen feet. And besides, the best part of the wharf front of the city was exposed to the swell from the Atlantic, which sometimes made it dangerous for vessels to lie at the docks.

The first work of improvement undertaken by the government was the construction of the breakwater. This was begun in 1836 and was completed in 1874. The project for the improvement of the harbor by deepening its water was first undertaken by authority of an act of Congress in 1868. The project at that time was to excavate a channel 300 feet wide through the southern slope of the middle ground to a depth of twenty feet at mean low tide, and to remove the bar off the Grand Trunk

wharves to the same depth. In 1870 the project was amended so as to provide for a channel 400 feet wide, and in 1871 it was again amended so as to provide for a width of 500 feet. In 1872 the improvement of Back cove was added to the project.

In 1886 a project was adopted for the further deepening of a portion of the harbor to twenty-nine feet at mean low tide, at a cost of $135,000. In 1890 this project was extended so as to include a small quantity of dredging in the upper part of the harbor at a cost of $5,000. In 1894 it was again extended so as to cover the widening of the upper portion of the area already dredged to twenty-nine feet, and the dredging of a channel twenty-five feet deep to connect the lower with the upper part of the harbor. This work was completed in 1894.

By the act of June 3, 1896, Congress adopted a project for dredging to thirty feet at mean low water over the greater part of the harbor, at an estimated cost of $770,000. By the same act the partly completed project for improving Back cove was combined with that of the main harbor. The same act appropriated $20,000 for beginning the work, and authorized the making of contracts for its completion, but limited such contracts to $810,000 in addition to the $20,000 already appropriated. The work under the above act is still going on, although it would have been completed before this but for the failure of the first contractors and the partial destruction by fire of one of the monster dredging machines. The first contract under this act called for the removal of 4,318,000 cubic yards of the harbor bottom.

The Morris & Cumings Dredging Company of New York are the present contractors, and under their management the work will probably be completed within a year. Under this contract, in round numbers, the estimated quantities to be dredged to complete the project include about 2,240,000 cubic yards, measured in situ, of general dredging, and 93,000 cubic yards from the area formerly dredged to twenty-nine feet at mean low water. The total amount expended on Portland harbor, including Back cove, up to June 30, 1900, was $903,209.64. The total amount of all appropriations for the improvement of the harbor, up to March 3, 1901, is $1,282,727. When the entire work is completed, Portland will have a harbor which can be

entered with perfect safety at either high or low tide, by any vessel now in existence in the world.

The earth, as fast as excavated, is placed on scows and towed out and dumped into the sea. Capt. Lincoln Tibbetts of Portland has the oversight of this part of the work, and no one understands better than he where to place this excavated earth without damage to navigation. The work has required three large dredging machines, three tug boats, a dozen or more scows and a force of about fifty men on the average during its whole progress.

The names of the wharves in Portland, commencing at the western extremity, are as follows: Gas Company's wharf, Railroad wharf, Deake's west wharf, Deake's east wharf, Sturdivant's wharf, Holeyoke's wharf, High street wharf, Hobson's wharf, Boston and Maine wharf, Berlin mills wharf, Brown's wharf, Merchants' wharf, Merrill's wharf, Union wharf, Widgery's wharf, Central wharf, Long wharf, Commercial wharf, Portland pier, Custom House wharf, Randall and McAllister's wharf, Burnham's wharf, Franklin wharf, Galt wharf, Atlantic wharf, Grand Trunk wharf, New Grand Trunk wharf, Portland Company's wharf, Western Great Eastern wharf and Eastern Great Eastern wharf. With the exception of the Gas Company's wharf, there are no draws to pass in approaching any of the above named wharves.

The improvements in Back cove consist of a narrow channel, wide enough and deep enough to admit vessels of several hundred tons at high tide. This channel traverses the entire length of the cove to a wharf near the works of the Portland Stoneware Company. Vessels entering Back cove are obliged to pass through two draws, that of the Grand Trunk railroad bridge and that of Tukey bridge.

Commercial street fronts the harbor and along this street run railroad tracks connecting with the Grand Trunk, the Maine Central and the Boston and Maine railroads. From these tracks sidings extend down to the ends of all the principal wharves, thus rendering the transfer of merchandise from cars to vessels and *vice versa* exceedingly easy of accomplishment. In this respect Portland probably equals any city on the Atlantic seaboard.

THE FORTIFICATIONS OF PORTLAND HARBOR.

Casco bay, on which the city of Portland is situated, embraces about 200 square miles of area. This beautiful sheet of water is thickly dotted with islands, there being 122 in all. Near the channel leading into the harbor, the islands crowd in towards Cape Elizabeth, furnishing fine sites for defensive fortifications. During the years 1807 and 1808 the channel forts, Preble and Scammel, were built. Fort Preble is on the cape shore, while Fort Scammel is on House island, almost directly opposite. A few years before the Civil War, Fort Gorges was built on Little Diamond island ledge. At the time these forts were built they were ample for the protection of the harbor and city, but the advance in the methods and machinery of war now demands long range guns placed on sites as far out towards the sea as possible.

The new defensive works which the government has allotted Casco bay will consist, when completed, of thirty-eight rifled guns. Eighteen of these will be 12-inch, ten 10-inch and ten 8-inch, to cost for guns $1,352,164 and for carriages $546,000. The large disappearing guns at Fort Williams, Portland Head, are the largest in the world. They have a range of fifteen miles and fire five shots before the first one reaches its destination. Powerful search lights are to be erected on the cape shore so that the garrison stationed there may watch for the approach of hostile vessels by night as well as by day.

In addition there is being constructed a mortar battery to contain forty-eight 12-inch mortars, to cost $648,000, and their carriages an additional $336,000, making a total expense for the entire new armament of $2,882,164. These, with the fortifications at Diamond and Cushing's islands, complete a line of defense which would effectually take care of any fleet that any other country might send here.

The whole eastern end of Diamond island has recently been acquired by the government and it is proposed to erect there barracks and officers' quarters for a large number of troops. Cow island, just east of Diamond island, is also to be included in the system of fortifications of Portland harbor and a battery of big guns will be placed there. It will take a year, probably, to complete the work already planned, and several hundred men will

be employed in establishing the batteries, building earthworks and erecting buildings.

The War Department recently issued a general order giving the following names to the new forts and batteries in the vicinity of Portland:

The reservation on Cushing's island is to be named Fort Levett, in honor of Christopher Levett who explored Portland harbor in 1623.

The 12-inch battery on Cushing's island is to be named Battery Bowdoin, in honor of James Bowdoin, governor of Massachusetts in 1785-6, Maine being at that time a part of Massachusetts.

The 10-inch battery on Cushing's island is to be named Battery Kendrick, in honor of the late Professor Henry Lane Kendrick who served with distinction as an officer in the war with Mexico, and as a professor of sciences in the United States Military Academy from 1857 to 1880.

The battery of three 8-inch guns on the south fork of Great Diamond island is to be named Battery Weymouth, in honor of Captain George Weymouth who made extensive explorations in this region in 1605.

The battery of two 8-inch guns on the south fork of Great Diamond island is to be named Battery Honeycuttle, in honor of the late Captain John T. Honeycuttle of the Sixth United States Artillery.

The 12-inch battery on the north fork of Great Diamond island is to be named Battery Berry, in honor of the late Major General Hiram G. Berry, of the United States Volunteers, killed at Chancellorsville, May 2, 1863.

The battery of three 8-inch guns on the north fork of Great Diamond island is to be named Battery Thompson, in honor of Lieutenant Colonel Samuel Thompson, then of Brunswick, of the Massachusetts militia, who effected the capture of Captain Henry Mowatt, then in command of a British vessel, May 7, 1775.

By late assignments of artillery companies to man these various batteries and garrison the forts around Portland, a permanent force of about 1,000 United States regulars will be located here.

THE HARBOR LIGHTS.

Portland Head light was established October 10, 1761, and was the first beacon light on the New England coast. The two lights of Cape Elizabeth, a short distance west of Portland Head light, were established in 1828, one being a fixed white light and the other a flashing white light. The lanterns of these lights are so large that seventeen persons at one time have stood inside of one of them. These three lights, with the new Spring Point ledge light and the breakwater bug light, form the harbor lights of Casco bay.

A lightship is now in process of construction which, when completed, will be placed where it will still further safeguard the great ocean liners into Portland harbor.

PORTLAND AS A RAILROAD CENTER.

The city of Portland is the terminus of six railroad lines. Three of these lines are under the control and management of the Boston and Maine railroad, two under the management of the Maine Central road, and one is the Atlantic and Saint Lawrence division of the Grand Trunk railway.

The Eastern division of the Boston and Maine railroad extends from Portland to Kittery, then onward through Portsmouth, Newburyport, Salem and Lynn to Boston. The Western division of the Boston and Maine extends from Portland to Salmon Falls, then onward through Dover, Haverhill and Lawrence to Boston. The Portland and Rochester road, now a part of the Boston and Maine system, extends from Portland through Alfred, Sanford, and Rochester, New Hampshire, to Worcester, Massachusetts.

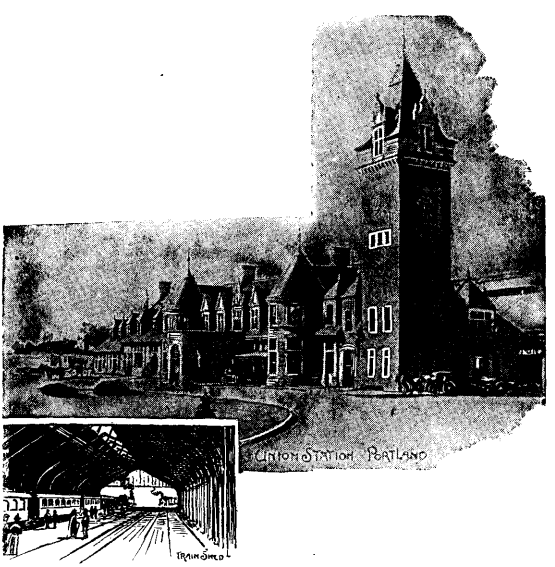
The Boston and Maine railroad operates 157 miles of track in Maine, and 2,265 miles of track in all. It connects at Boston and other points with all main lines running south and west. This road was first organized in 1835. Its total force of employes, excluding general officers, is 21,881, and the average daily wages per man is $1.89. It pays out yearly in wages $13,036,688.

The Maine Central railroad is the principal artery in the business circulation of the State, extending as it does from Portland to Vanceboro, with branches reaching out on all sides to different points. The company operates 649 miles of road in the State

and 816 miles of track in all. The total number of employes is 3,542 and the average daily wages per man is $1.73. The sum of $1,930,569 is paid out yearly in wages. By means of this road and its connections every important point in Maine can be easily reached.

This road was first organized in 1862. By purchase and lease it has acquired control of all the principal railroads in Maine, with the exception of the Boston and Maine, the Bangor and Aroostook, the Washington County and the Portland and Rumford Falls railroads. The latest important acquisitions were the Portland and Ogdensburg railroad in 1888 and the Knox and Lincoln railroad in 1891. The Maine Central railroad is the great tourist road of the State. Its patrons demand and expect the best service possible and the management of the road has always met their demands. Well equipped trains are run with commendable regularity. It is doubtful if any road in New England can boast better motive power than the Maine Central.

In 1887 the Boston and Maine and the Maine Central railroad companies united in building a union passenger station in Port-



land. This station is built of red granite, quarried at Redstone in Conway, New Hampshire, and is one of the most beautiful railway stations in the country. The offices of the Maine Central

R. W. SCOTT, GRAND TRUNK RAILWAY AGENT AT PORTLAND.

railroad are located in a large, convenient brick building near the Union station, and both buildings are easily reached by taking street cars anywhere within the limits of the city. Both the Boston and Maine and Maine Central roads have wharves in Portland and their terminal facilities for handling or transferring freight are excellent.

The Maine Central railroad, by its close connection with the Boston and Maine and by means of its mountain division, has through communications with all parts of the West and South. Lucius Tuttle of Boston is the president of both the Boston and Maine and the Maine Central railroads. The vice-president and general manager of the Maine Central railroad is George F. Evans, a progressive and efficient official, who has won the respect of the people of Maine by his able management of the road. Col. F. E. Boothby is the popular general passenger and ticket agent of the Maine Central railroad, and no man stands higher in the confidence and esteem of the citizens of Maine than he. He has held his position a great many years, and his service has been of great value to the road, and also to the State whose boundless summer resort possibilities Mr. Boothby has always appreciated. He has always encouraged the development of Maine's resources in every way possible.

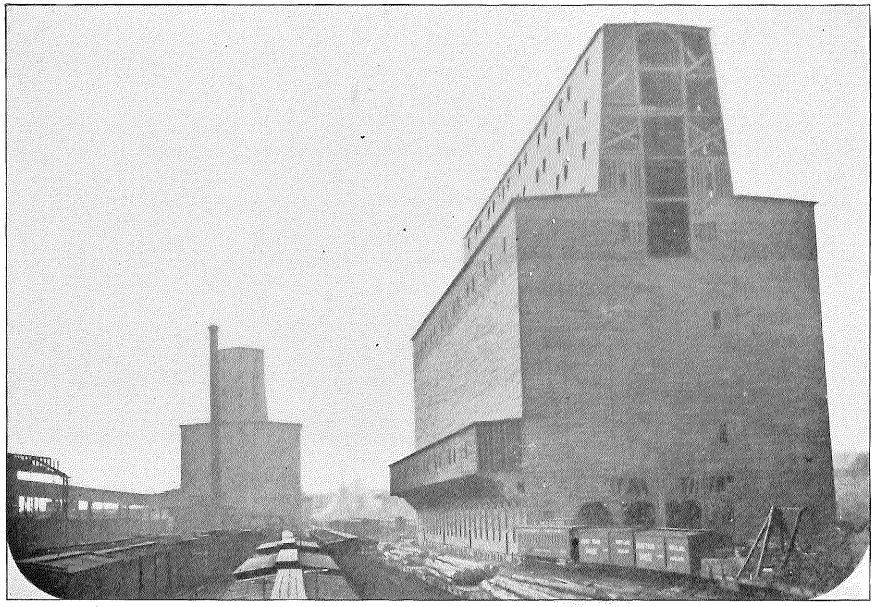
THE GRAND TRUNK RAILWAY.

The Grand Trunk railway of Canada was organized in 1845. On August 5, 1853, it leased the Atlantic and Saint Lawrence railroad, running from Portland to Montreal, for a term of 999 years. The building of the Atlantic and Saint Lawrence railroad and its lease to the Grand Trunk railway have had more influence on the growth, development and prosperity of Portland, than, perhaps, all other influences combined. This great railway system owns and operates over 4,000 miles of tracks, extending from Portland to Chicago, and having branches to all important points in Canada and the Northwest. The terminal facilities of this road in Portland have recently been extended and improved and the improvements will not be fully completed until 1902, and even a longer period may be required for the full development of the proposed plans.

The stock yards, the new track yard and the round house are at East Deering, about a mile from the freight sheds, beyond the railroad bridge across the back bay entrance. The stock yards are kept in excellent condition and have room to receive 2,500 head of cattle at one time, and the facilities for handling cattle are unsurpassed. The new track yard will receive at one time 1,500 loaded cars, which, together with the station yard, gives the Grand Trunk company an aggregate of track room for 2,000 loaded cars, practically at the water front in Portland, within twenty minutes' sail of the open ocean. The new round house is of brick. It contains fifteen pits, and the turn table near it is seventy-five feet long and will hold two engines at one time.

The Grand Trunk railway has a mile of water front in Portland and the largest steamships can lie safely at the piers in not less than thirty feet of water at low tide. Previous to 1901 there were six great warehouses or sheds, each from 400 to 500 feet in length, with a combined floor space of 470,000 square feet. Spur tracks run alongside each of these sheds. During the season of 1901 another immense pier has been constructed with two sheds of greater capacity than any of the old ones. Formerly six steamships could load or discharge at these sheds at the same time. With the additional pier and sheds nine ocean liners can receive or discharge their cargoes at one time. Alongside these great sheds, which are really bonded warehouses, whole trains of cars may be run, and here day and night the work of discharging cars goes on under the eye of Grand Trunk officials and United States inspectors. All goods are first placed in the sheds, each car load by itself. From the sheds they are delivered to the various vessels under the direction of the customs inspectors, who must keep accurate accounts of the same.

The products of Canada, including the grain from far off British Columbia and Manitoba, find an outlet by way of the Grand Trunk road and the unexcelled port of Portland. Much grain comes here also from the western states as well as cattle from the western plains. It takes thousands of cars to bring the western and Canadian freight to Portland for export. It is estimated that at times the Grand Trunk has in its yard at East Deering freight cars enough to make a continuous train fifteen miles in length. Nearly 600 men have been required to perform the work around the wharves during the steamboat season in



GRAND TRUNK ELEVATOR, BUILT IN 1901.

the past, and with the increased service of the future a much larger force will be required.

The Grand Trunk will expend more than a million dollars in making the improvements now nearly finished and others already planned. It has kept a large force of masons, carpenters and laborers, at work during the past season, there being at one time nearly 400 men at work on the new elevator. In all there have been 600 or 700 men at work on the improvements, and there will be nearly as many another year. It is not difficult to estimate the value of these enterprises to labor in Portland and vicinity. All who are willing to work can have employment at remunerative wages.

In the year 1900 a series of coal pockets were erected by the side of the Grand Trunk railroad bridge across the entrance of the back cove. These coal pockets are modern in construction, of great capacity, and can be approached by colliers of any size. They can handle immense quantities of coal easily and expeditiously.

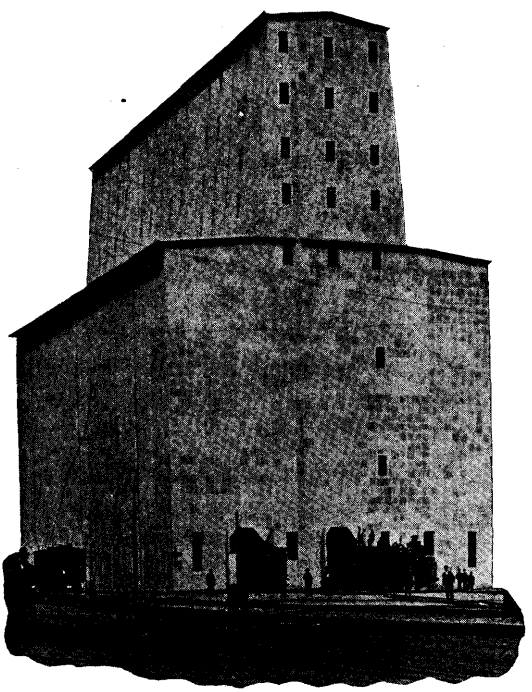
During the season of 1902 a large cold storage plant is to be erected between the new elevator and the new pier, and a new passenger station is to be built at the corner of Fore and India streets.

That part of Portland called East Deering, where are the stock yards, the round house and the track yard, is fast increasing in population. It is estimated that the various improvements made by the Grand Trunk will result in bringing to this district fully 500 people.

THE GRAND TRUNK ELEVATORS.

In 1875 the Grand Trunk railway built on Galt wharf an elevator 101 feet in length, with a total capacity of 150,000 bushels, fitted with modern dock elevators and large steam shovels for loading and unloading cars and vessels. The grain business of Portland soon outgrew this elevator, and in 1898 another, with a capacity of 1,250,000 bushels was built at a cost of $250,000. Of this sum, citizens of Portland supplied $175,000 and the Grand Trunk corporation the remaining $75,000. The corporation is to pay, however, such a sum yearly that in twenty years the elevator will belong to the road. This elevator is 221 feet long, 97 feet wide and 160 feet high. The engine house is 80

by 41 feet and the smokestack is 161 feet high. Two receiving tracks extend through the house, and there are ten receiving legs with an elevating capacity of 8,000 bushels per leg an hour. This elevator can receive 150 car loads of grain daily. Belt



GRAND TRUNK ELEVATOR BUILT IN 1898.

galleries run alongside and to the extreme end of the piers, supplied with iron trippers, which will trip grain into any hatchway of a vessel. The shipping capacity of this elevator is 30,000 bushels an hour.

This elevator has 200 bins, some of them of several thousand bushels capacity. Each car load of grain as it is received into the elevator is weighed by itself, the weighing apparatus being on the upper floor. Two railroad tracks run through the elevator and on each of these tracks five cars can stand at one time, so that ten cars can be unloaded at once. This number have been emptied at times in fifteen minutes.

The new elevator, built during the season of 1901, is the largest on the Atlantic coast. It has a capacity of 1,500,000

bushels, and its general plan is similar to that of the one built in 1898. The new elevator is 300 feet long, 101 feet wide and 175 feet high. The power house is 123 feet by 53 feet. The chimney or smokestack is 177 feet in height.

In laying the foundation, over 4,000 piles were driven, and 5,500 barrels of cement were used, also 3,500 cubic yards of crushed stone and 2,000 cubic yards of sand. In the construction of the elevator, there were used over 6,000,000 feet of lumber and 1,400 kegs of nails and spikes. It will require 1,600 squares of galvanized sheet steel to cover the 160,000 square feet of exterior surface.

There are 210 bins, each 70 feet deep. There are fourteen elevator legs with a capacity of 10,000 bushels an hour each. There are fourteen sets of scales with a capacity of 84,000 pounds each. There are three galleries, each 600 feet long, and a feeder to these galleries 500 feet in length. There will be required 7,300 feet of belting 35 inches wide, 5,000 feet 24 inches wide, and 700 feet 30 inches wide. Grain can be run into three vessels at the same time from this monster elevator.

The motive power is furnished by two condensing Corliss engines of a combined power of 500 horse. Four Manning boilers supply the steam. The total cost of this new elevator will be about $400,000. The John S. Metcalf Company of Chicago are the contractors.

The great elevator with a capacity of 1,250,000 bushels was taxed last winter to its utmost. There were nearly 10,000,000 bushels of grain shipped from Portland during the winter. The prospect is that before the close of 1902, the two immense elevators, with a combined capacity of 2,750,000 bushels, will have all they can do.

THE GRAND TRUNK OFFICERS AND EMPLOYES.

The Grand Trunk road has 598 operatives in the State of Maine. It pays out annually in the State in wages, $370,104, and the average daily wages per man is $1.78. The immense freight business carried on by this road in connection with ocean steamships requires a large force of heads of departments, clerks, checkers, time keepers, watchmen, etc., which we here enumerate.

R. W. Scott, agent of the Grand Trunk railway at Portland; J. R. Bowles, clerk; Miss M. A. Berry, stenographer.

General departments: W. W. Duffett, local treasurer; R. Laird, foreman of car department; F. M. Thurston, foreman of locomotive department; J. Gibson, foreman of bridges and building department: W. R. Howard, store keeper; F. W. Huntington, superintendent of stock yards; J. Williams, Canadian customs officer; G. L. Nelson, agent of Great Eastern line.

Local freight office: J. A. McGowan, accountant; E. H. O'Brien, cashier; L. J. E. Foley, G. Ritchot, L. S. Heseltine, J. W. Bowles, W. J. Lyons, G. A. Feeney, F. H. Jeffrey, W. G. Wilson, A. Fuller, D. A. Hannegan, R. Aliff, W. McCann, clerks.

Steamship office: W. H. Rooke, J. G. Callaghan, J. D. Cogger, L. S. Watson, C. F. Woodlegh, A. S. Begg, Jr., G. H. Pugh, R. Hardie, J. C. Furnival, clerks.

Ticket office: John Lawlar, E. J. Carr, clerks.

Baggage department: J. E. Corridon, baggage master; John Gubbins, J. A. Purrington, porters.

Wharf department: W. C. M. Walker, foreman; W. C. Matthews, assistant foreman; G. H. Johnston, delivery clerk; S. Murphy, R. Dow, and twenty others, checkers; J. O. Rouke, J. Adams, watchmen; and 150 porters.

Elevator department: B. J. Tobin, foreman; J. F. Cobb, H. A. Laird, clerks; E. P. Gallagher, floorman; C. Bjomberg, C. F. Harmon, weighers; C. Smith, changer; J. Curran, watchman; and 50 porters.

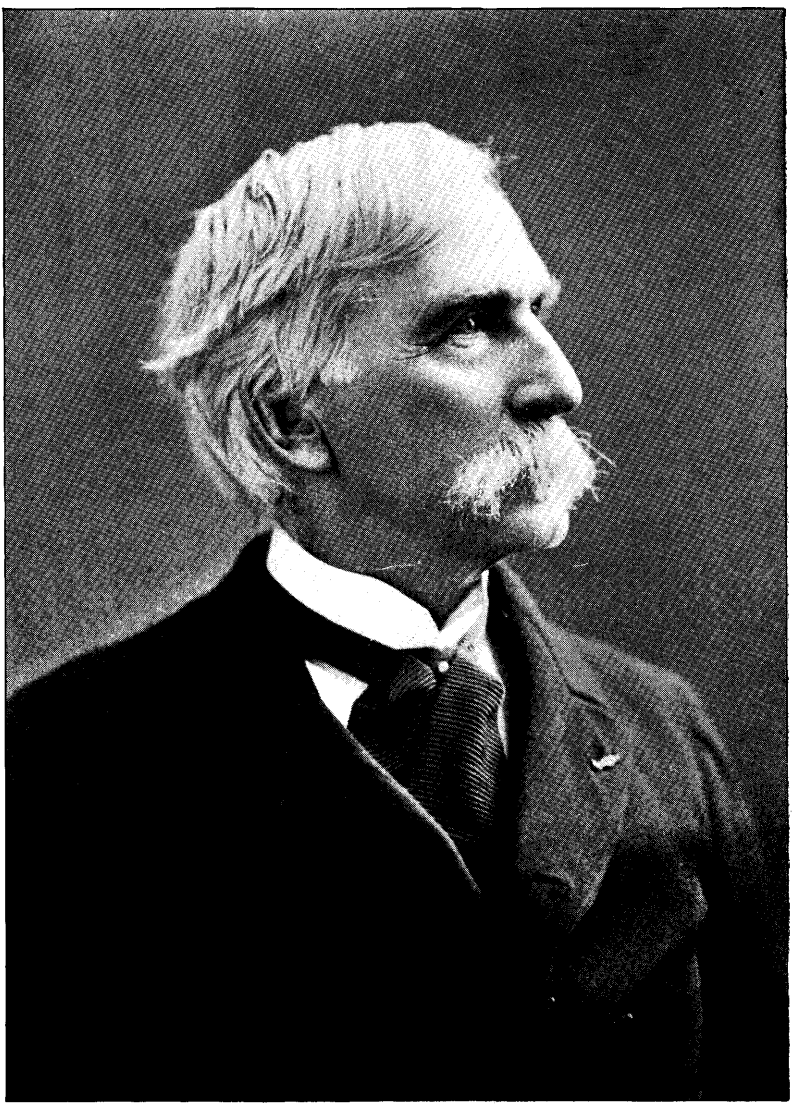
Local freight sheds: W. E. Williams, foreman; W. J. Hassett, Jno. Gunn, H. Brockman, checkers; and 25 porters.

Traffic department: P. H. Parsley, general yard master; A. Parling, assistant yard master; W. J. Kemp, night yard master; J. P. Roach, record clerk; J. Williams, yard clerk; W. R. Frank, W. H. Jones, station policemen; and 80 yardmen.

Stock yards: Dr. F. W. Huntington, superintendent; George Stewart, watchman; and 25 porters.

Car department: R. Laird, foreman; W. H. Botting, clerk; and 20 carpenters, 20 repairers, 10 inspectors, 10 painters, nine cleaners and three watchmen.

Locomotive department: F. M. Thurston, foreman; C. E. Hardy, clerk; A. B. Josephs, weigher; and 20 cleaners, 17 coalmen, 8 firemen, 8 engineers and 23 laborers.



GEN. JOSHUA L. CHAMBERLAIN, SURVEYOR, PORT OF PORTLAND.

Stores department: W. R. Howard, store keeper; J. R. Lawlar, clerk; E. Powers, foreman; and nine porters.

Bridges and building department: J. Gibson, foreman, and 50 laborers.

Road department: S. Chamberlain, foreman, and 35 section men.

In addition to the 75 above enumerated, the number of porters, yardmen, carpenters, repairers, painters, cleaners, coalmen, engineers, firemen, laborers, etc., aggregates 572, making a total force of nearly 650 men connected with the Grand Trunk railway system at Portland. The average monthly wages paid to this large force amounts to $40,000, or $480,000 yearly.

PORTLAND'S SHIPPING BUSINESS.

The shipping business of Portland has increased so rapidly during the past few years that public information has not kept pace with its marvelous development. During the steamship season of 1900-01, over one hundred ocean liners arrived and departed from this port. The present season will see nearly or quite as large a steamship business. The term "steamship season" as used in this article, covers the time from November 1 to May 1.

During the winter of 1900-01 there were six steamship lines connected with the business of the Grand Trunk railway at Portland, as follows: Dominion, Allan, Elder-Dempster, Hamburg-American, Thomson and Leyland. The steamships belonging to each line were as follows: the Dominion, Vancouver, Cambroman, Roman and Ottoman, of the Dominion line, sailing between Portland and Liverpool; the Strathnevis, Oceana, Etolia, Memnon, Degama and Farringford, of the Elder-Dempster line, sailing between Portland and Bristol; the Tunisian, Parisian, Corinthian, Sicilian and Numidian, sailing between Portland and Liverpool, and the Buenos Ayrean, Assyrian, Livonia, Sarmatian, Siberian, Orcadian, Norwegian, Peruvian and Hibernian, sailing between Portland and Glasgow, fourteen steamers belonging to the Allan line; the Devona, Willowdene, Hackney, Allendale, Jacona, Fremona, Bellona, Iona, Kildona, Hurona and Cervona, of the Thomson line, sailing between Portland and London; the Frisia, Westphalia, Lady Armstrong and

Granaria, of the Hamburg-American line, sailing between Portland and Hamburg; the Mexican, Belgian and Assyrian, of the Leyland line, sailing between Portland and Antwerp. The above named vessels make a fleet of forty-three ocean liners whose carrying capacity is immense.

The Tunisian is probably the largest and finest of these boats, though all of them are large, well built and magnificent crafts. The cargoes of these steamers as they sail from Portland, consist of wheat, rye, oats, barley, buckwheat, corn and peas in bulk; flour in sacks; cheese and butter in boxes; pails of lard; boxes of preserved meats from Chicago; bundles of shooks; bales of pulp; bales of hay; bundles of dowels, deals, black walnut and other lumber; asbestos; lead and silver ore; cattle, sheep and horses; and miscellaneous articles too numerous to mention.

The ocean liners vary in tonnage from 2,000 to 7,000 and even 10,000 tons. It requires from twenty-four to twenty-eight days to make the round trip from Portland to London or Liverpool, while the trip to Hamburg and Antwerp and return takes longer.

Besides the above named steamships for carrying miscellaneous freight, there is quite a fleet of vessels bringing coal to the new coal pockets of the Grand Trunk railway.

During the summer of 1901 both the Thomson and Dominion lines have run to Portland, and undoubtedly other lines will be added to the summer service of the future.

Sometimes five, six and even ten steamers are in Portland at the same time, and then it is worth while to visit the great piers where they lie. At such times hundreds of men are employed in unloading cars and loading the various boats. The grain is run directly from the elevator through long galleries and from the galleries through spouts into the holds of the vessels. It is an interesting sight to see the grain travelling on long belts through the galleries.

It may be interesting to some readers to see in print the make up of a vessel's cargo when she is laden and ready to sail from Portland. The Allan liner Tunisian cleared at one time last winter with 140,000 bushels of wheat, 47,000 bushels of oats, 7,836 bags of flour, 7,000 boxes of cheese, 7,000 pails of lard and 7,000 barrels of apples. It would take about 325 cars fully loaded to bring the above amount of freight to Portland.

The Oceana of the Elder-Dempster line took as her cargo at one time last winter, 150,000 bushels of grain, 7,500 sacks of flour, 898 boxes of meat, 1,526 boxes of cheese, 70 cases of canned meat, 3,000 pails of lard, 5 cases of leather, 9,600 bundles of shooks, 487 bales of pulp, 185 bales of hay, 234 bundles of iron pipe and 223 bundles of dowels.

The great bulk of the merchandise carried out by the ocean liners comes from Canada and the West, but the most of the apples are from Maine, also a large part of the hay and some of the pulp and paper.

During the season of 1901-02, five foreign steamship lines will run to Portland as follows: the Thomson line, Frederick H. McClure, agent; the Elder-Dempster line, H. H. Stewart, manager; the Dominion line, D. Torrance & Co., agents; the Hamburg-American line, W. H. Piers, manager, and the Allan line, J. R. Clancy, manager.

The finely equipped and well appointed revenue cutter Woodbury, has been for a number of years stationed in the Portland customs district.

STEVEDORES AND LONGSHOREMEN.

The different stevedores or contractors for loading and unloading vessels, cars, etc., are Trefethen & Dugan for the Grand Trunk railway and the Thomson and Elder-Dempster steamship lines, Quinn & Donovan for the Dominion line, Peter Ferns for the Hamburg-American line, and Mills & McMaster for the Allan line.

These contractors hire laborers called longshoremen to transfer freight from vessel to shed or shed to vessel, etc. The men work in gangs, so-called, six men and a foreman usually constituting a gang. Sometimes a foreman looks after several gangs, for instance, when discharging cars. Last winter 400 longshoremen were employed at the Grand Trunk wharves. They are paid by the hour and their wages will average from ten to twelve dollars a week each.

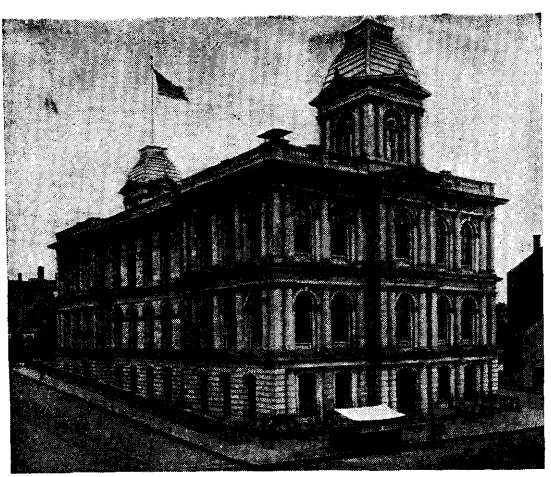
It is estimated that every vessel arriving and departing expends in Portland $2,000 for labor, repairs and supplies. Last season more than $200,000 were thus distributed in Portland, the most of this sum going to the hard working men who load and unload the vessels. Many of these men work every day from seven

o'clock in the morning till eleven or twelve o'clock at night, at labor which is always arduous and some of it dangerous.

The longshoremen of Portland are an organized body, having a charter from the State. Their organization is called The Portland Longshoremen's Benevolent Society. A person must have been a resident of Portland six months before he can join it. It pays sick benefits and a certain sum in case of death.

PORTLAND CUSTOM HOUSE.

The Portland custom house is a substantial and handsome structure, built of granite. It was erected in 1872 on the site of the old one, which was destroyed by fire in 1866. It fronts on Fore street and extends to Commercial street, occupying a whole square. It is one of the handsomest and most convenient custom houses in the country and is admirably adapted to the uses for which it was built.



PORTLAND CUSTOM HOUSE.

The amount of business transacted at the Portland custom house is immense. Portland has become one of the leading cities of export in the United States. It is the winter port of Canada and its summer business is fast increasing. While the amount of duties actually collected at the Portland custom house is comparatively small, it must be remembered that but a very small portion of the merchandise passing through this port is subject to duty here.

CHARLES M. MOSES, COLLECTOR, PORT OF PORTLAND.

The following figures will show the great volume of business which passed under the inspection of the customs officers at Portland during the year 1900.

Value of domestic exports	$12,403,958
Foreign goods exported to Canada	8,333,407
Canadian goods exported to Europe	14,708,285
Total value of exports	$35,445,650
Imports for domestic consumption	$782,863
Imports in transit for Canada	8,254,064
Total value of imports	$9,036,927
Total value of exports and imports	$44,482,577

On all goods passing the custom house, the law requires that duties be assessed, although on goods passing to and from Canada in bond the duties are not collected. The duties assessed on Canadian goods exported from Portland to other foreign countries during the past season amount to $8,543,145.28. While these assessments are made at Island Pond and other frontier ports, the goods all have to be here accounted for and transhipped. The duties assessed on goods imported at Portland from foreign countries, both for local consumption and for export to Canada, amount to $4,140,677.73. Of this $12,683,823.01 assessed, but $98,297.18 are collected, from the fact that the great bulk of the goods on which duties are assessed pass through the country in bond, and this vast amount of work at the Portland custom house, in making these transhipments and assessments which are not collected, does not appear in any government report, and a large amount of foreign business which has to be done here is without benefit to the United States revenue. In addition to the above enumerated work, there were collected in tonnage dues $22,172.90.

A change in the practice of some of our local importers in bringing their goods through this port rather than other domestic ports, results in largely increasing receipts for duties here, the duties for the last six months being more than double those for the corresponding period of last year.

During the season of 1900-01, at the port of Portland, 341 vessels entered from foreign ports and 397 from domestic ports, while 260 cleared for foreign ports and 393 for domestic ports.

The number of cars loaded for Canada was 9,011 and the number received from Canada was 20,949. The number of entries of merchandise for duty at Portland was 336 while the number of entries of merchandise for export to Canada was 2,083.

There were shipped from Portland during the season of 1900-01, 4,044,975 bushels of wheat, 2,238,846 bushels of oats, 1,319,626 bushels of corn, 836,838 bushels of peas, 612,087 bushels of barley, 260,088 bushels of buckwheat and 170,820 bushels of rye, making a total of 9,483,280 bushels. Of live stock there were shipped 245 horses, 34,583 sheep and 22,464 cattle. Of apples 11,334 tons were shipped, being 141,675 barrels, nearly 100,000 barrels of which were grown in Maine. There were shipped of other merchandise, 800 tons of cotton, 1,180 tons of dressed beef, 7,817 tons of lumber, 1,290 tons of eggs, 4,600 tons of hay, 17,022 tons of cheese, 420 tons of butter, 41,907 tons of flour, 28,063 tons of boxed meats, 11,180 tons of lard, 5,205 tons of oatmeal, 4,285 tons of oilcake, 370 tons of poultry, 1,362 tons of leather and 1,707 tons of splints or match stock.

Of merchandise received at Portland, some of the leading articles were 11,485 tons of brimstone, 80,494 tons of cement, lime and pipe, 37,490 tons of clay, 1,090,979 tons of coal, 24,354 tons of molasses and sugar, 61,900 tons of oil and oilcloth and 2,250 tons of salt.

The entire amount of receipts and shipments amounted to 2,261,008 tons. In addition to the merchanidise there were shipped in the same period 57,292 head of horses, cattle and sheep.

The following table prepared by Dr. F. W. Huntington, superintendent of the Grand Trunk stock yards, shows the live stock shipments from Portland, Maine, to the United Kingdom, during the years ending November 1, 1900 and 1901. The totals for 1900 aggregate 32,566, and for 1901, 92,487, an increase of 59,921 head.

1899 and 1900.				1900 and 1901.			
Month.	Cattle.	Sheep.	Horses.	Month.	Cattle.	Sheep.	Horses.
November	1,077	623	-	November....	1,118	863	-
December	2,797	3,937	42	December....	4,494	2,070	1
January.....	2,742	1,898	51	January	4,654	4,017	107
February	3,685	1,528	440	February.....	4,608	7,143	128
March	3,475	-	66	March	5,747	10,667	51
April.....	3,227	1,708	175	April	5,118	10,547	18
May	463	-	-	May.....	2,831	6,206	-
June....	822	599	-	June..	2,352	4,131	-
July.....	621	-	-	July.....	1,851	1,085	-
August	816	-	-	August	2,884	2,662	17
September.....	1,054	-	-	September ...	2,355	1,268	-
October.....	719	-	-	October.....	2,320	1,174	-
Totals.....	21,499	10,293	774	Totals	40,332	51,833	322

Portland is fast becoming an important immigration and passenger port, there having been 7,000 immigrants landed at this port during the season of 1900-01. The Tunisian brought over at one time last winter, 1,180 passengers, most of them immigrants going to the far West. The steamers of the Dominion and Allan lines have had many passengers both going and coming during the past summer. Timothy Elliott is the inspector of immigration at Portland. He has an assistant inspector, and also a matron, Miss Rose A. Henry, to look after female immigrants.

When we remember that during the season of 1900-01, there were received and shipped from Portland 2,261,000 tons of merchandise, and that much or perhaps all of this had to be handled twice, also that every bag, cask, box, barrel and bundle had to be counted and an accurate return made, we can readily perceive that the office of inspector is no sinecure.

We here present a list of the custom house force as it stands at the present time.

Chas. M. Moses, Collector; Joshua L. Chamberlain, Surveyor; Arthur L. Farnsworth, Deputy Collector; James E. Hewey, Appraiser; Albert Lord, Weigher and Gauger; C. W. Roberts, Clerk and Acting Deputy Collector; Horatio Fox, Alpheus E. Grover, Everard Russ, Lyman P. Sturdivant, Leroy H. Tobie, Alfred S. Bradford, Clerks.

Geo. G. Sawyer, Inspector and Special Deputy Surveyor; F. E. Chase, Inspector and acting Deputy Collector; Alonzo Hight, Inspector in charge of foreign Steamships; J. C. Merrill, P. F.

Bradley, S. E. Somers, Geo. F. Small, A. M. Heseltine, H. P. Walker, C. W. Skillings, Inspectors. E. E. Abbott, A. Moulton, H. A. McKenney, A. D. Morse, H. J. Merrill, T. C. M. Jenckes, J. A. Trott, Francis Wiggin, H. A. Elliott, J. H. Richardson, A. L. Fickett, Temporary Inspectors; C. A. Neal, F. H. Osgood, Watchmen; R. W. Anderson, S. M. Manchester, Temporary Watchmen.

Chas. E. Small, Store-keeper; H. R. Sargent, Asst. Store-keeper; John Dimock, Marker; F. F. Sears, Chas. W. Goddard, Boatmen; John C. Ross, Employe in Appraiser's office; David B. Hannigan, Engineer; Harry M. Pettengill, Janitor; Frank Lavoresalle, Asst. Janitor; Wm. W. Dyer, Night Watchman.

Dr. F. W. Huntington, Supt. of Stock Yards; Dr. P. C. Kalloch, M. H. S., in charge of United States Quarantine Service; Dr. S. D. Brooks and Dr. Wm. E. Jonah of United States Hospital Service; First Lieut. P. W. Thompson, Commanding Steamer "Woodbury" of United States Revenue Cutter Service.

THE SEAMEN'S INSTITUTE.

Mr. J. B. Keating, the British Vice Consul at Portland, has always been interested in the welfare of the seamen. Mainly by his efforts the Seamen's Institute was established in 1896. The rooms are at the corner of Fore and Market streets, and consist of a large, light and pleasant reading and smoking room, furnished with desks, chairs, tables and a billiard table. There are writing materials, magazines, papers, books, etc., all free to seamen. Across the hall from this room is another large room with settees, and at one end a stage on which is a piano, which was supplied by Mr. Keating. Entertainments are given here two evenings in a week and sometimes oftener. The different churches of the city provide the entertainment one evening in the week, and the talent from the different vessels generally furnish the entertainment for one evening. The rooms are open all day and every evening and sailors are always welcome. Oftentimes hot coffee is provided and distributed to all present, free. The institute is founded strictly on non-sectarian principles and all seamen in port are welcome at all hours. On Sunday evenings at 8 o'clock sacred hymns are sung at the institute by all present who can sing.

ARTHUR L. FARNSWORTH, DEPUTY COLLECTOR,
PORT OF PORTLAND.

The committee of management for the institute consists of John B. Keating, British Vice Consul, Col. John D. Prindable, United States shipping commissioner, John Torrance, manager of the Dominion line of steamers, T. McClure, manager of the Thomson line, R. Clancey, manager of the Allan line, H. H. Stewart, manager of the Elder-Dempster line, and W. H. Piers, manager of the Hamburg-American line. The superintendent is C. H. Moseley, late of the seamen's institute at Kobe, Japan. The institute is supplied entirely by volunteer subscriptions, and is one of the most worthy objects on which money can be bestowed. Mr. Keating has put both time and money into this most valuable charity, and all lovers of humanity should do what they can to aid him in this most worthy work. An example of practical Christianity can be seen at this institute when some of the noble young women from the churches in the city go down to the rooms of an evening and engage in simple games with the seamen. Mr. Keating is entitled to great credit for conceiving and carrying out the idea of establishing this seamen's institute.

ARRIVAL AND DEPARTURE OF VESSELS.

The number of arrivals and departures counted separately, exclusive of those vessels arriving for refuge only, at the port of Portland, for the calendar year of 1900, aggregated 6,260, or in other words, about 3,130 vessels arrived and as many departed. The matter is here given in detail.

Foreign Steamers.

Of 250 tons and 10 feet draft	5
Of 1,800 tons and 18 feet draft	325
Of 2,000 tons and 22 feet draft	46
Of 3,400 tons and 24 feet draft	48
Of 5,500 tons and 26 feet draft	42

Coastwise Steamers.

Of 40 to 75 tons and 6 to 10 feet draft	10
Of 1,220 tons and 16 feet draft	753
Of 1,600 to 1,800 tons and 15 to 18 feet draft	275
Of 2,000 tons and 22 feet draft	12

Foreign Sailing Vessels.

Of less than 100 tons and less than 10 feet draft	200
Of over 100 tons and over 10 feet draft	65
Of 436 tons and 16 feet draft	102

Coastwise Sailing Vessels.

Of 50 to 75 tons and 6 to 8 feet draft	2,736
Of over 100 tons and over 10 feet draft	538
Of 353 tons and 12 feet draft	49
Of 600 to 800 tons and 15 to 18 feet draft	58
Of 1,200 to 1,500 tons and 15 feet draft	391
Of 1,500 tons and 19 feet draft	53
Of 2,500 tons and 24 feet draft	50

Foreign Barges and Tugs.

Of barges of 650 tons and 17 feet draft	5
Of steam tugs	3

Coastwise Barges and Tugs.

Of barges of 1,650 tons and 17 feet draft	75
Of steam tugs	419

THE LOCAL AND COASTWISE STEAMBOAT SERVICE.

Casco bay, with its 122 beautiful islands, many of them thickly settled, and a large part of them dotted with the summer cottages of the tourist, or of the citizens of Portland and vicinity, requires good steamboat communication with the city for the comfort and convenience of the permanent or temporary dwellers on these islands. Besides these, there are the villages scattered along the shores of the bay, such as Falmouth Foreside, Cumberland Foreside, Mere Point, Harpswell and other resorts.

Three steamboat companies minister to the needs of these various communities, as follows:

The Casco Bay Steamboat Company, C. W. T. Goding, general manager, has a fleet of four boats, the Pilgrim, Forest Queen, Enita and Eldorado. These leave Custom House wharf almost hourly for Peaks', Cushing's, Little and Great Diamond and Long islands.

JAMES E. HEWEY, APPRAISER, PORT OF PORTLAND.

The Harpswell Steamboat Company, Isaiah Daniels, general manager, runs its boats from Portland pier to Long island, Little and Great Chebeague, Cliff island, Harpswell, Orr's island and Bailey's island.

The McDonald Steamboat Company runs its boats from Portland pier to Cousins', Littlejohn's, Great Chebeague and Orr's islands, Sebasco, Small Point and Cundy's harbor. The boats of this company also run to Falmouth Foreside, Prince's Point and East Harpswell.

There are several coastwise steamboat lines from Portland, as follows:

The Maine Steamship Company, Thomas M. Bartlett, agent; J. F. Liscomb, general manager; which runs the magnificent steamers, Horatio Hall and North Star, between Portland and New York, making three trips a week, leaving Franklin wharf, Portland, Tuesdays, Thursdays and Saturdays. The North Star is a new boat, built last year. Both boats are beautifully furnished and are modern in every respect. These boats bring a large amount of freight to Portland to be forwarded to Canada and the West by the Grand Trunk railway, the freight from one boat frequently filling more than twenty cars.

The Portland Steamship Company, Thomas M. Bartlett, agent; J. F. Liscomb, general manager; runs boats daily to Boston, Sundays included. It has two staunch and well furnished boats, the Governor Dingley, a new steel propeller, and the Bay State, both commodious and comfortable boats. They do an immense business, both in carrying freight and passengers.

The International Steamship Company runs boats to Eastport, Lubec, St. John and Halifax, three times a week, also a day boat to Boston three times a week during the summer. These boats start from Railroad wharf at the foot of State street. P. H. Hersey is agent and J. F. Liscomb, superintendent.

The Portland, Mount Desert and Machias Steamship Company runs the fine steamer, Frank Jones, between Portland, Rockland, Bar Harbor, Machiasport and intervening points, twice a week, leaving Portland Tuesdays and Fridays.

The steamer Merryconeag, I. E. Archibald, manager, runs between Portland and Rockland three times a week. The steamer Minneola also belongs to this route.

The steamer Enterprise, A. Race, president and manager, runs between Portland and Boothbay three times a week. The steamer Corinna runs between Brunswick and Portland daily, calling at intermediate points.

In this connection it is proper to say that the Eastern Steamship Company, recently formed, which now controls the Boston and Bangor steamers, and the Boston and Kennebec steamers, has also purchased and now controls the International Steamship Company's boats, the Portland Steamship Company's boats and the Maine Steamship Company's boats.

The number of small boats and vessels engaged in the fishing business connected with Portland is very large, for Portland ranks third among the fishing ports of the United States in the value and importance of her food fisheries, the value of these fisheries being $280,000 annually. This does not include the lobster trade of Portland, which has grown to great value and importance.

THE MARINE RAILWAY.

Portland has a marine railway, located on the South Portland shore, owned and operated by the Portland Steamship Company. It can handle vessels of large size.

THE MARINE HOSPITAL.

Portland has a United States marine hospital, built in 1855. It is located about three miles from the city proper, on a high and beautiful site, near the mouth of the Presumpscot river. It is built of brick and owing to its elevation can be plainly seen from the decks of vessels as they enter Portland harbor. The grounds around the main building are laid out beautifully and are made very attractive in the summer season.

The tonnage dues collected at the custom house, which are mentioned elsewhere, are applied to the support of the marine hospital. They consist of a tax of six cents per ton on all foreign vessels from across the ocean and three cents a ton on all foreign coastwise vessels.

PORTLAND'S STREET RAILWAY SYSTEM.

The street railway system of Portland is one of the finest, both in its equipment and in its management. The Portland Railroad Company now controls about forty miles of electric roads in the

city proper and its suburbs. Its cars are numerous, modern and comfortable. They are run with regularity, and the large assemblages at Riverton, Underwood and Cape Cottage in the summer entertainment season are handled with perfect ease, without confusion or delay.

Every year sees additions to the electric roads which radiate from Monument square, the great center of the street railway system of Portland. Cumberland Mills, Westbrook, Gorham, South Windham, Falmouth Foreside, Yarmouth, South Portland and Cape Cottage could be reached by electrics last season, and now Old Orchard is to be added, the tracks to this last named place being already laid. The officers of the corporation are William R. Wood, president; E. A. Newman, treasurer and general manager.

BANKS, TRUST COMPANIES AND INSURANCE.

All commercial centers must have ample banking facilities, and those adjuncts of safety and confidence, staunch and reliable insurance companies. The city of Portland is fortunate in possessing these necessary foundations for business enterprise in sufficient number, controlled and managed by broad-minded, progressive and able men, always ready to extend every accommodation consistent with sound financial principles.

Portland has seven national banks with an aggregate capital of $3,750,000, two savings banks with $19,599,792 aggregate assets, several trust companies, five loan and building associations, and numerous bankers and brokers, dealers in stocks and foreign exchange, letters of credit, etc. In the matter of insurance there are reliable agencies for all the best fire and marine insurance companies in this and other countries.

The Portland Trust Company and the Union Mutual Life Insurance Company have each a system of safety deposit vaults that are equal in every respect to any in the United States.

PORTLAND'S INDUSTRIAL ESTABLISHMENTS.

According to facts gathered by M. N. Rich, Esq., the efficient secretary of the Portland Board of Trade, the city has 639 manufacturing establishments, including locomotive and car works, rolling mills, tanneries, boot and shoe manufactories, machine shops, steel construction works, foundries, lead and color works,

canning factories, carriage manufactories, woodworking establishments, kerosene oil refinery, match factory, soap factory, drain pipe manufactory, and other leading branches of manufacturing industry, employing more than 8,000 persons, to whom are paid annually in wages, the sum of $3,160,132.

According to the census of 1890, the annual product of all the manufacturing industries of Portland was $11,371,487, and the capital invested was $6,887,557. The sale of Portland's merchandise amounts to $58,500,000 annually.

CONCLUSION.

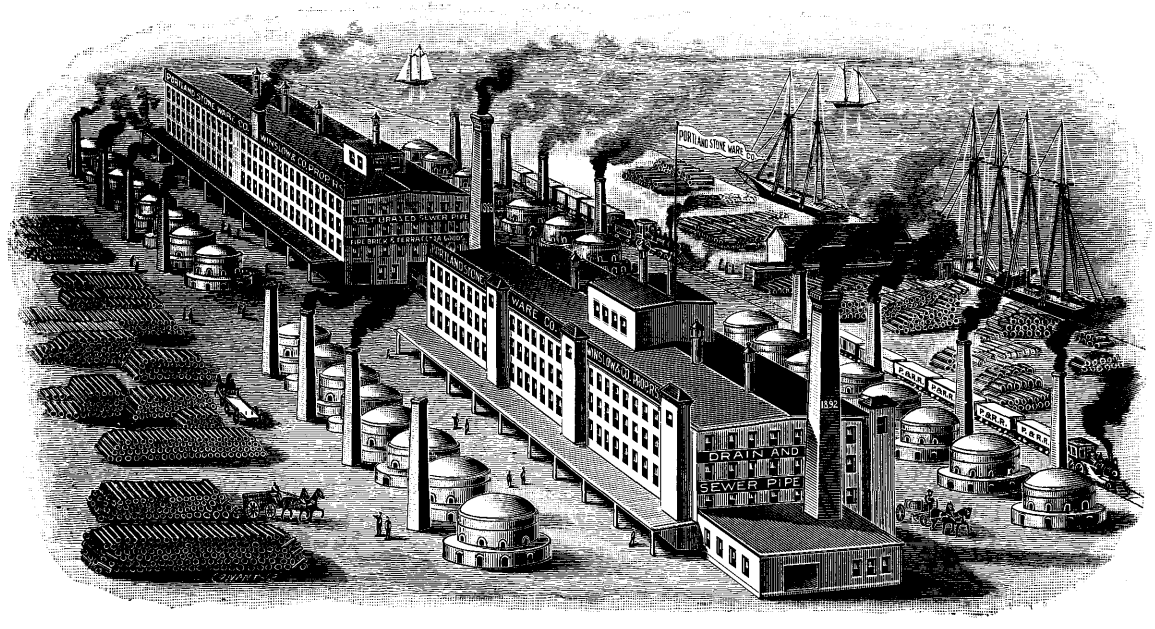
On account of Portland's location in the southwestern part of the State, on a harbor capacious, easy and safe of access at all seasons of the year, with a depth of water allowing vessels up to 12,000 tons burden to come to the docks and wharves at any stage of the tide without a pilot, and on account of its being a railroad center where six great railroad lines terminate and from which railroad communication can be had to all points, north, east, south and west, Portland becomes the logical point of distribution for the agricultural and manufactured products of the State.

The principal agricultural products of Maine are about 1,103,610 tons of hay yearly, valued at $12,801,886; 6,684,496 bushels of potatoes, valued at $4,053,372, and 150,000 barrels of apples valued at $250,000. This refers to apples exported and not to apples reserved for home consumption. Then there are the manufactured goods, consisting of nearly 1,000,000 cases of canned goods, thousands of tons of pulp and paper, and the products of shoe factories and cotton and woolen mills.

The Maine Central railroad system traverses 150 towns, by which the business of a population of 378,437 persons has a direct center in Portland, where connections are made for all parts of the globe.

The marginal railway of Portland, running as it does to nearly every wharf, gives the city unequalled facilities for the transfer of freight.

Finally, Portland is several hours' sail nearer Europe than any other United States port, and lies at the eastern extremity of one of the shortest railroad routes to the Pacific coast.



FACTORY OF PORTLAND STONEWARE COMPANY.

THE PORTLAND STONE WARE COMPANY.

The Portland Stone Ware Company's plant is situated in Portland, on Back cove. The plant was established in 1845, so it has more than half a century of honorable and successful achievement as a part of its history. The leading product of this great industrial plant is the well-known Portland vitrified salt glazed sewer pipe, but it also manufactures fire brick and fire brick shapes of all patterns, such as locomotive arches, lining for boilers, and fire brick for general use; digester linings, vitrified paving bricks, smoke jacks, garden vases and other articles too numerous to mention.

The company's works cover several acres of land on what is known as Deering Point. Two spurs from the Worcester, Nashua and Portland division of the Boston and Maine railroad give all needed railroad facilities, while the ship channel excavated by the United States government across Back cove affords ample water communication. Vessels of 1,500 tons can safely and easily approach the extensive wharf of the company at high tide.

The works consist really of two large independent plants, each with its boilers and engine for motive power. In one of these plants a battery of two Babcock & Wilcox boilers and a Putnam engine, manufactured in Fitchburg, Mass., were installed last winter, the boilers being of 150 horse power each, and the engine, 350 horse power. The company has its own electric light plant also. The main buildings are each three stories in height with a basement. They are each 175 feet in length by 75 feet in width. There are twenty-four kilns for burning the pipe, brick, etc., each thirty feet in diameter. Each kiln will hold 75,000 bricks or six car loads of pipe at one time. The plant employs 200 men on

an average through the year. It pays out in wages annually about $75,000, and its products go to all parts of the United States.

The process of manufacturing the various products is somewhat as follows: The clay used comes mainly from New Jersey, that State of clay. It is brought here in vessels, mostly four and five masted schooners. There are several kinds and qualities of clay, but all different from Maine clay, although Maine clay is used to some extent. From 50,000 to 60,000 tons of clay, however, are brought here annually from New Jersey and landed, each kind by itself, on the wharf. Last year one vessel brought at one time 1,580 tons of clay, the largest single vessel load that ever left New Jersey. This clay is all discharged by the company's own force.

From the wharf the clay is conveyed in carts to a sort of hopper outside of each factory. Certain amounts of each kind of clay are dumped into this hopper and received on an ascending belt with buckets, which takes it up one story. It is then dumped upon a horizontal carrier belt, which conveys it to the separate bins or compartments. Then, as it is needed, it is allowed to descend through separate chutes to a mixing pile in the basement. This is kept thoroughly mixed and leveled by a gang of men provided with shovels, who are directed by an experienced foreman. As fast as the process will allow, the clay is shoveled into the maw of a grinding device known as a pug-mill. Here it is worked together, thoroughly mixed, and ejected in the form of balls, which are dropped upon a traveling belt. The belt conveys the clay balls to a second grinding machine called the hurdy-gurdy mill, in which the clay is worked between two serrated rings, one making 1,200 and the other 400 revolutions per minute. After passing through another pug-mill the clay is dropped in uniform quantities into the buckets of a rapidly moving belt elevator, which takes it to the top floor and dumps it upon a large belt known as the storage belt. This leaves the clay well worked and thoroughly mixed, when it consists of a dense, homogeneous mass. It it now ready for the final process.

SEWER PIPE.

Sewer pipe is made in a press which consists of two cylinders, the steam cylinder containing a plunger, superimposed over a smaller cylinder, in which the clay to be pressed and shaped is placed. When all is in readiness the man in charge of the storage belt allows a quantity of the clay to fall upon a horizontal disc, which is being revolved at the rate of 300 times a minute. This disc breaks up the clay and throws it into the mouth of the lower cylinder. The cylinder is then closed and the plunger is forced downward by a steam pressure of 110 pounds to the square inch. This presses the clay into the moulds or dies contained in the lower cylinder. The plunger is then withdrawn and a three-foot section of sewer pipe, complete in all but finishing and burning, is removed from the bottom of the machine. These sections are produced at the rate of about five per minute. When removed from the machine they are placed upon an endless carrier belt and lowered to the next floor, where they are stored in the drying room and allowed to stiffen somewhat before being baked. While drying they are gone over by finishers who smooth up the ends, and round out any of the sections which may have become slightly misshapen. The sections shrink in baking, therefore allowance has to be made in the length. The shrinkage amounts to about two inches in a three-foot section.

It is often found necessary that branch pieces be made, either in the form of the letters Y or T. This is done by hand and the man who has charge of this important work is said to be one of the most expert branch makers in the United States. He has been with the Portland Stone Ware Company about thirty years. So skillful is he, that although the company manufactures every size of pipe from two inches to thirty inches in diameter, he can instantly cut the bevel for any joint without measurement or aid of any kind. The joints are cut from regular two-foot sections, and stuck with moist clay to the sides of other sections. After the clay has hardened somewhat, the channel is cut through the side of the jointed piece and the edges are smoothed and finished.

BURNING THE PIPE.

The clay is burned in kilns, of which, as has been said elsewhere, there are twenty-four in all. Each kiln is circular in shape, with a vaulted roof and heavy brick walls. The pipe sections are carefully packed into the kiln, the door is bricked and mudded up, and the fires lighted. The fuel used is the best quality of bituminous coal, of which the company uses 15,000 tons annually, and the fire doors are situated at intervals around the walls of the kiln. Inside the kiln, about six inches from the brick wall, is an inner or ring wall of fire brick. The fire strikes this wall, glances upward to the dome of the roof, then down through the pipe sections to the floor of fire brick, whence it is conducted by subterraneous passages to the huge chimneys. In this process, which is called down draught, a greater degree of heat is realized than in other methods.

Each kiln will hold six car loads of sewer pipe or fifteen car loads of brick. When once lighted the fire is not allowed to deaden for seven days, a constant heat being necessary for good results. At the close of this period, when the temperature of the clay is raised to the point of vitrification, a quantity of common salt is shoveled into the fire doors upon the glowing coals. The chloride in the salt combines with the silicious matter in the clay, the reaction causing a coating of real glass to form all over the pipe sections. This gives the pipe its glazed appearance and adds greatly to its wearing capacity. When the glazing process is completed the fires are drawn and the fire holes banked up with mud so that no cold air shall be admitted to the interior of the kiln. The whole glowing mass is now allowed to cool by radiation for four days, when a small amount of cold air is admitted to the interior, the amount being gradually increased as the temperature falls. Great care must be exercised in preventing too rapid cooling, as there is great danger of the pipe cracking and becoming ruined if cold air should strike it while it is too hot.

It requires about thirteen days to complete the entire process of burning. Nine experienced kilnmen are required to look after the fires, five by day and four by night, as it is necessary to recharge them at intervals of an hour and a half while the burning is going on. When removed from the kiln the pipe sections

are taken to the storage yards, where hundreds of thousands of feet of sewer pipe of all sizes are lying waiting for shipment.

The Portland Stone Ware Company has furnished sewer pipe in past years to all the leading cities in New England, including Boston, Springfield, Haverhill, Lawrence, Fall River, Taunton, Providence, Newport, Concord, Manchester, Nashua, Portland, Bangor, Lewiston, Waterville and many other cities and towns.

PAVING BRICK.

Within a few years the Portland Stone Ware Company has been manufacturing vitrified brick for paving purposes that has become very popular. Many cities in the middle and western states are now using these bricks in paving their streets with most satisfactory results. They are said to be economical, on account of their great durability; besides, they are smooth, free from noise and are not slippery. The demand for these paving bricks increases rapidly. The brick making plant is located in Factory A. The clay, after being mixed, is subjected to the same process of pug-milling as in the manufacture of sewer pipe. From the hurdy-gurdy mill it is conveyed to an Auger brick machine. Here it is mixed and the clay ejected in two streams of uniform size upon a slowly moving belt. This takes it under an automatic brick cutter, which will always cut the same weight of bricks from a given volume of clay. From here the clay bricks pass to a Victor re-press which smooths the corners and edges, squares the brick and stamps it with the company's official stamp.

The capacity of this machine is 24,000 bricks per day of ten hours. After being pressed and stamped, the bricks are carted to the drying floor, where they are allowed to harden somewhat before being subjected to the burning process. The drying floor is underlaid by 15,000 feet of steam pipe, through which the exhaust from two engines and from the pipe press cylinders is continually coursing. This furnishes an almost unlimited amount of dry heat and the bricks quickly stiffen and become ready for burning. They are then placed in the kilns and subjected to the same heat as that required by the sewer pipe, and sometimes a quantity of each is placed in the same charge. This branch of the Stone Ware Company's business is increasing so

rapidly that further additions to the plant are now in contemplation.

DIGESTER LININGS.

Another form of brick manufactured by the company, a special acid-resisting fire brick, is used in the lining of the huge sulphite digesters in operation in all the great pulp mills throughout the country. This brick is the product of years of experiment and has been found to resist the corrosive action of the sulphuric acid and other powerful chemicals used in the digestion of wood pulp better than any lining now in existence. The plant is often taxed to its utmost capacity to produce these linings in sufficient quantities to supply the demand. Previous to the discovery of this brick, the lining for digesters had to be imported, and even then it was continually giving trouble and had frequently to be renewed. These bricks or linings are moulded by hand in different shapes and are numbered by courses so that they may readily fit the interior of the huge shell-like structures called digesters, for digesters are not alike in size or shape in different mills.

Another form of this brick is known as drainer tile and is used for lining the bottoms of blow pits in pulp mills. The bottoms of these pits are lined with brick six inches wide by twelve inches long and one and one-half inches thick. In each brick are over 600 holes through which the chemicals drain. There is quite a demand for these drainer tiles.

On the third floor of factory A are located the appliances used in the manufacture of garden vases, chimney tops, wind guards, etc. Thousands of these guards are in use on ventilators and tall chimneys, and all railroad corporations use them to top the smoke outlets at the top of their roundhouses. It is said that the smoke and creosote gases from the engines produce little or no effect upon this vitrified clay.

FIRE CLAY LININGS.

In addition to the bricks already mentioned, the company manufactures an almost endless variety of clay linings for locomotive boilers, stationary boilers, smelting furnaces and the like, each particular kind possessing some distinction from the rest, and all constructed after drawings made by the customers' engi-

neers. In the great storage shed of the company are seen piles of boiler linings for the Maine Central, Intercolonial, Grand Trunk, Washington County and other railroads. There are also immense piles of paving brick, awaiting shipment to the West and South, stacks of fire brick of all shapes and sizes, and large numbers of sections for the archways of different boilers.

A little beyond the storage shed is the field where sewer pipe is laid out ready for shipment. The shed and field are located on made land which has gradually been built up on space wrested from the waters of Back bay. Thousands upon thousands of feet of sewer pipe are stored here, piled in regular tiers according to length and diameter. Orders for any of the products of the plant can be filled promptly, although many of the orders are large, calling for immense quantities of sewer pipe, or for many thousands of paving bricks.

As has been said in another place, the plant consists of two independent factories, each having its own steam motive power. One has a new Putnam engine of 350 horse power, and the other has a Portland Company engine of 200 horse power. Two bi-polar, direct current Belknap dynamos furnish a 110 volt current for the lights in and about the buildings, and two batteries of two boilers each furnish steam for the engines.

The permanent average force consists of about 200 men, although at times more than that number are employed. There has never been a strike here, or trouble of any kind with the employes. The annual wages amount to about $75,000. The chief office for the sale of the company's product is located in Boston.

The concern runs fifty-two weeks in the year and it is of great value to the city of Portland. Many of the employes have been with the company a long time. They are the owners of pleasant homes and their children are in the public schools. They are steady, industrious and law abiding. They belong to the intelligent working class that is really the bulwark of American institutions. We cannot have too many of this class in any community, neither can we have too many industries like the Portland Stone Ware plant.

Mr. E. B. Winslow, the managing owner of this great industry, is a man well-known in business and social circles in Portland.

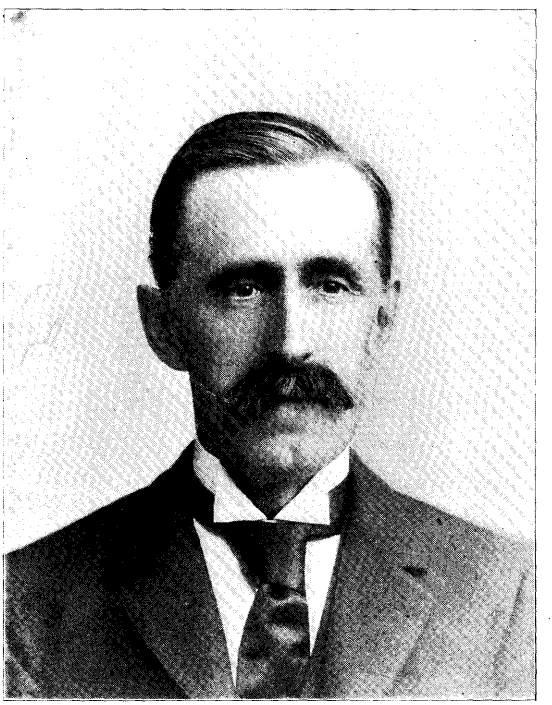
He entered the employ of the Stone Ware Company soon after completing his education and has been the official business manager for many years. He is a progressive, broadminded man in all directions, and has always kept the industry over which he has charge up to the highest state of efficiency by the adoption of up-to-date appliances and methods. Mr. Winslow, besides managing so successfully the stone ware industry, is also prominent in the affairs of many local corporations and social institutions. He was for four years president of the Portland Board of Trade, a position which he filled with honor to himself and credit to the city in its business and commercial relations.

Into every movement having for its object the material or moral advancement of the city or of the State, Mr. Winslow enters heartily and cordially.

Mr. Seth W. Hersey, the superintendent of the Portland Stone Ware Company, has been with the company about fifteen years. He thoroughly understands every detail of the business, and a walk through the works with him as a guide is full of interest and instruction. Mr. Hersey is a progressive man and is quick to appreciate and adopt new methods when satisfactory tests have proven their merit. His supervision of the great plant is eminently able and efficient.

Mr. Hersey is assisted by a corps of able young business men, who look after their respective departments in a manner highly creditable to themselves and to the company. This corps consists of the following: Joseph W. Hersey, assistant superintendent; Carroll A. Leavitt, general bookkeeper; Eugene H. Winslow, manager of sales department; Arthur W. Clark, manager of shipping department; George C. Dunne, Boston, Mass., general sales agent.

This Portland stone ware plant is the only industry of its kind in Maine, and it ranks among the largest and most important stone ware works in the country. Notwithstanding its great size and capacity, the rapidly increasing demands for its products has necessitated substantial additions, which are being made at the time of this writing.



E. B. WINSLOW.

THE FELDSPAR, MICA AND TOURMALINE INDUSTRIES.

While the mining of feldspar, mica and tourmalines cannot be classed among our leading industries, yet for many years mines have been worked in a small way, and at the present time the capital invested in the three industries is fully $100,000, and the number of men employed is nearly 100. There are possibilities and probabilities of expansion in all of them, especially in the mining and grinding of feldspar.

MINING AND GRINDING FELDSPAR.

The Trenton Flint and Spar Company of Trenton, New Jersey, which operates the feldspar quarry and mill in Topsham, was organized in 1864 with a capital of $48,000. Work was begun in Topsham in 1869 and has continued to the present time with increased demand for the product year by year.

At Hedgehog mountain, in the town of Peru, where the Big Gem Mica Company has been operating during the past year, feldspar in large quantities and of excellent quality is found, and the company proposes to erect a mill for grinding feldspar near the mountain in the near future.

The Portland Mineral Company was organized in the spring of 1901. Their mill is situated on Commercial street, Portland, but the quarry is at East Poland.

There are also quarries of feldspar in South Paris which are being worked at the present time. Feldspar from these quarries is sent to Portland, and shipped from that city to New Jersey and other points. About fifteen hands are employed in the quarries at South Paris.

In addition to the above named feldspar quarries, there should be mentioned one in the town of Hebron, the product of which is said to be of superior quality. This quarry has given employment to about fifteen hands during the present season. The feldspar is shipped to different points where potteries are located, and the enterprise thus far has been profitable to the parties operating the quarry.

Mica seems generally to be associated with feldspar, as do also the tourmaline and beryl gems.

There are at present two mills for the grinding of feldspar in the State, one in Portland and one in Topsham. The grinding is a slow process, being done by attrition, and flint pebbles are used for the purpose. At the Portland mill the feldspar is ground finer than flour. Ground feldspar is used extensively in the manufacture of stoneware, and the feldspar of Maine is said to be the finest in the country.

In Trenton, New Jersey, are immense potteries employing from 12,000 to 15,000 hands. A great deal of the ground feldspar from Maine goes to Trenton. Some of it goes, however, to East Liverpool, Ohio, where are extensive stone ware works.

Quartz is also ground, some of which goes to glass works and some to sand paper works. The demand is greater than the supply, so there is no difficulty in finding a market.

MICA MINING.

There are several mica mines in Maine, only two of which are being operated for mica at the present time, while a third one, that at Mount Mica, is being worked for the beautiful tourmalines for which it has become so famous. The mica mines of the State are nearly all situated in Oxford county.

As far as we have any records, Mount Mica in Paris, furnished the first mica for commercial purposes in Maine in 1871. For several years mica mining was carried on there, but the mine was considered more valuable for tourmalines and other gems, and therefore mica mining was discontinued.

The Consolidated Mica Company of Boston is one of the largest companies in the country. It has several mines in Oxford county but is operating only one in Maine at the present time. This is situated at Rumford Point and has been operated

more than a year. Large quantities of mica have been taken out, which, in quality, will compare favorably with that obtained elsewhere.

During the year 1901 a new mica mine was discovered and opened. This mine is located on Hedgehog mountain in Peru. The nearest railroad station is West Peru on the Portland and Rumford Falls railroad. In the early part of the year the Big Gem Mica Company was organized in Portland for the purpose of operating this mine. The officers are, J. M. Gooding, Portland, president; George A. Storer, Brunswick, vice-president; Philip J. Larrabee, Portland, secretary and treasurer. Mr. Charles E. Knox of Peru, who owned the farm on which Mount Hedgehog stands, was paid $3,500 for his property, and active operations were at once begun. The mine thus far promises well and will probably develop into a great industry.

The two mica mines described above have given employment to quite a force of men at remunerative wages, and the indications are that the number will be increased in the future.

Mica is somewhat scarce in this country and a large part of that used in America comes from India. It is said by those competent to judge that the mica found at Hedgehog mountain is superior to that found in India. Certainly it is remarkably clear and transparent.

Mica that will square six inches by twelve inches is very valuable, being worth several times as much per pound as smaller pieces. Scrap mica, that is, pieces too small to cut, is worth about $80 per ton. This scrap mica is used in powdered form in fire proof paints, in the inlaid work on book covers, and for many other purposes.

TOURMALINES AND OTHER GEMS.

Mount Mica in the town of Paris, as a mine of precious stones, was discovered in 1820 by Elijah J. Hamlin and Ezekiel Holmes, two students at Paris Hill academy, who had become interested in the study of mineralogy, and in their search for minerals on the ledges adjacent to the village, accidentally stumbled upon this, the richest and rarest of nature's laboratories. As they climbed up over the smooth and denuded surface of the rock, they were astonished to observe many crystals and fragments of

crystals lying exposed upon the bare ledge and sparkling in the rays of the sun. These they carefully gathered, and tracing others to the earth below the ledge, they eagerly turned up the soil in search of hidden treasures. Thirty or more crystals of remarkable beauty and transparency rewarded the labors of the students. All around the brow of the ledge, large masses of rose red lepidolite, splendid groups of crystalized quartz of white or of smoky hues, black crystals of the oxide of tin, broad foliae of glistening mica, snowy flakes of feldspar, studded with minute, transparent crystals of green and red tourmalines, lay scattered about in profusion.

Subsequent examination indicated that the ledge was perforated with cavities, in which the tourmalines and other minerals had been deposited. It was also evident that the crystals which had been gathered by the students had been set free from these cavaties by the decomposition of indefinite periods of time, which had disintegrated the surface of the ledge. Parts of the ledge yet exposed to view were fairly honeycombed with small cavities and soft spots, where the decomposing feldspar was crumbling away. In these cavities and decayed places other tourmalines were obtained by breaking away the edges of the cavities, or removing the decomposed material. Thus richly and royally did Mount Mica, more than three-quarters of a century ago, reward its discoverers.

Two years after the discovery, the two younger brothers of one of the discoverers, Cyrus and Hannibal Hamlin, made a blast in a rough way. The explosion threw out large quantities of bright colored lepidolite, broad sheets of mica, and masses of quartz crystals of a variety of hues. As the surface was removed from a decayed place in the exposed ledge, great numbers of tourmalines were discovered in the decomposed feldspar and lepidolite. Excavating still farther the boys found some tourmalines of extraordinary size and beauty. In all they obtained more than twenty splendid crystals of various forms and hues. One of these was more than two and one-half inches in length by nearly two inches in diameter. Several others possessed extraordinary beauty, and some of them were quite three inches in length and an inch in diameter. The colors of these tourmalines were chiefly red and green.

In 1825 Professor Shepard of Amherst college unearthed a still richer pocket than the one described, and in 1863 Professor Tenney of Williams college unearthed another pocket containing quite a number of tourmalines. Among them was a large rubellite or red tourmaline, fourteen ounces in weight, and probably at the time the finest and largest specimen known.

In 1871 the ledge was worked for its deposits of mica for commercial purposes. About three hundred tons of rock were removed to a depth of eight feet. Many fine tourmalines were destroyed and lost in this wholesale slaughter of the ledge. At about this time, through the efforts of Dr. Augustus C. Hamlin of Bangor, the Mount Mica Company was formed for the purpose of developing the riches of the mine. In 1881 two crystals were found of marvelous beauty. They were each about three and one-half inches in length and seven-eighths of an inch in diameter. In 1882 an exhibition of Mount Mica minerals was given on Paris Hill at the Academy hall, and as an exhibition of the lithia group of minerals it has never been equalled in this country.

In 1890 arangements were made with Loren B. Merrill and L. Kimball Stone to work the deposit, and they have carried on the work with skill and energy since that time. Mr. Merrill has invented a machine for cutting the gems which is as efficient as any machine yet produced, and the gems are nearly all now cut on Paris Hill.

Mr. Merrill's collection of tourmalines, uncut and cut, is of great value and marvelous beauty. His largest tourmaline is clear green in color, is nine inches in length by one and one-quarter inches in diameter, weighs 411 carats and is valued at $2,000. Albert Poole of Portland has cut and set many Mount Mica gems for Mr. Merrill. A ring made of Byron, Maine, gold, set with three Mount Mica gems, and worth fifty dollars, attracts great attention.

The breadth and depth of the crystal bearing rock of Mount Mica is unknown, but it covers many acres and the operations already carried on may be only the beginning of a great industry whose fame will be world wide.

The products of Mount Mica are enumerated by Dr. Hamlin in his history of Mount Mica, as follows: Pink, white and gray

lepidolite; pink, red, brown, white, green, blue, yellow and black tourmalines; white, gray and yellow cooksite; albite, feldspar, clevelandite, apatite, kaolin; smoky, yellow, and clear, colorless quartz; white and green beryl. In addition to the above he enumerates twenty-six others of less importance.

Paris is not the only town in Maine that has furnished valuable gems, Auburn having contributed tourmalines and beryls of great beauty from a feldspar quarry opened there several years ago. This quarry is not now worked.

Mr. Thomas F. Lamb of Portland is a collector and dealer in Maine gems and precious stones and he has fine and valuable collections in his cabinets on Spruce street in that city. His geological specimens of Maine rocks will prove to any one that Maine granite, feldspar, quartz, etc., are as handsome and valuable as can be found anywhere, also that in tourmaline, beryl and kindred gems Maine stands first in this country.

RAILROADS.

The following table shows the number of employes (including general officers), in the employ of steam railroad companies in Maine, total wages and average daily compensation.

Name of Road.	Number of employes, 1900.	Number of employes, 1901.	Total wages paid, 1900.	Total wages paid, 1901.	Average daily compensation, 1900.	Average daily compensation, 1901.
Bangor and Aroostook Railroad....	1,245	1,045	$499,251 12	$492,178 84	$1 81	$1 84
Boston and Maine Railroad.....	1,180	1,461	660,034 88	881,777 11	1 91	1 91
Bridgton and Saco River Railroad*..	43	43	18,817 77	18,823 62	1 43	1 48
Canadian Pacific Railway	379	315	210,210 42	201,201 28	1 99	1 98
Franklin and Megantic Railway*....	47	53	16,146 24	17,819 30	1 35	1 35
Georges Valley Railroad	13	13	5,702 46	5,702 46	1 59	1 59
Grand Trunk Railway	599	715	372,795 97	410,085 61	1 79	1 80
Kennebec Central Railroad*	15	15	6,724 86	6,928 47	1 58	1 58
Lime Rock Railroad	25	44	13,694 57	16,865 07	1 77	1 72
Maine Central Railroad.	2,866	2,913	1,524,285 95	1,624,008 00	1 75	1 77
Monson Railroad*	12	12	3,985 72	4,284 17	1 47	1 47
Patten and Sherman Railroad	12	†	3,760 28	†	1 50	†
Phillips and Rangeley Railroad*	50	77	18,922 82	18,064 44	1 43	1 44
Portland and Rumford Falls Railway	236	274	104,054 22	127,152 15	1 68	1 74
Rumford Falls & Rangeley Lakes R.R	60	104	31,840 02	33,238 80	1 50	1 52
Sandy River Railroad*.....	44	48	16,169 74	17,962 51	1 44	1 47
Sebasticook and Moosehead Railroad	16	28	4,304 98	5,838 46	1 36	1 19
Somerset Railway..... ...	68	72	32,502 07	36,220 99	1 57	1 63
Washington County Railroad	253	255	127,839 96	126,649 20	1 73	1 71
Wiscasset and Quebec Railroad*... .	42	50	15,269 04	17,870 02	1 15	1 20
York Harbor and Beach Railroad....	35	36	6,811 45	7,947 46	1 72	1 72
	7,240	7,573	$3,693,154 54	$4,070,617 96		

* Narrow (two feet) gauge.
† Leased by the Bangor and Aroostook Railroad.

RAILROAD EMPLOYES AND WAGES.

From an advance copy of the report of the railroad commissioners for the year ending June 30, 1901, which has been placed in our hands, we are able to present some interesting data relating to the number of men and their wages, who are employed in Maine upon the railroads operating in this State.

The foregoing tabulated statements show the number employed, the average daily wages paid and the total compensation of employes for the years 1900 and 1901. The number of employes in 1901 was 7,573, against 7,240 in 1900, a gain of 333. The total number of days worked in 1901 was 2,261,078, against 2,068,876 in 1900, an increase of 192,202. The total compensation paid such employes in 1901 was $4,070,617.96, against $3,693,154.54 in 1900, an increase of $377,463.42. The average daily compensation of employes, including general officers, was $1.79; not including general officers, $1.69.

EMPLOYES UPON STREET RAILWAYS.

While the returns from street railways are not so complete as those returned by the steam railroads, a conservative estimate gives the number of employes nearly the same as in 1900, which for that year was 941. The number of days worked in 1901 was 280,735, and the total compensation paid was $461,279.14, against $423,500.15 in 1900, an increase of $37,778.99.

Upon both steam and electric railroads, there were 8,514 persons employed in 1901, their total compensation being $4,531,-897.10, against $4,116,654.69 in 1900, a gain of $415,242.41. It is estimated that there were dependent upon such employes, not less than 35,000 persons.

MILEAGE OF STEAM RAILROADS IN MAINE.

The total mileage of steam railroads in Maine on June 30, 1901, was 1,918.98 miles, against 1,905 miles in 1900, an increase of 13.98 miles for the year. The increase is made up of 6 miles on the Franklin and Megantic railroad from Carrabasset to Bigelow, and 7 miles on the Sebasticook and Moosehead railroad from Hartland to Mainstream in the town of Harmony, with

some slight changes in remeasurements on other roads. Of this mileage, 1,758.81 miles are broad or standard gauge, and 160.17 miles, narrow or two feet gauge.

STREET RAILWAY MILEAGE.

On June 30, 1900, the street railway mileage in Maine was 268.99 miles, and at the same date in 1901 it was 286.01 miles, an increase of 17.02 miles.

GROSS EARNINGS AND TRAFFIC IN MAINE.

The gross earnings from the operation of steam railroads in Maine for the year ending June 30, 1901, were $10,930,002.86, against $10,008,502.50 in 1900, an increase of $921,500.36.

The number of passengers carried in 1901 was 6,171,014, against 5,417,759 in 1900, a gain of 753,255. The total number of tons of freight hauled in 1901 was 8,387,688, against 7,681,808 in 1900, a gain of 705,880.

As shown by the report of the railroad commissioners, the largely increased earnings were taken advantage of to add permanent equipment and improved construction of road-bed and track, thereby giving more employment to the working classes.

Railroads can only thrive and prosper as they are stimulated by the development of business enterprises in the State. The prospect for increased business activity is shown by preparations for extensive operations now being made by our business men. Already another section of northern Maine is about to be opened up to business by the construction of the Fish River railroad from Ashland to Fort Kent, a distance of 52 miles, which will, without doubt, be operated by the Bangor and Aroostook Railroad Company. This road is located through the timber section of northern Aroostook. An extension of the Rumford Falls and Rangeley Lakes railroad is now under construction from Bemis to the Outlet at Rangeley lake, thence to the foot of Kennebago lake, about 22 miles in all. The opening of this extension will add to the summer travel and open up large timber areas. Therefore, increased business activity and consequent increased prosperity may confidently be expected the coming year.

From 1894 to the present, this bureau has published from year to year such statistics of the railroads of Maine as have a bearing upon the employment of labor and the compensation for the same. In reviewing this work for the last seven years, we note that since 1894 the number of men employed have increased from 4,360 to 7,573, or 73.7 per cent, and the total wages paid from $2,251,893.07 to $4,070,617.96, or 80.8 per cent. In average daily wages per employe, exclusive of general officers, during the same time, there has been an increase from $1.52 to $1.69, or 11.2 per cent.

THE PRESERVATION OF MAINE FORESTS.

An address delivered before the Board of Trade at Rockland, Maine, October 15, 1901.

By FRANCIS WIGGIN.

How to preserve our Forests and increase their area and value is one of the most important problems presented not only to the people of Maine, but also to the inhabitants of every State in the Union.

That section of North America now known as the United States was, at the time of the discovery of the Western Continent, one of the best wooded sections of the world.

The whole of the New England, Middle and Southern States was one dense forest of pine, fir, oak, hickory, hemlock, poplar, maple, cyprus, spruce, cedar, walnut, birch, chestnut, beech and sycamore.

When the early settlers came they had these forests to contend with. Clearings had to be made, and by arduous work the woodlands were transformed into fertile fields, where corn and grain could be raised for man's subsistence. It was but natural that those sturdy pioneers should learn to look upon the trees of the forest as enemies to be subdued and gotten rid of. From the earliest days lumber has been one of the chief articles of commerce in this country. We have exported enormous quantities of lumber to Europe, the West Indies and South America. With the exception of Germany, Sweden and Norway, the Danubian provinces and Austria-Hungary, the countries of Europe are dependent on the rest of the world for their supply of lumber. The foreign demand for lumber is greater to-day than ever before. In the meantime our own country has been advancing in population and in all material ways with such rapid strides that the supply of lumber from our forests is now scarcely equal to our own demands. The total forest area of the United States, as reported by the Forestry Division of the Agricultural Depart-

ment, exclusive of Alaska, is less than 500,000,000 acres. A large part of this hardly deserves the name of forest, because it consists mainly of waste brush lands and tracts that are very thinly stocked with trees. Yet the Forestry Bureau says that an area of more than 400,000,000 acres of well-timbered forest land is required to supply the demand of our own country for lumber. No reliable statistics are at hand from which to estimate the available amount of standing timber in the United States, but one of the foremost authorities in the Forestry Bureau has made an approximate calculation and he has come to the conclusion that the amount of marketable standing timber in the whole country at the present time is 2,300,000,000,000 feet. The annual lumber cut of the whole country can be given quite accurately. It amounts at the present time to 40,000,000,000 feet.

From these figures we can readily compute that in fifty-seven years the whole forest area of the United States will be cut over, at the present annual rate of cutting.

We have come to a point where increased drain means a squandering of capital, and where regard to the husbanding and careful management of our forests is required for the purpose merely for furnishing raw materials for our own consumption. If we inquired into the supply of certain kinds of timber we will be amazed to find out how rapidly the best and most useful trees of our forests are being thinned out, and even threatened with entire extinction. A hundred years ago Maine, Vermont, New Hampshire, New York and Pennsylvania could boast of vast forests of white pine. West of the lakes, Michigan, Wisconsin and Minnesota, so late as fifty years ago, were covered with forests, and the predominating tree was the white pine. Now it is estimated that all the available white pine in all these States would not supply the demand for that lumber in this country alone for six years. The dense forests of Oregon, Washington and California are fast falling before the lumberman's axe, and in a few years those States will be as destitute of lumber as Michigan and Minnesota are to-day. Additional figures might be given but they are not necessary, for every intelligent person who has studied the question at all knows that the danger line has been reached, and that reckless destruction of our forests must cease, or that in two or three generations our timber resources will be exhausted.

WHAT THE NATIONAL GOVERNMENT IS DOING.

Happily there is a brighter and more hopeful side to the problem than we have so far presented. Broad-minded and far-seeing men throughout the length and breadth of the land have become alarmed at the reckless and thoughtless methods pursued in lumbering operations, and both the National government and State legislatures are beginning to wake up to the necessity of immediate and drastic action so far as lies in their power.

On the first of July last, what had been up to that time simply the Division of Forestry in the Agricultural Department was raised to the dignity of the Bureau of Forestry, having three divisions under it. Three years ago the whole number of persons employed in the Forestry Division was eleven, now the whole number is 125. Three years ago the appropriation was $28,520. For the present year the appropriation is $185,440. It is now recognized that forest areas are an important and indispensable factor in collecting the rainfall and regulating the flow of streams, which in turn are essential to the work of reclaiming the so-called desert lands by irrigation.

This subject was presented to the country exhaustively in the reports of the tenth census, and in 1891 a law was passed by Congress enabling the President to set apart as forest reservations any suitable portion of the public domain. President Harrison, under this law, set apart in 1891, 13,500,000 acres of the public lands. President Cleveland's proclamation under this law, dated on Washington's Birthday, 1897, set apart over seventeen million acres, in thirteen new forest reserves. Under the same law President McKinley from time to time set apart other reservations till the whole number of acres now reserved amounts to 46,828,449.

In Alaska there is one reservation of 403,640 acres. In Arizona there are four reservations, aggregating nearly 5,000,000 acres. In California there are nine reservations, aggregating nearly 9,000,000 acres. In Colorado there are five reservations, aggregating 3,100,000 acres. In Idaho there are two reservations aggregating nearly 4,000,000 acres. In Montana there are four reservations, aggregating over 5,000,000 acres. In New Mexico there are two reservations, aggregating 2,700,000 acres.

In Oregon there are three reservations, aggregating 4,600,000 acres. In South Dakota is one reservation of 1,165,000 acres.

In Utah there are two reservations, aggregating about 1,000,000 acres. In Washington there are four reservations, aggregating 7,600,000 acres. In Wyoming there are five reservations, aggregating 3,500,000 acres. Topographical maps of these National Parks are being made as fast as possible, and practical forestry is being applied to them. The National Government is thus affording an object lesson to the whole country in the matter of preserving and caring for a part of the forest area. It might be said in passing, that in selecting the various parks to be set apart, regard was had to the effect of forests on water supply and climatic changes. As far as possible the reservations are located near the source of rivers, so that the regularity of water flowage may be conserved by the preservation of the forests. So much for what the National Government has done and is doing.

WHAT SOME OF THE STATES ARE DOING.

Before coming down to our own State, I wish briefly to allude to what several of the individual States, aside from our own, are doing along the same line. Previous to writing this address I wrote to the Forestry Commissioners of New York, Pennsylvania, Michigan, Minnesota, Wisconsin and New Hampshire. From each State I received most courteous replies and several late copies of the reports of their Forestry departments. I wish particularly to speak of what New York and Pennsylvania are doing and what New Hampshire proposes to do. I would say however, in passing, that the State of California has recently bought and set apart as a reservation a large tract of timber land in the northern part of the State. This tract includes a portion of the famous redwood forest of California and the State will thus be able to preserve some of those wonderful trees, the sequoia semper-virens, which may be classed among the wonders of the world. The State appropriated the sum of $250,000 for the above purpose, and this is only the commencement of a system of practical forestry by the State of California.

Once the State of Pennsylvania was covered with a dense forest of most valuable woods. To-day that State has a wooded area of only 23,200 square miles, or a trifle more than has our

own State of Maine. To give an idea of the fearful destruction of Pennsylvania forests, I will quote from an address delivered before the Engineers' Club of Philadelphia by Hon. Joseph T. Rothrock, the able Commissioner of Forestry for Pennsylvania. Mr. Rothrock says, "Pennsylvania was originally one of the best-timbered States along the Atlantic seaboard. It would not be excessive if I were to say that the hard woods averaged from 2,500 to 3,000 feet board measure per acre for the whole State. The hemlock in the regions of its growths would average between 5,000 and 30,000 feet to the acre, and the white pine often surpassed the hemlock.

In the early days of Cincinnati and Ohio, the State of Pennsylvania sent white pine there to enter into the construction of dwellings. In 1900 Pennsylvania brings white pine from Michigan and Minnesota for her own use. In 1855 the white pine forests of Pennsylvania, extending over nine counties, were reckoned as inexhaustible. But to-day in those same counties they are roofing their houses with shingles from Oregon, and weather boarding them with poplar from Tennessee. Mature black walnut is to-day almost exterminated in the eastern half of the State. Our railroads after exhausting the white oak and rock oak, were constrained to use chestnut for cross-ties. Now they are bringing in for this purpose yellow pine from the southern States. I believe there is not 20 per cent. of the area of this State now covered with timber that has now, or ever will have commercial value."

The foregoing is what the Commissioner of Forestry of the great State of Pennsylvania has said concerning the fearful waste and destruction of the once magnificent forests of that State. He goes on to say in the same address, that the shrinkage in forest area has caused a corresponding shrinkage in the flowage of streams and that droughts are more frequent and longer continued than in former days, when the State was well wooded. By the efforts of Mr. Rothrock and other far-seeing men the people of Pennsylvania were at last aroused to a sense of the serious state of the matter and through their legislature they proceeded to act. In 1897 the Forest Commissioner was authorized to purchase and locate forestry reservations as follows: One of not less than 40,000 acres upon waters which drain mainly into the Delaware river. One of not less than 40,000 acres upon

waters which drain mainly into the Susquehanna river. One of not less than 40,000 acres upon waters which drain mainly into the Ohio river. The same act authorizes the commissioner to have recourse to a jury to assess damages for any property to be taken, and another act authorizes the commissioner to purchase for the state for forest purposes any lands sold for the non-payment of taxes.

Another act of the legislature will probably do more to encourage the protection and cultivation of forests by individuals than any other law ever enacted in any State. Under the act alluded to any owner or owners of forest land in Pennsylvania having on said land not less than fifty trees to the acre, each of said trees to measure not less than eight inches in diameter six feet from the ground, shall be entitled to receive annually from the commissioners of their respective counties during the period said trees are maintained in sound condition, a sum not to exceed forty-five cents per acre.

Under these wise laws the State of Pennsylvania has begun the restoration and preservation of her forests, and none too soon, for at the rate she was going, only a few years would have elapsed before anything worthy to be called a forest in the great State of coal and iron would have ceased to exist.

The State of New York is the most advanced and its people are the most enthusiastic of any State in the Union in the matter of forest preservation. The Forest Preserve Board of the State is authorized to enter upon and take possession of such forest lands in the Adirondack region as it deems most suitable for reservation. The Board is also authorized to buy such lands as are advertised to be sold for non-payment of taxes as they find fitted for forestry purposes. Under these laws the Forest Preserve Board has bought and set apart in the Adirondack region 1,290,987 acres, and in the Catskill region 79,941 acres, as forest reservations. They have also bought and set apart for the use of the Cornell College School of Forestry, 30,000 acres of timber land. In the year 1898 the legislature appropriated $600,000 to be used by the Forest Preserve Board in purchasing forest reservations. In the year 1897, $1,000,000 was appropriated for the above purpose. Liberal appropriations were made also in 1899 and 1900 for the same purpose. Forestry methods are to be applied to these reservations as fast as possible.

I might say in this connection that there are three schools of forestry in the United States at the present time, namely, one at Cornell University, State of New York, one at Yale University, Connecticut and one at Biltmore, North Carolina. It reflects credit on our State and on the Bureau of Industrial Statistics, that the school of forestry at Cornell University asked for twenty-five copies of the report of the bureau for 1899 to be used as a text-book in the forestry class, on account of the article on Pulp and Paper and the question of spruce supply in that number.

The people of the State of New Hampshire have been a little slow to act in reference to the preservation of their forests, but they have awakened to their danger at last, and a vigorous policy will undoubtedly be inaugurated in that State in the near future. The State has a Forestry Commission and it is doing excellent work. The latest report of the Forestry Commission of New Hampshire was one of the most interesting and valuable reports that I received from other States.

Before proceeding to speak of our own State of Maine, it might be proper to say that the Bureau of Forestry at Washington offers to give advice and practical assistance to farmers, lumbermen and others in handling their forest lands, with a view to bringing about the substitution of conservative for destructive methods. This offer provides for the preparation of working plans with full directions for work, and the sending of trained foresters to advise and assist, without cost to the owners of wood lots, except in the case of large tracts, whose owners would be expected to pay the necessary expenses for travel and subsistence.

THE TIMBER LANDS OF MAINE.

Almost the first mention of what is now the State of Maine, was Pring's description of it as "A high country full of great woods that came down to the waters edge." There is no doubt that when the Pilgrims landed on Plymouth Rock, the whole of the present State of Maine was covered, with the exception of the marshes along the seaboard and the intervales along the rivers, by a dense forest of valuable woods, such as hemlock, maple, beech, oak, birch, basswood, cedar, fir, spruce and poplar, while towering above the whole, here and there, the white pine, the monarch of the woods, reared his lofty head. The State has

in round numbers about 31,500 square miles of surface. The area of lakes, ponds and river surfaces is about 3,200 square miles, leaving a total land surface of 28,300 square miles. There are in farms 9,000 square miles. That would leave in the wilderness state 19,300 square miles. It is estimated that 2,400 square miles included in the farm lands consists of woods. Add that to the part remaining in the wilderness state, and we have 21,200 square miles of woods or forest land in Maine, a territory equal in extent to the combined areas of Massachusetts, New Hampshire and Connecticut. We see by these figures that notwithstanding the fearful inroads made in our forests by fire and the lumberman's axe, Maine is still a well-wooded State. It must not be understood, however, that the whole wooded area consists of timber lands. It is doubtful whether one-half of it may be so considered. The wooded area includes everything covered with trees, no matter if those trees are utterly worthless for commercial purposes. Fifty years ago the State owned a large portion of the wild lands. It is useless to recall here the history of the reckless and short-sighted policy pursued by the State in parting with its lands, much of which was sold for twelve cents an acre, notwithstanding the fact that it was covered with valuable timber. To-day the State only owns the lands reserved for school purposes in unorganized townships. Practically the State owns no wild lands at all.

From the earliest days Maine has been a lumbering State. The spruce and pine along the banks of the Saco, the Androscoggin, the Kennebec, the Penobscot, and the St. Croix and the tributaries of these waters, was easily accessible, and these rivers bore the logs cheaply and swiftly to the lumber mills, located at those convenient intervals, where nature had kindly and thoughtfully placed waterfalls, so that man could harness the flowing force and make it turn the wheels of industry, as it sped on its way to the great ocean. The lumber industry of Maine has been from the earliest times and is now the State's most important industry. In a publication entitled, "The Lumber Trade of the United States," a table is given showing the lumber cut on the Penobscot River for every year during the last fifty years. The average yearly cut in round numbers is more than 150,000,000 feet, board measure, or 7,500,000,000 feet dur-

ing the half century. It may safely be estimated that the cut in the entire State for the same period of time has been 25,000,000,000 feet. These are enormous figures and represent a continual drawing on our timber resources without any particular regard to the future, or to the consideration of the question whether our forest area can stand such a constant drain.

THE GROWTH OF TIMBER.

Most of our valuable timber trees are of slow growth. Careful observations and study by expert foresters proves conclusively that it requires from one hundred and fifty to two hundred years for a spruce tree to grow from the small plant to the tree of 15 inches diameter, breast high. The late E. S. Coe, of Bangor, than whom there was no higher authority in Maine, said that it required one hundred and fifty years for a spruce tree to come to maturity.

The white birch is also a tree of slow growth requiring from seventy-five to one hundred years to arrive at maturity. It is perhaps true that an area of spruce timber can be lumbered over the second time after an interval of fifteen or twenty years, provided the first cut was not very close, and no trees less than 10 or 12 inches diameter, breast high were taken. If we reduce our 21,000 square miles of forest area to acres we shall have 13,440,000 as our result. A conservative estimate of the annual growth per acre on forest areas, not under forestry regulations and methods, is fifty feet, board measure. Applying this estimate to our own forest area and it will give as the total annual growth 672,000,000 feet, board measure. If we assume that 500,000,000 feet of this growth belongs to our spruce timber we shall just about equal the average cut of spruce annually for the last five years. In other words we have reached the danger line in the cut of spruce timber in the State. In regard to pine timber, the danger line has long been passed, the interest long since ceased to supply the demand, and to-day the principal is nearly exhausted. Not many years ago there were vast tracts of white birch forest in the State.

Two great industries came to us by reason of our possession of fine white birch growth, namely spool making, and the wood novelty business. It is hardly necessary to refer to the great

Willimantic and the Maverick spool manufactories, and the great wood novelty concerns of Russell Bros., Estes & Co., at Farmington, as examples of these industries. If the birch timber cut had gone to supply our own manufactories, the yield would probably have sufficed without exhausting the birch timber, but fully one-half of the birch timber cut has been shipped, in the shape of spool bars to supply the spool manufactories of Great Britain, and already we can begin to see the end of our white birch supply, unless far different methods of cutting are adopted at once. It is estimated that from 35,000,000 to 40,000,000 feet of white birch are cut annually in Maine, and hitherto not much regard has been had to reserving the small trees. Anything that could be sawed into a spool bar has been taken.

THE DEMAND OF PAPER AND LUMBER MILLS.

When pulp and paper first began to be manufactured from wood, poplar only was used. Poplar is a fast growing wood and there are ample supplies of it in Maine to-day. But spruce is now the favorite pulp wood and the demand for spruce to supply the great pulp and paper plants of the country is something enormous. Maine to-day stands second only to New York, in this country, in the manufacture of pulp and paper. We have to-day in Maine 30 pulp mills and 28 paper mills, and there is besides one monster pulp and paper plant in process of erection, namely, the Oxford Paper Co's mill at Rumford Falls.

The total amount of capital invested in the pulp and paper business in Maine exceeds $30,000,000. The total value of the annual product is about $18,000,000. The amount paid in wages is more than $5,000,000, and the sum paid for wood annually amounts to over $2,500,000. It requires at present 350,000,000 feet of spruce lumber annually to supply these pulp and paper mills. The amount of timber of all kinds required by the saw mills amounts to 250,000,000 feet more, and the question whether our forests can continue to stand this constant annual drain or not, is one of the most serious questions confronting the people of Maine today. Taking into consideration the future welfare and prosperity of our State, we can safely assert that this question transcends all other questions combined in importance. If our forests were managed as the

Black Forest and other forests are in Germany they would furnish more than 600,000,000 feet of timber annually for an indefinite period. Under the excellent forestry methods now prevailing in Germany, not only have the forests in that country maintained their area intact, but they have been made to yield large incomes to their owners. Forestry may be defined as the conservation, care, and profitable use of the woodlands and forests. Under its regulations all young and thrifty trees under a certain size are carefully reserved; useless trees and underbrush are removed; only one horse is used in hauling out logs when cut. These are only a few of the methods pursued under forestry regulations, but in this and other states in this country, a total disregard of even ordinary care in preserving the young growth has been the rule rather than the exception.

In many cases stumpage has been sold with the right to strip the land entirely of any lumber large enough to be used in any part of lumber manufacture, or large enough to be cut into chips for the digester of the pulp mill. I have seen and doubtless others present have seen timber lands that have been entirely stripped of everything except the rocks, by reckless and unscrupulous methods of lumbering.

Washington county in this State was once one of the best lumber counties in New England. What is it today? I need not ask any one who has ever travelled across that great county. It was fortunate for the people of that region that the great sardine industry began to be established there at about the time the lumber industry begun to decline. Yet there is not a county in the State where the land is better adapted to forests than Washington county. Other sections of the State might be cited, the prosperity of which has passed with the passing of the forests. I am presenting facts in this paper. And in the light of existing facts I say that it is high time that the thinking people of this State became aroused in view of the condition that confronts them. The preservation of our forests means permanent employment for thousands of wage earners. It means comfortable homes for the wives and children of those laborers. It means civilization, prosperity, progress and happiness. It means the preservation of our magnificent water powers, for our rivers depend on the preservation of forests to maintain their life and

volume. Other great industries, as the cotton and woolen industries and all industries that depend on water for their motive power are interested in this great question. This State has many and varied resources. Many of them are practically inexhaustible. There is no danger of exhausting our granite; there is no danger of exhausting our lime; there is no danger of exhausting our slate. But our lumber resource is worth a hundred times more than all these combined, and this resource is in great danger of being exhausted, possibly not during our lives, but we do not live for ourselves alone, and there is a moral obligation resting on each generation to leave to their successors and heirs, the landed estate which they received from their fathers, in a better and more valuable condition than they found it when they took possession.

WHAT SOME CORPORATIONS ARE DOING.

The next questions are, what can the State do, and what can the State Board of Trade do? Before proceeding to answer these questions, it may be well to state what individuals and corporations are doing. The danger to our forests does not come so much from the extensive land owners and the large companies as from the small owners. The small owners in many cases are heirs of former large owners, and they have no particular interest in their lands except to realize as much money as possible from them at once. The large owners are more conservative and many of them draw their contracts for the sale of stumpage with great care and strictness. The great corporations, especially the pulp and paper companies, have in some cases put millions of dollars into the erection of their plants. They cannot afford to exhaust the supply of raw material on which their very life depends. Hence we find the International Paper Co., which now owns nine pulp and paper mills in the State, making and enforcing a rigid rule in cutting lumber on the 300,000 acres or more of timber land which it owns in Maine. This rule provides that no trees less than twelve inches in diameter, breast high, shall be cut. The great Northern Paper Co., which owns the pulp and paper mills at Millinocket and Madison, has a similar rule for its Maine timber tract of over 300,000 acres. These two companies employ foresters on their timber lands.

The Berlin Mills Co. also employs Mr. Austin Cary, one of the most skilled foresters in the country, on their timber lands in Maine and New Hampshire. One of the duties of these foresters is to select the township or townships on which lumbering operations are to be carried on and to select and mark the trees to be cut.

These three great companies are affording an object lesson worthy to be copied by all timber owners. So much for individuals and corporations.

WHAT CAN THE STATE DO?

Now what can the State do? I have spoken of what several of the States are doing. Pennsylvania will soon have 3,000,000 acres in forest reservations. New York will keep on purchasing land till her forest reservations amount to 3,000,000 acres. Nearly every State in the Union is moving in the same direction. On these reservations forestry methods will be applied as fast and as far as possible.

Now the question is, should not the State of Maine commence to move in the same direction. The very fact that the State had taken some action would have a beneficial effect. Shall the State of Maine, which is so proud of its motto, Dirigo, and which in so many ways has lived up to the full meaning of that magic word, inscribed on the State seal, look on resignedly while the destruction of the woods on which the State's life and prosperity depends, goes on unrestrained, and not take any action in the matter? There is the same authority under the constitution for the State to exercise the right of eminent domain that there is in the States of Pennsylvania, New York, New Hampshire, Minnesota, Michigan and California. The State of Pennsylvania located its three principal State Parks around the head waters of its three principal rivers, so that for all time to come the forest lands there might retain the rainfall and act as reservoirs in keeping the flow of the streams regular. Maine has also three important rivers, which have done more for the industrial development of the State than all other causes combined. Possibly there is no imminent danger at present that the flow of water in either the Androscoggin, the Kennebec or the Penobscot will be so decreased in volume as to endanger the life

of the industries along those noble streams. But let the destruction of our forests go on for the next twenty-five years at the same rate and in the same reckless manner that has been the case during the last twenty-five years, and, unless scientific experts are all wrong, the volume of water will not be so constant as now. There will be greater and more disastrous floods in the spring because the forest lands, being stripped, will not retain the falling rain or the water from the melting snows, while on the other hand, the rivers will run very low during the heated summer, and during the fall and winter.

The State of New York has located one of its reservations in the beautiful Adirondack region, another she has located in the Catskill hills. Both of these locations were chosen partly on account of the picturesque beauty of their natural surroundings. But neither New York or any other State has such grandeur of scenery as Maine. What other State could set apart as reservations three such sections as the six townships containing the five great Rangeley lakes, whose Indian names are Oquossac, Mooseluckmeguntic, Welokenenbacook, Molechunkamunk and Umbagog; or the ten townships that contain the great Moosehead lake with Kineo and the Spencer mountains, or the twelve townships that would include our highest elevation, Mount Katahdin, and the beautiful West Branch lakes, the Millinocket, the Pamedumcook, the Umbajejus and the North and South Twin lakes. Could these three sections be set apart forever as State Parks, posterity would have cause to hold in grateful remembrance the wisdom and foresight of the public spirited men who were instrumental in bringing about such a desirable result.

The investment would be a profitable one for the State. What a revenue the State might be in possession of to-day if it had retained its timber lands, put them under forestry regulations, and allowed nothing but mature trees to be cut on them. In Germany many cities own tracts of forest land, and derive a large annual revenue from the sale of timber from them. The poorest and cheapest land in the State is adapted to forest growth, such as the sides of hills and mountains, ravines, rocky and barren lands where nothing but trees could be made to grow. Such lands could be purchased at a low price per acre and by proper regulations and care could be made to pay large interest on the investment.

I have said in another place that the present annual cut of lumber in Maine amounts to 600,000,000 feet, board measure. The annual demand in the future will go above rather than below this amount. The pulp and paper mills at present owned and operated in the State demand and must have 350,000,000 feet of spruce lumber yearly. One large mill is now in process of building and others will follow. 250,000,000 feet of lumber is a low estimate for the saw mills, and the annual demand will go above rather than below that amount.

Those who have studied the subject all agree that the annual growth on the whole forest area of the State cannot much exceed 600,000,000 yearly, unless forestry methods prevail. So, gentlemen, you will perceive that we are brought face to face with a condition and not a theory. Shall the State look calmly on and see the gradual extinction of our forests, the destruction of our great lumber manufacturing industries and our great pulp and paper outputs because our denuded forests can no longer supply the raw material?

WHAT CAN THE STATE BOARD OF TRADE DO?

What can the State Board of Trade do? This association of intelligent business men has successfully grappled with many vital questions in the past and has so pressed them upon public attention and upon the attention of our legislators that many of them have been dealt with favorably. But gentlemen there has never been brought to your consideration a question of greater importance than that of the preservation of our forests. You can appoint a committee to investigate the subject in all its bearings. That committee can report to you their conclusions, and then it will remain for you to address the legislature by resolution or otherwise, if in your judgment such action shall seem appropriate and wise. There are other things to be done. Public interest must be aroused. Arbor day should be something more than a mere holiday. We must recollect, however, that the planting of trees by the roadside, or in public parks, is not forestry in its broad sense. Forestry is the care, cultivation, conservation and utilization of our forests. A class in forestry in the University of Maine would probably be of as much value to the State as a class in law or medicine, and it might be well for the trustees of

that institution to consider the advisability of establishing a course of study in forestry.

We all love the State of Maine; we take pride in her natural resources and in her great industries. We love to tell of the development of Rumford Falls, of Lewiston, Madison and Millinocket. We take pride in the wonderful scenery of our State, in our beautiful lakes, our streams, our countless attractions for summer visitors, in the title sometimes given us as the summer play ground of the nation; but do we sufficiently realize that the continuity of all these blessings depends on the preservation of our forests? When we consider what a grand heritage is ours in a magnificent forest area, covering still more than half the surface of our State, filled with beautiful and valuable trees of many kinds, we are led to recite that grand forest hymn composed by America's great nature poet, William Cullen Bryant:

"The groves were God's first temples,"
Father Thy hand
Hath reared these venerable columns, Thou
Didst weave this verdant roof. Thou didst
Look down upon the naked earth, and forthwith rose
All these fair ranks of trees; they in thy sun
Budded, and shook their green leaves in thy breeze,
And shot towards heaven. The century living crow,
Whose birth was in their tops, grew old and died
Among their branches, till at last they stood,
As now they stand, massy and tall and dark,
Fit shrine for humble worshipper to hold
Communion with his maker. * * *
My heart is awed within me, when I think
Of the great miracle that still goes on,
In silence, round me,—the perpetual work
Of thy creation, finished, yet renewed,
Forever. Written on Thy works, I read
The lesson of thy own eternity.
Lo! all grow old and die: but see again,
How on the faltering steps of decay,
Youth presses—ever gay and beautiful youth,
In all its beautiful forms.

ABSTRACTS FROM BULLETINS OF THE TWELFTH CENSUS.

Population by Cities, Towns, Plantations and Unorganized Places in the State of Maine.

ANDROSCOGGIN COUNTY.

Cities.	1900.	1890.	Gain.	Loss.
Auburn	12,951	11,250	1,701	
Lewiston*	23,761	21,701	2,060	
Towns.				
Durham	1,230	1,111	119	
East Livermore	2,129	1,506	623	
Greene*	826	885	-	59
Leeds	1,065	999	66	
Lisbon	3,603	3,120	483	
Livermore	1,125	1,151	-	26
Mechanic Falls†	1,687	-	1,687	
Minot†	808	1,355	-	547
Poland†	1,648	2,472	-	824
Turner	1,842	2,016	-	174
Wales	436	451	-	15
Webster*	1,131	951	180	
Total	54,242	48,968	6,919	1,645
Net gain	-	-	5,274	

* Parts of Lewiston and Greene annexed to Webster since 1890.

† Mechanic Falls organized from parts of Minot and Poland since 1890.

AROOSTOOK COUNTY.

Towns.	1900.	1890.	Gain.	Loss.
Amity	404	420	-	16
Ashland‡	1,513	789	724	
Bancroft	318	264	54	
Benedicta	350	317	33	
Blaine	954	784	170	
Bridgewater	1,179	946	233	
Caribou	4,758	4,087	671	
Crystal	370	297	73	
Dyer Brook	280	221	59	
Easton	1,215	978	237	
Fort Fairfield	4,181	3,526	655	
Fort Kent	2,528	1,826	702	
Frenchville §	1,316	2,560	-	1,244
Grand Isle	1,104	964	140	
Haynesville	316	280	36	
Hersey	199	151	48	
Hodgdon	1,130	1,113	17	
Houlton	4,686	4,015	671	
Island Falls	1,063	223	840	

‡ Includes Sheridan Plantation, which was annexed to Ashland in 1901 and having a population of 433 in 1900, and 221 in 1890.

§ Saint Agatha set off from Frenchville since 1890.

Population in the State of Maine—Continued.

AROOSTOOK COUNTY—CONTINUED.

Towns.	1900.	1890.	Gain.	Loss.
Limestone	1,131	933	198	
Linneus	834	965	-	131
Littleton	956	924	32	
Ludlow	394	375	19	
Madawaska	1,698	1,451	247	
Mapleton	853	832	21	
Mars Hill	1,183	837	346	
Masardis	438	250	188	
Monticello	1,332	1,132	200	
New Limerick	600	567	33	
New Sweden	867	707	160	
Oakfield	860	720	140	
Orient	208	244	-	36
Perham	580	438	142	
Presque Isle	3,804	3,046	758	
Saint Agatha*	1,396	-	1,396	
Sherman	980	909	71	
Smyrna	411	303	108	
Van Buren	1,878	1,168	710	
Washburn	1,225	1,097	128	
Weston	367	404	-	37
Woodland	1,096	885	211	
Plantations.				
Allagash	190	200	-	10
Cary	400	390	10	
Castle Hill	567	537	30	
Caswell	368	212	156	
Chapman	285	231	54	
Connor	453	526	-	73
Cyr	502	429	73	
E	44	20	24	
Eagle Lake	406	313	93	
Garfield	111	86	25	
Glenwood	178	183	-	5
Hamlin	574	484	90	
Hammond	116	109	7	
Macwahoc	153	216	-	63
Merrill	298	244	54	
Moro	217	199	18	
Nashville	32	34	-	2
New Canada	419	301	118	
Oxbow	153	94	59	
Portage Lake	241	140	101	
Reed	399	203	196	
Saint Francis	568	461	107	
Saint John	371	226	145	
Silver Ridge	168	195	-	27
Stockholm	191	66	125	
Wade	271	158	113	
Wallagrass	784	595	189	
Westfield	259	166	93	
Westmanland	100	52	48	
Winterville	124	72	52	
Unorganized Places.				
Molunkus	74	77	-	3
Township A, Range 2 †	11	12	-	1
Township C, Range 2	26	7	19	
Township 1, Range 4	-	11	-	11
Township 1, Range 5	3	62	-	59
Township 3, Range 2	8	12	-	4
Township 7, Range 3	34	-	34	

*Set off from Frenchville since 1890.

† All townships in Aroostook county are in the division of "West from the East Line of the State" (W. E. L. S.)

Population in the State of Maine—Continued.

AROOSTOOK COUNTY—CONCLUDED.

Unorganized Places.	1900.	1890.	Gain.	Loss.
Township 7, Range 5	21	17	4	
Township 8, Range 4	111	-	111	
Township 8, Range 5	-	23	-	23
Township 9, Range 4	23	-	23	
Township 9, Range 5	26	8	18	
Township 12, Range 13	3	7	-	4
Township 13, Range 15	31	28	3	
Township 14, Range 6	21	19	2	
Township 14, Range 14	-	1	-	1
Township 14, Range 16	27	23	4	
Township 15, Range 6	38	10	28	
Township 15, Range 11	28	43	-	15
Township 16, Range 4	-	9	-	9
Township 16, Range 12	39	35	4	
Township 17, Range 4	101	-	101	
Township 17, Range 5	144	46	98	
Township 18, Range 10	78	49	29	
Total	60,744	49,583	12,929	1,774
Net gain	-	-	11,155	

CUMBERLAND COUNTY.

Cities.	1900.	1890.	Gain.	Loss.
Portland	50,145	† 41,778	8,367	
South Portland*	6,287	-	6,287	
Westbrook	7,283	6,632	651	
Towns.				
Baldwin	821	932	-	111
Bridgton	2,868	2,605	263	
Brunswick	6,806	6,012	794	
Cape Elizabeth*	887	5,459	-	4,572
Casco	783	844	-	61
Cumberland	1,404	1,487	-	83
Falmouth	1,511	1,580	-	69
Freeport	2,339	2,482	-	143
Gorham	2,540	2,888	-	348
Gray	1,388	1,517	-	129
Harpswell	1,750	1,766	-	16
Harrison	969	1,071	-	102
Naples	813	846	-	33
New Gloucester	1,162	1,234	-	72
North Yarmouth	642	709	-	67
Otisfield	728	838	-	110
Pownal	592	712	-	120
Raymond	823	927	-	104
Scarboro	1,865	1,794	71	
Sebago	576	681	-	105
Standish	1,504	1,841	-	337
Windham	1,929	2,216	-	287
Yarmouth	2,274	2,098	176	
Total	100,689	90,949	16,609	6,869
Net gain			9,740	

* South Portland set off from Cape Elizabeth since 1890.

† Includes population of Deering (5,353) annexed since 1890. The population of Portland 1890 was 36,425.

Population in the State of Maine—Continued.

FRANKLIN COUNTY.

Towns.	1900.	1890.	Gain.	Loss.
Avon	448	439	9	
Carthage	334	390	-	56
Chesterville	709	770	-	61
Eustis	436	321	115	
Farmington	3,288	3,207	81	
Freeman	397	464	-	67
Industry	553	545	8	
Jay	2,758	1,541	1,217	
Kingfield	693	601	92	
Madrid	326	441	-	115
New Sharon	946	1,064	-	118
New Vineyard	584	660	-	76
Phillips	1,399	1,394	5	
Rangeley	961	616	345	
Salem	195	218	-	23
Strong	637	627	10	
Temple	394	470	-	76
Weld	738	885	-	147
Wilton	1,647	1,622	25	
Plantations.				
Coplin	70	71	-	1
Dallas	172	184	-	12
Greenvale	57	52	5	
Lang	87	51	36	
Rangeley	98	58	40	
Unorganized Places.				
Jerusalem	35	18	17	
Lowelltown	90	49	41	
Mount Abraham	4	3	1	
Perkins	63	94	-	31
Redington	113	28	85	
Sandy River	21	45	-	24
Washington	20	29	-	9
Township E	-	29	-	29
Township 2, Range 5, W. B. K. P	3	-	3	
Township 2, Range 6, W. B. K. P	5	7	-	2
Township 2, Range 8, W. B. K. P	73	-	73	
Township 4, Range 2, W. B. K. P	35	9	26	
Township 4, Range 3, W. B. K. P	33	25	8	
Township 6	22	26	-	4
Total	18,444	17,053	2,242	851
Net gain			1,391	

HANCOCK COUNTY.

City.	1900.	1890.	Gain.	Loss.
Ellsworth	4,297	4,804	-	507
Towns.				
Amherst	364	375	-	11
Aurora	152	175	-	23
Bluehill	1,828	1,980	-	152
Brooklin	936	1,046	-	110
Brooksville	1,171	1,310	-	139
Bucksport	2,339	2,921	-	582
Castine	925	987	-	62

Population in the State of Maine—Continued.

HANCOCK COUNTY—CONCLUDED.

Towns.	1900.	1890.	Gain.	Loss.
Cranberry Isles	374	330	44	
Dedham	327	366	-	39
Deer Isle*	2,047	3,422	-	1,375
Eastbrook	248	246	2	
Eden	4,379	1,946	2,433	
Franklin	1,201	1,264	-	63
Gouldsboro†	1,259	1,709	-	450
Hancock	900	1,190	-	290
Isle au Haut	182	206	-	24
Lamoine	594	726	-	132
Mariaville	218	271	-	53
Mount Desert	1,600	1,355	245	
Orland	1,251	1,390	-	139
Otis	152	239	-	87
Penobscot	1,156	1,313	-	157
Sedgwick	902	1,012	-	110
Sorrento ‡	117	-	117	
Stonington *	1,648	-	1,648	
Sullivan ‡	1,034	1,379	-	345
Surry	900	986	-	86
Swan's Island	758	632	126	
Tremont	2,010	2,036	-	26
Trenton	459	528	-	69
Verona	234	323	-	89
Waltham	192	242	-	50
Winter Harbor†	571	-	571	
Plantations.				
Long Island	174	132	42	
No. 8	17	31	-	14
No. 33	82	112	-	30
Unorganized Places.				
Butter Island	8	-	8	
Eagle Island	30	-	30	
Township 7, Middle Division	28	50	-	22
Township 10, Middle Division	19	28	-	9
Township 21, Middle Division	58	63	-	5
Township 22, Middle Division	3	-	3	
Township 28, Middle Division	10	26	-	16
Township 32, Middle Division	12	25	-	13
Township 39, Middle Division	75	136	-	61
Total	37,241	37,312	5,269	5,340
Net loss				71

* Stonington set off from Deer Isle since 1890.

† Winter Harbor set off from Gouldsboro since 1890.

‡ Sorrento set off from Sullivan since 1890.

KENNEBEC COUNTY.

Cities.	1900.	1890.	Gain.	Loss.
Augusta	11,683	10,527	1,156	
Gardiner	5,501	5,491	10	
Hallowell	2,714	3,181	-	467
Waterville	9,477	7,107	2,370	

Population in the State of Maine—Continued.

KENNEBEC COUNTY—CONCLUDED.

Towns.	1900.	1890.	Gain.	Loss.
Albion	878	1,042	-	164
Belgrade	1,058	1,090	-	32
Benton	1,097	1,136	-	39
Chelsea	3,092	2,356	736	
China	1,380	1,423	-	43
Clinton	1,398	1,518	-	120
Farmingdale	848	821	27	
Fayette	560	649	-	89
Litchfield	1,057	1,126	-	69
Manchester	518	612	-	94
Monmouth	1,236	1,362	-	126
Mount Vernon	906	940	-	34
Oakland	1,913	2,044	-	131
Pittston	1,177	1,281	-	104
Randolph	1,077	1,281	-	204
Readfield	994	1,176	-	182
Rome	420	500	-	80
Sidney	1,068	1,334	-	266
Vassalboro	2,062	2,052	10	
Vienna	406	495	-	89
Wayne	707	775	-	68
West Gardiner	693	853	-	160
Windsor	782	853	-	71
Winslow	2,277	1,814	463	
Winthrop	2,088	2,111	-	23
Plantation.				
Unity	50	62	-	12
Total	59,117	57,012	4,772	2,667
Net gain			2,105	

KNOX COUNTY.

City.	1900.	1890.	Gain.	Loss.
Rockland	8,150	8,174	-	24
Towns.				
Appleton	975	1,080	-	105
Camden*	2,825	4,621	-	1,796
Cushing	604	688	-	84
Friendship	814	877	-	63
Hope	599	641	-	42
Hurricane Isle	257	266	-	9
North Haven	551	552	-	1
Rockport*	2 314	-	2,314	
Saint George	2,206	2,491	-	285
South Thomaston	1,426	1,534	-	108
Thomaston	2,688	3,009	-	321
Union	1,248	1,436	-	188
Vinalhaven	2,358	2,617	-	259
Warren	2,069	2,037	32	
Washington	1,019	1,230	-	211

* Rockport set off from Camden since 1890.

Population in the State of Maine—Continued.

KNOX COUNTY—CONCLUDED.

Plantations.	1900.	1890.	Gain.	Loss.
Criehaven†	47	-	47	
Matinicus Isle†	184	196	-	12
Unorganized Place.				
Muscle Ridge	72	24	48	
Total	30,406	31,473	2,441	3,508
Net loss				1,067

† Criehaven plantation set off from Matinicus Isle plantation since 1890.

LINCOLN COUNTY.

Towns.	1900.	1890.	Gain.	Loss.
Alna	444	512	-	68
Boothbay	1,766	1,718	48	
Boothbay Harbor	1,926	1,699	227	
Bremen	657	*842	-	185
Bristol	2,572	2,821	-	249
Damariscotta	876	1,012	-	136
Dresden	882	1,043	-	161
Edgecomb	607	749	-	142
Jefferson	1,155	1,391	-	236
Newcastle	1,075	1,282	-	207
Nobleboro	810	947	-	137
Somerville	374	453	-	79
Southport	527	533	-	6
Waldoboro	3,145	3,505	-	360
Westport	330	451	-	121
Whitefield	1,156	1,215	-	59
Wiscasset	1,273	1,733	-	460
Plantation.				
Monhegan	94	90	4	
Total	19,669	21,996	279	2,606
Net loss				2,327

* Includes 123 on Muscongus island reported separately in 1890.

OXFORD COUNTY.

Towns.	1900.	1890.	Gain.	Loss.
Albany	538	645	-	107
Andover	727	740	-	13
Bethel	1,835	2,209	-	374
Brownfield	1,019	1,134	-	115
Buckfield	1,139	1,200	-	61
Byron	204	180	24	
Canton	946	1,303	-	357
Denmark	634	755	-	121
Dixfield	1,052	988	64	

Population in the State of Maine—Continued.

OXFORD COUNTY—CONCLUDED.

Towns.	1900.	1890.	Gain.	Loss.
Fryeburg	1,376	1,418	-	42
Gilead	340	336	4	
Grafton	81	98	-	17
Greenwood	741	727	14	
Hanover	214	212	2	
Hartford	660	689	-	29
Hebron	494	600	-	106
Hiram	1,015	1,063	-	48
Lovell	693	853	-	160
Mason	67	80	-	13
Mexico	816	355	461	
Newry	286	343	-	57
Norway	2,902	2,665	237	
Oxford	1,331	1,455	-	124
Paris	3,225	3,156	69	
Peru*	773	692	81	
Porter	886	1,015	-	129
Roxbury	238	222	16	
Rumford*	3,770	898	2,872	
Stoneham	284	322	-	38
Stow	270	291	-	21
Sumner	802	901	-	99
Sweden	282	338	-	56
Upton	242	232	10	
Waterford	917	1,001	-	84
Woodstock	816	859	-	43
Plantations.				
Franklin*	-	112	-	112
Lincoln	73	59	14	
Magalloway	77	79	-	2
Milton	202	211	-	9
Unorganized Places.				
Andover North Surplus	22	22		
Batchelder's Grant	173	26	147	
Fryeburg Academy Grant	15	34	-	19
Riley	13	43	-	30
Township C	7	22	-	15
Township 4, Range 1, W. B. K. P	21	-	21	
Township 4, Range 2, W. B. K. P	12	-	12	
Township 5, Range 4, W. B. K. P	8	3	5	
Total	32,238	30,586	4,053	2,401
Net gain			1,652	

* Franklin Plantation annexed to Peru and Rumford since 1890.

PENOBSCOT COUNTY.

Cities.	1900.	1890.	Gain.	Loss.
Bangor	21,850	19,103	2,747	
Brewer	4,835	4,193	642	
Old Town	5,763	*5,312	451	

* Includes population of Indian island not separately returned in 1890.

Population in the State of Maine—Continued.

PENOBSCOT COUNTY—CONTINUED.

Towns.	1900.	1890.	Gain.	Loss.
Alton	314	348	-	34
Argyle	320	263	57	
Bradford	954	1,215	-	261
Bradley	682	823	-	141
Burlington	394	460	-	66
Carmel	932	1,066	-	134
Carroll	487	546	-	59
Charleston	842	971	-	129
Chester	363	368	-	5
Clifton	236	284	-	48
Corinna	1,170	1,207	-	37
Corinth	1,042	1,154	-	112
Dexter	2,941	2,732	209	
Dixmont	843	919	-	76
Eddington	663	729	-	66
Edinburg	65	54	11	
Enfield	1,062	769	293	
Etna	527	646	-	119
Exeter	879	939	-	60
Garland	857	973	-	116
Glenburn	461	583	-	122
Greenbush	586	659	-	73
Greenfield	160	231	-	71
Hampden	2,182	2,484	-	302
Hermon	1,183	1,282	-	99
Holden	602	609	-	7
Howland	519	171	348	-
Hudson	430	510	-	80
Kenduskeag	423	536	-	113
Kingman	936	671	265	
Lagrange	574	721	-	147
Lee	801	929	-	128
Levant	789	880	-	91
Lincoln	1,731	1,756	-	25
Lowell	300	439	-	139
Mattamiscontis	28	47	-	19
Mattawamkeag	527	633	-	106
Maxfield	115	134	-	19
Medway	297	653	-	356
Milford	838	835	3	
Millinocket	1,144	4	1,140	
Mount Chase	299	284	15	
Newburg	734	867	-	133
Newport	1,533	1,188	345	
Orono	3,257	2,790	467	
Orrington	1,266	1,406	-	140
Passadumkeag	409	343	66	
Patten	1,172	936	236	
Plymouth	658	689	-	31
Prentiss	502	401	101	
Springfield	532	677	-	145
Stetson	503	618	-	115
Veazie	555	650	-	95
Winn	688	936	-	248
Woodville	160	242	-	82
Plantations.				
Drew	120	110	10	
Grand Falls	52	68	-	16
Lakeville	129	144	-	15
Seboeis	96	98	-	2
Stacyville	347	250	97	
Webster	124	135	-	11

Population in the State of Maine—Continued.

PENOBSCOT COUNTY—CONCLUDED.

Unorganized Places.	1900.	1890.	Gain.	Loss.
Indian Island (Old Town)	269	*	269	
Summit	37	104	-	67
Township A, west of Hopkins Academy Grant	50	-	50	
Township A, Range 7, W. E. L. S	16	50	-	34
Township 2, Range 6, W. E. L. S.	49	20	29	
Township 2, Range 8, N. W. P.	7	-	7	
Township 2, Range 9, N. W. P.	5	-	5	
Township 3, Range 1, N. B. P. P	7	-	7	
Township 4, Range 7, W. E. L. S.	-	4	-	4
Township 5, Range 7, W. E. L. S	1	1		
Township 6, Range 7, W. E. L. S.	17	4	13	
Township 6, Range 8, W. E. L. S.	5	-	5	
Townsnip 8, Range 7, W. E. L. S	-	9	-	9
Total	76,246	72,865	7,888	4,507
Net gain	..	..	3,381	

* Indian Island not separately reported in 1890.

PISCATAQUIS COUNTY.

Towns.	1900.	1890.	Gain.	Loss.
Abbot	716	622	94	
Atkinson	495	605	-	110
Blanchard	248	213	35	
Brownville	1,570	1,074	496	
Dover	1,889	1,942	-	53
Foxcroft	1,629	1,726	-	97
Greenville	1,117	781	336	
Guilford	1,544	1,023	521	
Medford	282	306	-	24
Milo	1,150	1,029	121	
Monson	1,116	1,237	-	121
Orneville	325	492	-	167
Parkman	718	813	-	95
Sangerville	1,294	1,236	58	
Sebec	593	725	-	132
Shirley	248	291	-	43
Wellington	413	584	-	171
Williamsburg	117	162	-	45
Willimantic	419	446	-	27
Plantations.				
Barnard	98	100	-	2
Bowerbank	66	87	-	21
Elliottsville	86	53	33	
Kingsbury	106	205	-	99
Lake View	173	-	173	
Unorganized Places.				
Chesuncook	65	66	-	1
Day's Academy Grant	37	34	3	
Deer Island	9	-	9	
East College Township	42	1	41	
Gore A 2	10	11	-	1
Katahdin Iron Works	114	76	38	
Kineo	43	66	-	23
Lily Bay	5	11	-	6
Moose Island	1	-	1	
Northeast Carry	24	19	5	
Roach River	-	7	-	7

Population in the State of Maine—Continued.

PISCATAQUIS COUNTY—CONCLUDED.

Unorganized Places.	1900.	1890.	Gain.	Loss.
Squaw Mountain	131	77	54	
Township 1, Range 13, W. E. L. S.	20	-	20	
Township 2, Range 10, W. E. L. S.	2	-	2	
Township 2, Range 12, W. E. L. S	3	-	3	
Township 3, Range 10, W. E. L. S	1	-	1	
Township 3, Range 13, W. E. L. S	-	6	-	6
Township 4, Range 9, W. E. L. S.	11	-	11	
Township 4, Range 10, W. E. L. S.	1	-	1	
Township 5, Range 9, W. E. L. S.	11	-	11	
Township 5, Range 9, N. W. P	-	8	-	8
Township 6, Range 9, W. E. L. S.	2	-	2	
Township 6, Range 13, W. E. L. S.	5	-	5	
Total	16,949	16,134	2,074	1,259
Net gain			815	

SAGADAHOC COUNTY.

City.	1900.	1890.	Gain.	Loss.
Bath	10,477	8,723	1,754	
Towns.				
Arrowsic	180	177	3	
Bowdoin	937	940	-	3
Bowdoinham	1,305	1,508	-	203
Georgetown	799	849	-	50
Perkins	61	69	-	8
Phippsburg	1,254	1,396	-	142
Richmond	2,049	3,082	-	1,033
Topsham	2,097	1,394	703	
West Bath	291	307	-	16
Woolwich	880	1,007	-	127
Total	20,330	19,452	2,460	1,582
Net gain			878	

SOMERSET COUNTY.

Towns.	1900.	1890.	Gain.	Loss.
Anson	1,830	1,444	386	
Athens	896	1,072	-	176
Bingham	841	757	84	
Cambridge	364	425	-	61
Canaan	977	1,130	-	153
Concord	291	345	-	54
Cornville	689	785	-	96
Detroit	527	590	-	63
Embden	567	579	-	12
Fairfield	3,878	3,510	368	
Harmony	571	704	-	133
Hartland	1,115	974	141	
Madison	2,764	1,815	949	
Mercer	493	584	-	91
Moscow	378	422	-	44

Population in the State of Maine—Continued.

SOMERSET COUNTY—CONCLUDED.

Towns.	1900.	1890.	Gain.	Loss.
New Portland	913	1,034	-	121
Norridgewock	1,495	1,656	-	161
Palmyra	915	1,004	-	89
Pittsfield	2,891	2,503	388	
Ripley	449	478	-	29
Saint Albans	1,037	1,206	-	169
Skowhegan	5,180	5,068	112	
Smithfield	449	479	-	30
Solon	996	977	19	
Starks	636	766	-	130
Plantations.				
Bigelow	57	62	-	5
Brighton	368	434	-	66
Caratunk	218	192	26	
Dead River	91	104	-	13
Dennistown	96	66	30	
Flagstaff	115	87	28	
Highland	67	76	-	9
Jackman	352	217	135	
Lexington	231	199	32	
Mayfield	89	74	15	
Moose River	239	170	69	
Pleasant Ridge	114	108	6	
The Forks	157	195	-	38
West Forks	160	146	14	
Unorganized Places.				
Carrying Place	22	31	-	9
Million Acre Gore	8	-	8	
Plymouth Township	4	-	4	
Sand Bar Tract	8	-	8	
Taunton and Raynham	15	7	8	
Township W (N. W. Carry)	6	-	6	
Township 1, Range 1, N. B. K. P	87	30	57	
Township 1, Range 2, N. B. K. P. (Tomhegan)	7	-	7	
Township 1, Range 5, B. K. P., E. K. R	17	-	17	
Township 1, Range 7, B. K. P., W. K. R	21	-	21	
Township 2, Range 4, B. K. P., E. K. R	-	11	-	11
Township 2, Range 6, B. K. P., W. K. R	12	-	12	
Township 2, Range 7, B. K. P., W. K. R	8	-	8	
Township 3, Range 1, N. B. K. P. (Long Pond)	92	53	39	
Township 3, Range 4, B. K. P., W. K. R	2	-	2	
Township 5, Range 1, N. B. K. P. (Attean)	5	-	5	
Township 5, Range 3, N. B. K. P. (Sandy Bay)	9	31	-	22
Township 6, Range 1, N. B. K. P. (Holeb)	30	27	3	
Total	33,849	32,627	3,007	1,785
Net gain			1,222	

WALDO COUNTY.

City.	1900.	1890.	Gain.	Loss.
Belfast	4,615	5,294	-	679
Towns.				
Belmont	352	475	-	123
Brooks	669	730	-	61
Burnham	766	846	-	80

Population in the State of Maine—Continued.

WALDO COUNTY—CONCLUDED.

Towns.	1900.	1890.	Gain.	Loss.
Frankfort	1,211	1,099	112	
Freedom	479	510	-	31
Islesboro	923	1,006	-	83
Jackson	439	522	-	83
Knox	558	657	-	99
Liberty	737	835	-	98
Lincolnville	1,223	1,361	-	138
Monroe	958	1,079	-	121
Montville	982	1,049	-	67
Morrill	420	460	-	40
Northport	545	691	-	146
Palermo	757	887	-	130
Prospect	648	697	-	49
Searsmont	949	1,144	-	195
Searsport	1,349	1,693	-	344
Stockton Springs	872	1,149	-	277
Swanville	502	689	-	187
Thorndike	497	589	-	92
Troy	766	868	-	102
Unity	877	922	-	45
Waldo	468	581	-	113
Winterport	1,623	1,926	-	303
Total	24,185	27,759	112	3,686
Net loss	-	-	-	3,574

WASHINGTON COUNTY.

Cities.	1900.	1890.	Gain.	Loss.
Calais	7,655	7,290	365	
Eastport	5,311	4,908	403	
Towns.				
Addison	1,059	1,022	37	
Alexander	333	337	-	4
Baileyville	215	226	-	11
Baring	231	273	-	42
Beddington	86	184	-	98
Brookton	285	429	-	144
Centerville	91	114	-	23
Charlotte	315	381	-	66
Cherryfield	1,859	1,787	72	
Columbia	516	587	-	71
Columbia Falls	569	698	-	129
Cooper	207	264	-	57
Crawford	112	140	-	28
Cutler	565	662	-	97
Danforth	1,092	1,063	29	
Deblois	73	76	-	3
Dennysville	482	452	30	
East Machias	1,521	1,637	-	116
Edmunds	492	395	97	
Forest City	151	287	-	136
Harrington	1,165	1,150	15	
Jonesboro †	606	624	-	18
Jonesport	2,124	1,917	207	
Lubec	3,005	2,069	936	
Machias	2,082	2,035	47	
Machiasport	1,218	1,437	-	219
Marion	95	90	5	
Marshfield	227	299	-	72
Meddybemps	154	156	-	2
Milbridge	1,921	1,963	-	42

† Roque Bluffs set off from Jonesboro since 1890.

Population in the State of Maine—Continued.

WASHINGTON COUNTY—CONCLUDED.

Towns.	1900.	1890.	Gain.	Loss.
Northfield	126	143	-	17
Pembroke	1,652	1,514	138	
Perry	1,245	945	300	
Princeton	1,094	1,027	67	
Robbinston	844	787	57	
Roque Bluffs*	168	-	168	
Steuben	901	982	-	81
Talmadge	93	112	-	19
Topsfield	282	375	-	93
Trescott	463	485	-	22
Vanceboro	550	870	-	320
Waite	135	159	-	24
Wesley	198	227	-	29
Whiting	399	393	6	
Whitneyville	424	413	11	
Plantations.				
Codyville	68	72	-	4
Grand Lake Stream	221	404	-	183
Kossuth	46	68	-	22
Lambert Lake	113	174	-	61
No. 14	77	112	-	35
No. 21	86	81	5	
Unorganized Places.				
Dyer Township	30	-	30	
Indian Township	87	88	-	1
Township 1, Range 1, Titcomb's Survey	-	5	-	5
Township 5, North Division	6	-	6	
Township 6, North Division	2	-	2	
Township 10, Range 3, N. B. P. P	46	37	9	
Township 11, Range 3, N. B. P. P	7	-	7	
Township 18, East Division	15	30	-	15
Township 19, East Division	9	5	4	
Township 27, East Division	8	-	8	
Township 29, Middle Division	2	5	-	3
Township 31, Middle Division	18	17	1	
Total	45,232	44,482	3,062	2,312
Net gain	-	-	750	

* Roque Bluffs set off from Jonesboro since 1890.

YORK COUNTY.

Cities.	1900.	1890.	Gain.	Loss.
Biddeford	16,145	14,443	1,702	
Saco	6,122	6,075	47	
Towns.				
Acton	778	878	-	100
Alfred	937	1,030	-	93
Berwick	2,280	2,294	-	14
Buxton	1,838	2,036	-	198
Cornish	984	1,118	-	134
Dayton	473	500	-	27
Eliot	1,458	1,463	-	5
Hollis	1,274	1,278	-	4
Kennebunk	3,228	3,172	56	

Population in the State of Maine—Concluded.

YORK COUNTY—CONCLUDED.

Towns.	1900.	1890.	Gain.	Loss.
Kennebunkport	2,123	2,196	-	73
Kittery	2,872	2,864	8	
Lebanon	1,335	1,263	72	
Limerick	874	966	-	92
Limington	1,001	1,092	-	91
Lyman	687	854	-	167
Newfield	676	796	-	120
North Berwick	1,748	1,803	-	55
Old Orchard	964	877	87	
Parsonsfield	1,131	1,398	-	267
Sanford	6,078	4,201	1,877	
Shapleigh	847	968	-	121
South Berwick	3,188	3,434	-	246
Waterboro	1,169	1,357	-	188
Wells	2,007	2,029	-	22
York	2,668	2,444	224	
Total	64,885	62,829	4,073	2,017
Net gain	-	-	2,056	

RECAPITULATION.

Counties.	1900.	1890.	Gain.	Loss.
Androscoggin	54,242	48,968	5,274	
Aroostook	60,744	49,589	11,155	
Cumberland	100,689	90,949	9,740	
Franklin	18,444	17,053	1,391	
Hancock	37,241	37,312	-	71
Kennebec	59,117	57,012	2,105	
Knox	30,406	31,473	-	1,067
Lincoln	19,669	21,996	-	2,327
Oxford	32,238	30,586	1,652	
Penobscot	76,246	72,865	3,381	
Piscataquis	16,949	16,134	815	
Sagadahoc	20,330	19,452	878	
Somerset	33,849	32,627	1,222	
Waldo	24,185	27,759		3,574
Washington	45,232	44,482	750	
York	64,885	62,829	2,056	
Total	694,466	661,086	40,419	7,039
Net gain	-	-	33,380	

Table Showing the Net Gain or Loss in the Cities.

Cities.	1890-1900.		1880-1890.	
	Gain.	Loss.	Gain.	Loss.
Portland	8,367	-	2,615	
Lewiston	2,060	-	2,618	
Bangor	2,747	-	2,247	
Biddeford	1,702	-	1,792	
Auburn	1,701	-	1,695	
Augusta	1,156	-	1,862	
Bath	1,754	-	849	
Waterville	2,370	-	2,435	
Rockland	-	24	575	
Calais	365	-	1,117	
Westbrook	651	-	2,651	
South Portland	†			
Saco	47	-	-	314
Deering	-	‡	1,029	
Old Town	451	-	1,917	
Gardiner	10	-	1,052	
Eastport	403	-	902	
Brewer	642	-	1,023	
Belfast	-	679	-	14
Ellsworth	-	507	-	248
Hallowell	-	467	27	

† Set off from town of Cape Elizabeth since 1890.
‡ Annexed to Portland since 1890.

The increase in population of the State during the last decade was 33,380. The cities, including South Portland set off from Cape Elizabeth and incorporated since 1890, show an increase of 29,036, while the territory outside of the cities shows a gain of 4,344. During the decade ending in 1890 the cities showed a gain of 25,830, while the territory outside of the cities showed a loss of 13,680, or a net gain for the State of 12,150.

CAUSE OF INCREASE IN CERTAIN TOWNS.

It will be noticed that many towns in the State show very large gains in population. Below we give some of the prominent causes of such increase.

East Livermore, pulp and pulp board manufacture.

Lisbon, paper and pulp, cotton and woolen manufacturing.

Ashland, annexed territory, railroad terminus and lumber manufacturing.

Caribou, Fort Fairfield, Houlton and Presque Isle, natural increase from surroundings, agricultural resources and railroad development.

Island Falls, railroad, leather and lumber manufacturing.

Fort Kent, favorable location, lumbering resources.

Van Buren, railroad terminus and new industries.

Brunswick, railroad center, cotton, pulp and paper, and other manufacturing.

Jay, granite works.

Rangeley, summer resort.

Eden and Mount Desert, summer resorts.

Chelsea, National Home for Disabled Volunteer Soldiers.

Winslow, pulp and paper manufacturing.

Camden, ship-building, woolen manufacturing and summer resort.

Boothbay Harbor, sardine business and summer resort.

Mexico, proximity to Rumford Falls.

Rumford, development of water-power, pulp and paper manufacturing.

Enfield and Howland, pulp manufacturing.

Kingman, sole leather and lumber manufacture.

Millinocket, development of water-power, pulp and paper manufacturing.

Newport, condensed milk, woolen manufacture.

Orono, pulp and paper manufacture.

Patten, railroad terminus, lumbering, headquarters for hunters.

Brownville, slate, lumber and railroads.

Greenville, railroad junction, lumber, summer business.

Guilford, lumber and woolen manufacturing.

Lake View Plantation, spool mill.

Topsham, pulp and paper manufacture.

Anson, lumber, wood novelties, proximity to Madison.

Madison, pulp and woolen manufacture.

Lubec, sardines.

Sanford, boots and shoes, plush and worsted manufacture.

The Cities, Towns, Plantations and Unorganized Places, Divided into Their Several Classes and Arranged in the Order of Their Rank in Population.

Cities.	County.	Population, 1900.	Rank.	
			1900.	1890.
Portland	Cumberland	50,145	1	*1
Lewiston	Androscoggin	23,761	2	2
Bangor	Penobscot	21,850	3	3
Biddeford	York	16,145	4	4
Auburn	Androscoggin	12,951	5	5
Augusta	Kennebec	11,683	6	6
Bath	Sagadahoc	10,477	7	7
Waterville	Kennebec	9,477	8	10
Rockland	Knox	8,150	9	8
Calais	Washington	7,655	10	9
Westbrook	Cumberland	7,283	11	11
South Portland	Cumberland	6,287	12	†
Saco	York	6,122	13	12
Old Town	Penobscot	5,763	14	15
Gardiner	Kennebec	5,501	15	13
Eastport	Washington	5,311	16	17
Brewer	Penobscot	4,835	17	19
Belfast	Waldo	4,615	18	16
Ellsworth	Hancock	4,279	19	18
Hallowell	Kennebec	2,714	20	20
Towns.				
Brunswick	Cumberland	6,806	1	1
Sanford	York	6,078	2	4
Skowhegan	Somerset	5,180	3	3
Caribou	Aroostook	4,758	4	5
Houlton	Aroostook	4,686	5	6
Eden	Hancock	4,379	6	55
Fort Fairfield	Aroostook	4,181	7	7
Fairfield	Somerset	3,878	8	8
Presque Isle	Aroostook	3,804	9	17
Rumford	Oxford	3,770	10	207
Lisbon	Androscoggin	3,603	11	15
Farmington	Franklin	3,288	12	12
Orono	Penobscot	3,257	13	23
Kennebunk	York	3,228	14	13
Paris	Oxford	3,225	15	14
South Berwick	York	3,188	16	10
Waldoboro	Lincoln	3,145	17	9
Chelsea	Kennebec	3,092	18	36
Lubec	Washington	3,005	19	44
Dexter	Penobscot	2,941	20	24
Norway	Oxford	2,902	21	25
Pittsfield	Somerset	2,891	22	29
Kittery	York	2,872	23	21
Bridgton	Cumberland	2,868	24	27
Camden	Knox	2,825	25	33
Madison	Somerset	2,764	26	62
Jay	Franklin	2,758	27	79
Thomaston	Knox	2,688	28	18
York	York	2,668	29	35
Bristol	Lincoln	2,572	30	22
Gorham	Cumberland	2,540	31	20
Fort Kent	Aroostook	2,528	32	61
Vinalhaven	Knox	2,358	33	26
Freeport	Cumberland	2,339	34	32
Bucksport	Hancock	2,339		19
Rockport	Knox	2,314	36	41

* Deering, with a population of 5,353 and the 14th city in rank in 1890 has been annexed to Portland.

† South Portland set off from the town of Cape Elizabeth since 1890.

Population in Cities, Towns, Plantations and Unorganized Places according to Rank—Continued.

Towns.	County.	Population, 1900.	Rank.	
			1900.	1890.
Berwick	York	2,280	37	37
Winslow	Kennebec	2,277	38	63
Yarmouth	Cumberland	2,274	39	43
Saint George	Knox	2,206	40	30
Hampden	Penobscot	2,182	41	31
East Livermore	Androscoggin	2,129	42	85
Jonesport	Washington	2,124	43	58
Kennebunkport	York	2,123	44	40
Topsham	Sagadahoc	2,097	45	98
Winthrop	Kennebec	2,088	46	42
Machias	Washington	2,082	47	50
Warren	Knox	2,069	48	47
Vassalboro	Kennebec	2,062	49	45
Richmond	Sagadahoc	2,049	50	16
Deer Isle	Hancock	2,047	51	*11
Tremont	Hancock	2,010	52	48
Wells	York	2,007	53	51
Windham	Cumberland	1,929	54	38
Boothbay Harbor	Lincoln	1,926	55	73
Milbridge	Washington	1,921	56	54
Oakland	Kennebec	1,913	57	46
Dover	Piscataquis	1,889	58	56
Van Buren	Aroostook	1,878	59	131
Scarboro	Cumberland	1,865	60	65
Cherryfield	Washington	1,859	61	66
Turner	Androscoggin	1,842	62	52
Buxton	York	1,838	63	48
Bethel	Oxford	1,835	64	39
Anson	Somerset	1,830	65	90
Bluehill	Hancock	1,828	66	53
Boothbay	Lincoln	1,766	67	71
Harpswell	Cumberland	1,750	68	67
North Berwick	York	1,748	69	64
Lincoln	Penobscot	1,731	70	68
Madawaska	Aroostook	1,698	71	89
Mechanic Falls	Androscoggin	1,687	72	†
Pembroke	Washington	1,652	73	83
Poland	Androscoggin	1,648	74	†34
Stonington	Hancock	1,648		*
Wilton	Franklin	1,647	76	77
Foxcroft	Piscataquis	1,629	77	70
Winterport	Waldo	1,623	78	57
Mount Desert	Hancock	1,600	79	106
Brownville	Piscataquis	1,570	80	151
Guilford	Piscataquis	1,544	81	167
Newport	Penobscot	1,533	82	129
East Machias	Washington	1,521	83	76
Ashland	Aroostook	1,513	84	‡298
Falmouth	Cumberland	1,511	85	78
Standish	Cumberland	1,504	86	60
Norridgewock	Somerset	1,495	87	75
Eliot	York	1,458	88	87
South Thomaston	Knox	1,426	89	80
Cumberland	Cumberland	1,404	90	86
Phillips	Franklin	1,399	91	98
Clinton	Kennebec	1,398	92	81
Saint Agatha	Aroostook	1,396	93	§
Gray	Cumberland	1,388	94	82
China	Kennebec	1,380	95	93
Fryeburg	Oxford	1,376	96	94
Searsport	Waldo	1,349	97	74
Lebanon	York	1,335	98	118
Monticello	Aroostook	1,332	99	139

* Stonington set off from Deer Isle since 1890.

† Mechanic Falls set off from Minot and Poland since 1890.

‡ Includes Sheridan plantation annexed in 1901.

§ Saint Agatha set off from Frenchville since 1890.

Population in Cities, Towns, Plantations and Unorganized Places according to Rank—Continued.

Towns.	County.	Population, 1900.	Rank. 1900.	Rank. 1890.
Oxford	Oxford	1,331	100	88
Frenchville	Aroostook	1,316	101	*28
Bowdoinham	Sagadahoc	1,305	102	84
Sangerville	Piscataquis	1,294	103	120
Hollis	York	1,274	104	116
Wiscasset	Lincoln	1,273	105	69
Orrington	Penobscot	1,266	106	95
Gouldsboro	Hancock	1,259	107	†72
Phippsburg	Sagadahoc	1,254	108	97
Orland	Hancock	1,251	109	101
Union	Knox	1,248	110	92
Perry	Washington	1,245	111	192
Monmouth	Kennebec	1,236	112	103
Durham	Androscoggin	1,230	113	144
Washburn	Aroostook	1,225	114	146
Lincolnville	Waldo	1,223	115	104
Machiasport	Washington	1,218	116	91
Easton	Aroostook	1,215	117	180
Frankfort	Waldo	1,211	118	145
Franklin	Hancock	1,201	119	117
Mars Hill	Aroostook	1,183	120	229
Hermon	Penobscot	1,183		112
Bridgewater	Aroostook	1,179	122	191
Pittston	Kennebec	1,177	123	114
Patten	Penobscot	1,172	124	196
Brooksville	Hancock	1,171	125	110
Corinna	Penobscot	1,170	126	125
Waterboro	York	1,169	127	105
Harrington	Washington	1,165	128	134
New Gloucester	Cumberland	1,162	129	121
Penobscot	Hancock	1,156	130	109
Whitefield	Lincoln	1,156		123
Jefferson	Lincoln	1,155	132	100
Milo	Piscataquis	1,150	133	164
Millinocket	Penobscot	1,144	134	‡76
Buckfield	Oxford	1,139	135	127
Webster	Androscoggin	1,131	136	189
Limestone	Aroostook	1,131		198
Parsonsfield	York	1,131		96
Hodgdon	Aroostook	1,130	139	143
Livermore	Androscoggin	1,125	140	133
Greenville	Piscataquis	1,117	141	240
Monson	Piscataquis	1,116	142	119
Hartland	Somerset	1,115	143	182
Grand Isle	Aroostook	1,104	144	188
Benton	Kennebec	1,097	145	137
Woodland	Aroostook	1,096	146	209
Princeton	Washington	1,094	147	165
Danforth	Washington	1,092	148	156
Randolph	Kennebec	1,077	149	114
Newcastle	Lincoln	1,075	150	112
Sidney	Kennebec	1,068	151	108
Leeds	Androscoggin	1,065	152	175
Island Falls	Aroostook	1,063	153	386
Enfield	Penobscot	1,062	154	243
Addison	Washington	1,059	155	166
Belgrade	Kennebec	1,058	156	166
Litchfield	Kennebec	1,057	157	141
Dixfield	Oxford	1,052	158	176
Corinth	Penobscot	1,042	159	132
Saint Albans	Somerset	1,037	160	126
Sullivan	Hancock	1,034	161	§102

*Saint Agatha set off from Frenchville since 1890.
†Winter Harbor set off from Gouldsboro since 1890.
‡Incorporated in 1901, from the unorganized township of No. 3, Indian Purchase, which had a population of 4 in 1890.
§Sorrento set off from Sullivan since 1890.

Population in Cities, Towns, Plantations and Unorganized Places according to Rank—Continued.

Towns.	County.	Population, 1900.	Rank. 1900.	Rank. 1890.
Washington	Knox	1,019	162	122
Brownfield	Oxford	1,019		138
Hiram	Oxford	1,015	164	156
Limington	York	1,001	165	147
Solon	Somerset	996	166	181
Readfield	Kennebec	994	167	130
Cornish	York	984	168	142
Montville	Waldo	982	169	158
Sherman	Aroostook	980	170	205
Canaan	Somerset	977	171	140
Appleton	Knox	975	172	149
Harrison	Cumberland	969	173	153
Old Orchard	York	964	174	214
Rangeley	Franklin	961	175	284
Monroe	Waldo	958	176	150
Littleton	Aroostook	956	177	202
Blaine	Aroostook	954	178	239
Bradford	Penobscot	954		123
Searsmont	Waldo	949	180	136
Canton	Oxford	946	181	111
New Sharon	Franklin	946		155
Alfred	York	937	183	163
Bowdoin	Sagadahoc	937		193
Kingman	Penobscot	936	185	269
Brooklin	Hancock	936		159
Carmel	Penobscot	932	187	154
Castine	Hancock	925	188	177
Islesboro	Waldo	923	189	172
Waterford	Oxford	917	190	174
Palmyra	Somerset	915	191	173
New Portland	Somerset	913	192	162
Mount Vernon	Kennebec	906	193	193
Sedgwick	Hancock	902	194	169
Steuben	Washington	901	195	179
Hancock	Hancock	900	196	128
Surry	Hancock	900		178
Athens	Somerset	896	198	152
Cape Elizabeth	Cumberland	887	199	*2
Porter	Oxford	886	200	168
Dresden	Lincoln	882	201	160
Woolwich	Sagadahoc	880	202	171
Exeter	Penobscot	879	203	195
Albion	Kennebec	878	204	161
Unity	Waldo	877	205	203
Damariscotta	Lincoln	876	206	169
Limerick	York	874	207	186
Stockton Springs	Waldo	872	208	135
New Sweden	Aroostook	867	209	†2
Oakfield	Aroostook	860	210	†1
Garland	Penobscot	857	211	183
Mapleton	Aroostook	853	212	232
Farmingdale	Kennebec	848	213	234
Shapleigh	York	847	214	185
Robbinston	Washington	844	215	237
Dixmont	Penobscot	843	216	204
Charleston	Penobscot	842	217	184
Bingham	Somerset	841	218	245
Milford	Penobscot	838	219	230
Linneus	Aroostook	834	220	187
Greene	Androscoggin	826	221	209
Raymond	Cumberland	823	222	201
Baldwin	Cumberland	821	223	199

*South Portland set off from Cape Elizabeth since 1890.

† Plantation in 1890.

Population in Cities, Towns, Plantations and Unorganized Places according to Rank—Continued.

Towns.	County.	Population, 1900.	Rank. 1900.	Rank. 1890.
Woodstock	Oxford	816	224	219
Mexico	Oxford	816		348
Friendship	Knox	814	226	214
Naples	Cumberland	813	227	225
Nobleboro	Lincoln	810	228	190
Minot	Androscoggin	808	229	*106
Sumner	Oxford	802	230	206
Lee	Penobscot	801	231	200
Georgetown	Sagadahoc	799	232	224
Levant	Penobscot	789	233	212
Casco	Cumberland	783	234	227
Windsor	Kennebec	782	235	221
Acton	York	778	236	213
Peru	Oxford	773	237	261
Burnham	Waldo	766	238	225
Troy	Waldo	766		217
Swan's Island	Hancock	758	240	†3
Palermo	Waldo	757	241	208
Greenwood	Oxford	741	242	251
Weld	Franklin	738	243	209
Liberty	Waldo	737	244	230
Newburg	Penobscot	734	245	218
Otisfield	Cumberland	728	246	228
Andover	Oxford	727	247	248
Parkman	Piscataquis	718	248	235
Abbot	Piscataquis	716	249	282
Chesterville	Franklin	709	250	242
Wayne	Kennebec	707	251	241
Kingfield	Franklin	693	252	288
West Gardiner	Kennebec	693		221
Lovell	Oxford	693		221
Cornville	Somerset	689	255	238
Winn	Penobscot	688	256	196
Lyman	York	687	257	220
Bradley	Penobscot	682	258	233
Newfield	York	676	259	236
Brooks	Waldo	669	260	249
Eddington	Penobscot	663	261	250
Hartford	Oxford	660	262	263
Plymouth	Penobscot	658	263	263
Bremen	Lincoln	657	264	255
Prospect	Waldo	648	265	260
North Yarmouth	Cumberland	642	266	257
Strong	Franklin	637	267	281
Starks	Somerset	636	268	244
Denmark	Oxford	634	269	246
Edgecomb	Lincoln	607	270	247
Jonesboro	Washington	606	271	‡318
Cushing	Knox	604	272	266
Holden	Penobscot	602	273	286
New Limerick	Aroostook	600	274	299
Hope	Knox	599	275	279
Lamoine	Hancock	594	276	252
Sebec	Piscataquis	593	277	253
Pownal	Cumberland	592	278	256
Greenbush	Penobscot	586	279	272
New Vineyard	Franklin	584	280	271
Perham	Aroostook	580	281	†9
Sebago	Cumberland	576	282	267
Lagrange	Penobscot	574	283	254
Winter Harbor	Hancock	571	284	§
Harmony	Somerset	571		258

* Part set off to Mechanic Falls since 1890.

† Plantation in 1890.

‡ Roque Bluffs set off from Jonesboro since 1890.

Winter Harbor set off from Gouldsboro since 1890.

Population in Cities, Towns, Plantations and Unorganized Places according to Rank—Continued.

Towns.	County.	Population, 1900.	Rank.	
			1900.	1890.
Columbia Falls	Washington	569	286	259
Embden	Somerset	567	287	297
Cutler	Washington	565	288	270
Fayette	Kennebec	560	289	276
Knox	Waldo	558	290	273
Veazie	Penobscot	555	291	275
Industry	Franklin	553	292	302
North Haven	Knox	551	293	300
Vanceboro	Washington	550	294	216
Northport	Waldo	545	295	262
Albany	Oxford	538	296	278
Springfield	Penobscot	532	297	268
Southport	Lincoln	527	298	304
Etna	Penobscot	527		277
Mattawamkeag	Penobscot	527		280
Detroit	Somerset	527		290
Howland	Penobscot	519	302	397
Manchester	Kennebec	518	303	285
Columbia	Washington	516	304	292
Stetson	Penobscot	503	305	283
Prentiss	Penobscot	502	306	338
Swanville	Waldo	502		263
Thorndike	Waldo	497	308	291
Atkinson	Piscataquis	495	309	287
Hebron	Oxford	494	310	289
Mercer	Somerset	493	311	293
Edmunds	Washington	492	312	339
Carroll	Penobscot	487	313	301
Dennysville	Washington	482	314	324
Freedom	Waldo	479	315	308
Dayton	York	473	316	310
Waldo	Waldo	468	317	296
Trescott	Washington	463	318	314
Glenburn	Penobscot	461	319	295
Trenton	Hancock	459	320	305
Ripley	Somerset	449	321	316
Smithfield	Somerset	449		315
Avon	Franklin	448	323	329
Alna	Lincoln	444	324	307
Jackson	Waldo	439	325	306
Masardis	Aroostook	438	326	377
Wales	Androscoggin	436	327	325
Eustis	Franklin	436		359
Hudson	Penobscot	430	329	308
Whitneyville	Washington	424	330	336
Kenduskeag	Penobscot	423	331	303
Rome	Kennebec	420	332	310
Morrill	Waldo	420		321
Willimantic	Piscataquis	419	334	327
Wellington	Piscataquis	413	335	293
Smyrna	Aroostook	411	336	363
Passadumkeag	Penobscot	409	337	351
Vienna	Kennebec	406	338	312
Amity	Aroostook	404	339	335
Whiting	Washington	399	340	340
Freeman	Franklin	397	341	320
Ludlow	Aroostook	394	342	343
Temple	Franklin	394		318
Burlington	Penobscot	394		321
Moscow	Somerset	378	345	334
Cranberry Isles	Hancock	374	346	356
Somerville	Lincoln	374		323

Population in Cities, Towns, Plantations and Unorganized Places according to Rank—Continued.

Towns.	County.	Popnlation, 1900.	Rank. 1900.	Rank. 1890.
Crystal	Aroostook	370	348	*14
Weston	Aroostook	367	349	337
Amherst	Hancock	364	350	343
Cambridge	Somerset	364		333
Chester	Penobscot	363	352	346
Belmont	Waldo	352	353	317
Benedicta	Aroostook	350	354	360
Gilead	Oxford	340	355	355
Carthage	Franklin	334	356	341
Alexander	Washington	333	357	354
Westport	Lincoln	330	358	325
Dedham	Hancock	327	359	347
Madrid	Franklin	326	360	328
Orneville	Piscataquis	325	361	313
Argyle	Penobscot	320	362	376
Bancroft	Aroostook	318	363	374
Haynesville	Aroostook	316	364	370
Charlotte	Washington	315	365	342
Alton	Penobscot	314	366	349
Lowell	Penobscot	300	367	329
Mount Chase	Penobscot	299	368	368
Medway	Penobscot	297	369	274
West Bath	Sagadahoc	291	370	361
Concord	Somerset	291		350
Newry	Oxford	286	372	351
Brookton	Washington	285	373	332
Stoneham	Oxford	284	374	358
Sweden	Oxford	282		353
Medford	Piscataquis	282	375	362
Topsfield	Washington	282		343
Dyer Brook	Aroostook	280	378	388
Stow	Oxford	270	379	365
Hurricane Isle	Knox	257	380	373
Eastbrook	Hancock	248		378
Blanchard	Piscataquis	248	381	390
Shirley	Piscataquis	248		365
Upton	Oxford	242	384	382
Roxbury	Oxford	238	385	387
Clifton	Penobscot	236	386	368
Verona	Hancock	234	387	357
Baring	Washington	231	388	371
Marshfield	Washington	227	389	364
Mariaville	Hancock	218	390	372
Baileyville	Washington	215	391	385
Hanover	Oxford	214	392	391
Orient	Aroostook	208	393	379
Cooper	Washington	207	394	374
Byron	Oxford	204	395	394
Hersey	Aroostook	199	396	402
Wesley	Washington	198	397	384
Salem	Franklin	195	398	389
Waltham	Hancock	192	399	380
Isle au Haut	Hancock	182	400	392
Arrowsic	Sagadahoc	180	401	395
Roque Bluffs	Washington	168	402	401
Greenfield	Penobscot	160	403	383
Woodville	Penobscot	160		*17
Meddybemps	Washington	154	405	400
Aurora	Hancock	152	406	396
Otis	Hancock	152		381
Forest City	Washington	151	408	367
Waite	Washington	135	409	399

* Was a plantation in 1890.

Population in Cities, Towns, Plantations and Unorganized Places according to Rank—Continued.

Towns.	County.	Population, 1900.	Rank. 1900.	Rank. 1890.
Northfield	Washington	126	410	403
Sorrento	Hancock	117	411	*
Williamsburg	Piscataquis	117		398
Maxfield	Penobscot	115	413	405
Crawford	Washington	112	414	404
Marion	Washington	95	415	409
Talmadge	Washington	93	416	407
Centerville	Washington	91	417	406
Beddington	Washington	86	418	393
Grafton	Oxford	81	419	408
Deblois	Washington	73	420	411
Mason	Oxford	67	421	410
Edinburg	Penobscot	65	422	414
Perkins	Sagadahoc	61	423	412
Mattamiscontis	Penobscot	28	424	415
Plantations.				
Wallagrass	Aroostook	784	1	4
Hamlin	Aroostook	574	2	7
Saint Francis	Aroostook	568	3	8
Castle Hill	Aroostook	567	4	5
Cyr	Aroostook	502	5	10
Connor	Aroostook	453	6	6
New Canada	Aroostook	419	7	13
Eagle Lake	Aroostook	406	8	12
Cary	Aroostook	400	9	11
Reed	Aroostook	399	10	25
Saint John	Aroostook	371	11	19
Caswell	Aroostook	368	12	22
Brighton	Somerset	368		†331
Jackman	Somerset	352	14	20
Stacyville	Penobscot	347	15	15
Merrill	Aroostook	298	16	16
Chapman	Aroostook	285	17	18
Wade	Aroostook	271	18	37
Westfield	Aroostook	259	19	36
Portage Lake	Aroostook	241	20	41
Moose River	Somerset	239	21	35
Lexington	Somerset	231	22	27
Grand Lake Stream	Washington	221	23	‡1
Caratunk	Somerset	218	24	32
Moro	Aroostook	217	25	27
Milton	Oxford	202	26	23
Stockholm	Aroostook	191	27	‡10
Allagash	Aroostook	190	28	26
Matinicus Isle	Knox	184	29	§29
Glenwood	Aroostook	178	30	34
Long Island	Hancock	174	31	43
Lake View	Piscataquis	173	32	¶
Dallas	Franklin	172	33	33
Silver Ridge	Aroostook	168	34	30
West Forks	Somerset	160	35	39
The Forks	Somerset	157	36	30
Macwahoc	Aroostook	153	37	21
Oxbow	Aroostook	153		53
Lakeville	Penobscot	129	39	40
Winterville	Aroostook	124	40	63
Webster	Penobscot	124		42
Drew	Penobscot	120	42	47
Hammond	Aroostook	116	43	48
Flagstaff	Somerset	115	44	56

* Sorrento set off from Sullivan since 1890.
† Was an incorporated town in 1890; incorporation since repealed.
‡ Was an unorganized township in 1890; since organized as a plantation.
§ Criehaven set off from Matinicus Isle since 1890.
¶ No population returned in 1890.

Population in Cities, Towns, Plantations and Unorganized Places according to Rank—Continued.

Plantations.	County.	Population, 1900.	Rank. 1900.	Rank. 1890.
Pleasant Ridge	Somerset	114	45	49
Lambert Lake	Washington	113	46	38
Garfield	Aroostook	111	47	58
Kingsbury	Piscataquis	106	48	24
Westmanland	Aroostook	100	49	73
Rangeley	Franklin	98	50	71
Barnard	Piscataquis	98		*5
Seboeis	Penobscot	96	52	52
Dennistown	Somerset	96		67
Monhegan	Lincoln	94	54	55
Dead River	Somerset	91	55	50
Mayfield	Somerset	89	56	62
Lang	Franklin	87	57	*16
Elliottsville	Piscataquis	86	58	72
No. 21	Washington	86		59
No. 33	Hancock	82	60	44
Magalloway	Oxford	77	61	60
No. 14	Washington	77		44
Lincoln	Oxford	73	63	70
Coplin	Franklin	70	64	65
Codyville	Washington	68	65	63
Highland	Somerset	67	66	61
Bowerbank	Piscataquis	66	67	56
Greenvale	Franklin	57	68	73
Bigelow	Somerset	57		*13
Grand Falls	Penobscot	52	70	66
Unity	Kennebec	50	71	69
Criehaven	Knox	47	72	‡
Kossuth	Washington	46	73	†413
E	Aroostook	44	74	*48
Nashville	Aroostook	32	75	75
No. 8	Hancock	17	76	*29
Unorganized Places.				
Indian Island	Penobscot	269	1	§
Batchelders Grant	Oxford	173	2	37
Township 17, Range 5, W. E. L.S.	Aroostook	144	3	21
Squaw Mountain	Piscataquis	131	4	7
Katahdin Iron Works	Piscataquis	114	5	9
Reddington	Franklin	113	6	33
Township 8, Range 4, W. E. L. S.	Aroostook	111	7	‖
Township 17, Range 4, W. E. L. S.	Aroostook	101	8	‖
Township 3, Range 1, N. B. K. P.	Somerset	92	9	15
Lowelltown	Franklin	90	10	19
Township 1, Range 1, N. B. K. P.	Somerset	87	11	30
Indian Township	Washington	87		6
Township 18, Range 10, W. E.L.S.	Aroostook	78	13	19
Township 39, Middle Division	Hancock	75	14	3
Molunkus	Aroostook	74	15	7
Township 2, Range 8, W. B. K. P.	Franklin	73	16	‖
Muscle Ridge	Knox	72	17	42
Chessuncook	Piscataquis	65	18	10
Perkins	Franklin	63	19	¶53
Township 21, Middle Division	Hancock	58	20	¶68
Township A, west of Hopkins Academy Grant	Penobscot	50	21	‖
Township 2, Range 6, W. E. L. S.	Penobscot	49	22	48
Township 10, Range 3, N. B. P. P.	Washington	46	23	25
Kineo	Piscataquis	43	24	10
East College Township	Piscataquis	42	25	81
Township 16, Range 12, W. E. L.S.	Aroostook	39	26	26

* Was an unorganized township in 1890; since organized as a plantation.
† Was an incorporated town in 1890; incorporation since repealed.
‡ Criehaven set off from Matinicus Isle since 1890.
§ Not separately returned in 1890.
‖ No population returned in 1890.
¶ Was an organized plantation in 1890; organization since given up.

Population in Cities, Towns, Plantations and Unorganized Places according to Rank—Continued.

Unorganized Places.	County.	Population, 1900.	Rank.	
			1900.	1890.
Township 15, Range, 6. W. E.L.S.	Aroostook	38	27	61
Summit	Penobscot	37	28	*50
Day's Academy Grant	Piscataquis	37		28
Jerusalem	Franklin	35	30	52
Township 4, Range 2, W. B. K. P.	Franklin	35	31	62
Township 7, Range 3, W. E. L. S.	Aroostook	34	32	†
Township 4, Range 3, W. B. K. P.	Franklin	33	33	40
Township 13, Range 15, W. E.L.S.	Aroostook	31	34	33
Eagle Island	Hancock	30		†
Township 6, Range 1, N. B. K. P., (Holeb)	Somerset	30	35	36
Dyer Township	Washington	30		†
Township 15, Range 11, W. E.L.S.	Aroostook	28	38	23
Township 7, Middle Division	Hancock	28		17
Township 14, Range 16, W. E.L.S.	Aroostook	27	40	44
Township C, Range 2, W. E. L. S.	Aroostook	26	41	67
Township 9, Range 5, W. E. L. S.	Aroostook	26		65
North East Carry	Piscataquis	24	43	50
Township 9, Range 4, W. E. L. S.	Aroostook	23	44	†
Township 6	Franklin	22		37
Andover North Surplus	Oxford	22	45	45
Carrying Place	Somerset	22		*77
Township 7, Range 5, W. E. L. S.	Aroostook	21		53
Township 14, Range 6, W. E. L. S.	Aroostook	21		50
Sandy River	Franklin	21		22
Township 4, Range 1, W. B. K. P.	Oxford	21	48	†
Township 1, Range 7, B. K. P., W. K. R	Somerset	21		†
Washington	Franklin	20	53	32
Township 1, Range 13, W. E. L. S.	Piscataquis	20		†
Township 10, Middle Division	Hancock	19	55	33
Township 31, Middle Division	Washington	18	56	53
Township 6, Range 7, W. E. L. S.	Penobscot	17		76
Township 1, Range 5, B. K. P., E. K. R.	Somerset	17	57	†
Township A, Range 7, W. E, L. S.	Penobscot	16	59	17
Fryeburg Academy Grant	Oxford	15		28
Taunton and Raynham	Somerset	15	60	67
Township 18, East Division	Washington	15		*77
Riley	Oxford	13	63	23
Township 32, Middle Division	Hancock	12		40
Township 4, Range 2, W. B. K. P.	Oxford	12	64	†
Township 2, Range 6, B. K. P., W. K. R	Somerset	12		†
Township A, Range 2, W. E. L. S.	Aroostook	11		55
Township 4, Range 9, W. E. L. S.	Piscataquis	11	67	†
Township 5, Range 9, W. E. L. S.	Piscataquis	11		†
Township 28, Middle Division	Hancock	10	70	37
Gore A 2	Piscataquis	10		57
Deer Island	Piscataquis	9		†
Township 5, Range 3, N. B. K. P. (Sandy Bay)	Somerset	9	72	29
Township 19, East D vision	Washington	9		73
Township 3, Range 2, W. E. L. S.	Aroostook	8		55
Butter Island	Hancock	8		†
Township 5, Range 4, W. B. K. P.	Oxford	8		79
Million Acre Gore	Somerset	8	75	†
Sand Bar Tract	Somerset	8		†
Township 2, Range 7, B. K. P. W. K. R	Somerset	8		†
Township 27, East Division	Washington	8		†

* Was an organized plantation in 1890; organization since given up.
† No population returned in 1890.

Population in Cities, Towns, Plantations and Unorganized Places according to Rank—Concluded.

Unorganized Places.	County.	Population, 1900.	Rank. 1900.	Rank. 1890.
Township C	Oxford	7		45
Township 2, Range 8, N. W. P.	Penobscot	7		†
Township 3, Range 1, N. B. P. P.	Penobscot	7	82	†
Township 1, Range 2, N. B. K. P. (Tomhegan)	Somerset	7		†
Township 11, Range 3, N. B. P. P.	Washington	7		†
Township W (North West Carry)	Somerset	6	87	†
Township 5, North Division	Washington	6		†
Township 2, Range 6, W. B. K. P.	Franklin	5		67
Township 2, Range 9, N. W. P.	Penobscot	5		†
Township 6, Range 8, W. E. L. S.	Penobscot	5		†
Lily Bay Township	Piscataquis	5	89	57
Township 6, Range 13, W. E. L. S.	Piscataquis	5		†
Township 5, Range 1, N. B. K. P. (Attean)	Somerset	5		†
Mount Abraham	Franklin	4	95	79
Plymouth Township	Somerset	4		†
Township 1, Range 5, W. E. L. S.	Aroostook	3		13
Township 12, Range 13, W. E. L. S.	Aroostook	3		67
Township 2, Range 5, W. B. K. P.	Franklin	3	97	†
Township 22, Middle Division	Hancock	3		†
Township 2, Range 12, W. E. L. S.	Piscataquis	3		†
Township 2, Range 10, W. E. L. S.	Piscataquis	2		†
Township 6, Range 9, W. E. L. S.	Piscataquis	2		†
Township 3, Range 4, B. K. P. W. K. R	Somerset	2	102	†
Township 6, North Division	Washington	2		†
Township 29, Middle Division	Washington	2		73
Township 5, Range 7, W. E. L. S.	Penobscot	1		81
Moose Island	Piscataquis	1	107	†
Township 3, Range 10, W. E. L. S.	Piscataquis	1		†
Township 4, Range 10, W. E. L. S.	Piscataquis	1		†

† No population returned in 1890.

Population by Congressional Districts.

FIRST DISTRICT.

Counties.	1900.	1890.
Cumberland	100,689	90,949
York	64,885	62,829
	165,574	153,778

SECOND DISTRICT.

Androscoggin	54,242	48,968
Franklin	18,444	17,053
Knox	30,406	31,473
Lincoln	19,669	21,996
Oxford	32,238	30,586
Sagadahoc	20,330	19,452
	175,329	169,528

THIRD DISTRICT.

Hancock	37,241	37,312
Kennebec	59,117	57,012
Somerset	33,849	32,627
Waldo	24,185	27,759
	154,392	154,710

FOURTH DISTRICT.

Aroostook	60,744	49,589
Penobscot	76,246	72,865
Piscataquis	16,949	16,134
Washington	45,232	44,482
	199,171	183,070

Table Giving Number of Cities and Towns Showing Gain or Loss in Population, by Counties.

Counties.	Gain.	Loss.	Total.
Androscoggin	8	6	14
Aroostook	36	5	41
Cumberland	7	19	26
Franklin	10	9	19
Hancock	8	26	34
Kennebec	7	22	29
Knox	2	14	16
Lincoln	2	15	17
Oxford	12	23	35
Penobscot	17	41	58
Piscataquis	7	12	19
Sagadahoc	3	8	11
Somerset	8	17	25
Waldo	1	25	26
Washington	19	28	47
York	8	19	27
	155	289	444

Table Showing the Number each of Cities, Towns, Plantations and Unorganized Places Containing Inhabitants, in the State, arranged by Counties.

Counties.	Cities.	Towns.	Plantations.	Unorganized places.	Total.
Androscoggin	2	12	-	-	14
Aroostook	-	41	30	20	91
Cumberland	3	23	-	-	26
Franklin	-	19	5	13	37
Hancock	1	33	3	9	46
Kennebec	4	25	1	-	30
Knox	1	15	2	1	19
Lincoln	-	17	1	-	18
Oxford	-	35	3	8	46
Penobscot	3	55	6	11	75
Piscataquis	-	19	5	20	44
Sagadahoc	1	10	-	-	11
Somerset	-	25	14	17	56
Waldo	1	25	-	-	26
Washington	2	45	6	11	64
York	2	25	-	-	27
	20	424	76	110	630

CLASSIFICATION AND SUBDIVISION OF POPULATION.

In order to understand the following classifications and subdivisions of the population of Maine some explanations are necessary.

The designation "native white, native parents" comprehends all native white persons having either both parents native born, one parent native born and one parent unknown, or both parents unknown, while the designation "native white, foreign parents" comprehends all native white persons having either one or both parents foreign born. The designation "illiterate" comprehends all persons who can neither read nor write or who can read but not write.

The designation "colored" comprehends Negroes, Chinese, Japanese and Indians, the designation "negro" comprehends all persons of African descent, while the designation "other colored" comprehends Chinese, Japanese and Indians.

CLASSIFICATION OF THE AGGREGATE POPULATION OF MAINE, 1900.

Total population of Maine	694,466
males	350,995
females	343,471
excess of males	7,524
percentage of males	50.5
percentage of females	49.5
Total native born	601,136
males	302,770
females	298,366
Total foreign born	93,330
males	48,225
females	45,105
Total percentage native born	86.6
foreign born	13.4
Total white	692,226
Negro	1,319
Chinese	119
Japanese	4
Indian	798
Total colored	2,240

Total percentage of white	99.7
percentage of colored	0.3
Total native white	599,291
males	301,810
females	297,481
Native white, native parents	493,082
males	248,049
females	245,033
Native white, foreign parents	106,209
males	53,761
females	52,448
Foreign born white	92,935
males	47,976
females	44,959
Total Negro	1,319
males	670
females	649
Total Chinese	119
males	115
females	4
Total Japanese	4
males	3
female	1
Total Indian	798
males	421
females	377
Percentage native white, native parents	71.0
Percentage native white, foreign parents	15.3
Percentage foreign white	13.4
Percentage colored	0.3

NATIVE AND FOREIGN.

Native and Foreign Born Classified by Sex, by Counties.

Counties.	Native Born.			Foreign Born.		
	Males.	Females.	Total.	Males.	Females.	Total.
Androscoggin	19,909	21,058	40,967	6,316	6,959	13,275
Aroostook	24,965	22,596	47,561	7,188	5,995	13,183
Cumberland	41,488	42,934	84,422	7,543	8,724	16,267
Franklin	8,928	8,228	17,156	822	466	1,288
Hancock	18,243	17,566	35,809	813	619	1,432
Kennebec	25,800	25,391	51,191	4,405	3,521	7,926
Knox	14,189	14,538	28,727	916	763	1,679
Lincoln	9,685	9,532	19,217	226	226	452
Oxford	15,431	14,518	29,949	1,559	730	2,289
Penobscot	33,456	32,854	66,310	5,643	4,293	9,936
Piscataquis	7,832	7,250	15,082	1,105	762	1,867
Sagadahoc	8,900	8,996	17,896	1,309	1,125	2,434
Somerset	16,022	15,327	31,249	1,463	1,037	2,500
Waldo	11,734	11,887	23,621	315	249	564
Washington	19,823	19,232	39,055	2,939	3,238	6,177
York	26,365	26,459	52,824	5,663	6,398	12,061
Total	302,770	298,366	601,136	48,225	45,105	93,330

NATIVE WHITE.

Native Born White, Classified by Parentage and Sex, by Counties.

Counties.	Native Born White.					
	Native Parents.			Foreign Parents.		
	Males.	Females.	Total.	Males.	Females.	Total.
Androscoggin	14,729	15,439	30,168	5,152	5,588	10,740
Aroostook	14,403	13,132	27,535	10,534	9,450	19,984
Cumberland	32,254	33,215	65,469	9,060	9,540	18,600
Franklin	8,280	7,643	15,923	630	572	1,202
Hancock	17,036	16,424	33,460	1,170	1,106	2,276
Kennebec	21,888	21,678	43,566	3,858	3,649	7,507
Knox	13,028	13,398	26,426	1,110	1,099	2,209
Lincoln	9,205	9,065	18,270	465	456	921
Oxford	14,490	13,665	28,155	929	845	1,774
Penobscot	26,700	26,264	52,964	6,532	6,402	12,934
Piscataquis	6,814	6,342	13,156	1,002	888	1,890
Sagadahoc	7,525	7,648	15,173	1,345	1,298	2,643
Somerset	14,161	13,657	27,818	1,858	1,669	3,527
Waldo	11,254	11,426	22,680	467	451	918
Washington	14,529	14,153	28,682	5,069	4,883	9,952
York	21,753	21,884	43,637	4,580	4,552	9,132
Total	248,049	245,033	493,082	53,761	52,448	106,209

FOREIGN WHITE AND COLORED.

Foreign Born White, Negro and other Colored (Including Chinese, Japanese and Indians), Classified by Sex, by Counties.

Counties.	Foreign Born White.		Negro.		Other Colored.	
	Males.	Females.	Males.	Females.	Males.	Females.
Androscoggin	6,306	6,954	28	36	10	
Aroostook	7,165	5,981	33	16	18	12
Cumberland	7,486	8,689	202	208	29	6
Franklin	821	466	19	13		
Hancock	802	615	30	22	18	8
Kennebec	4,388	3,520	57	65	14	
Knox	912	760	53	44	2	
Lincoln	226	225	15	12		
Oxford	1,554	730	14	8	3	
Penobscot	5,589	4,235	115	107	163	139
Piscataquis	1,099	759	3	2	19	21
Sagadahoc	1,297	1,125	31	50	11	
Somerset	1,458	1,036	....	2	8	
Waldo	313	249	9	7	6	3
Washington	2,911	3,220	32	33	221	181
York	5,649	6,395	29	24	17	2
Total	47,976	44,959	670	649	539	382

SCHOOL AGE.

Persons of School Age, 5 to 20 Years, Inclusive.

Aggregate	199,153
Native born	181,253
Foreign born	17,900
Percentage of native born	91.0
foreign born	9.0
Total white	198,519
Native white	180,676
native parents	136,415
foreign parents	44,261
Foreign white	17,843
Negro	369
Other colored	265
Percentage of native white, native parents	68.5
foreign parents	22.2
Percentage of foreign white	9.0
colored	0.3
Total males	100,385
females	98,768

Persons of School Age, 5 to 20 years, inclusive, Classified by Color, and the Whites by Nativity, by Counties.

Counties.	Native White.		Foreign White.		Negro.		Other Colored.	
	Males.	Females.	Males.	Females.	Males.	Females	Males.	Females.
Androscoggin	6,383	6,407	1,544	1,728	10	15		
Aroostook	10,210	9,827	1,319	1,111	10	7	2	4
Cumberland	12,382	12,114	1,162	1,317	48	54	2	2
Franklin	2,567	2,318	132	84	2	3		
Hancock	5,431	5,276	67	71	15	9	2	4
Kennebec	6,810	6,865	801	824	7	19	2	
Knox	3,861	3,893	99	118	15	12		
Lincoln	2,623	2,579	24	22	7	5		
Oxford	4,176	3,906	197	155	6	4		
Penobscot	9,920	9,866	829	755	31	38	41	54
Piscataquis	2,297	2,141	172	159	1	1	5	8
Sagadahoc	2,515	2,500	195	176	6	13		
Somerset	4,564	4,423	184	173	.....	.....	3	
Waldo	3,192	3,107	28	19	1	5	2	2
Washington	6,643	6,671	502	612	7	9	67	60
York	7,740	7,469	1,513	1,751	6	3	5	
Total	91,314	89,362	8,768	9,075	172	197	131	134

MILITIA AGE.

Males of Militia Age, 18 to 44, Inclusive.

Aggregate	98,768
Native born	89,662
Foreign born	9,106
Percentage of native born	81.2
foreign born	18.8
Total white	98,437
Native white	89,362
native parents	67,414
foreign parents	21,948
Foreign white	9,075
Negro	197
Other colored	134
Percentage of native white, native parents	67.8
foreign parents	13.1
Percentage of foreign white	18.7
colored	0.4

VOTING AGE.

Males of Voting Age, 21 Years and Over.

Aggregate	217,663
Native born	178,931
Foreign born	38,732
Percentage of native born	82.2
foreign born	17.8
Literate	203,711
Illiterate	13,952
Percentage of literate	93.6
illiterate	6.4
Total white	216,856
Native white	178,341
native parents	157,377
foreign parents	20,964
Foreign white	38,515
Negro	445
Other colored	362
Percentage of native white, native parents	72.3
foreign parents	9.6
Percentage of foreign white	17.7
colored	0.4
Native white, literate	172,832
illiterate	5,509
Percentage of native white, literate	96.9
illiterate	3.1
Native white, native parents, literate	153,957
illiterate	3,420
Percentage of native white, native parents, literate	97.8
illiterate	2.2
Native white, foreign parents, literate	18,875
illiterate	2,089
Percentage of native white, foreign parents, literate	90.0
illiterate	10.0
Foreign white, literate	30,292
illiterate	8,223
Percentage of foreign white, literate	78.6
illiterate	21.4

Colored, literate	587
illiterate	220
Percentage of colored, literate	72.7
illiterate	27.3
Negro, literate	368
illiterate	77
Percentage of negro, literate	82.7
illiterate	17.3
Chinese, literate	72
illiterate	29
Percentage of Chinese, literate	71.3
illiterate	28.7
Japanese, literate	3
illiterate	0
Percentage of Japanese, literate	100.0
illiterate	0.0
Indian, literate	144
illiterate	114
Percentage of Indian, literate	55.8
illiterate	44.2

Males of Militia Age and of Voting Age, Classified by Color, and the Whites by Nativity, by Counties.

Counties.	Males 18 to 44 Years Inclusive.				Males 21 Years and Over.			
	Native white.	Foreign white.	Negro.	Other colored.	Native white.	Foreign white.	Negro.	Other colored.
Androscoggin	7,396	3,635	13	10	11,103	4,650	16	10
Aroostook	8,797	3,666	20	4	10,525	5,730	20	10
Cumberland	16,460	4,319	80	24	24,681	6,260	138	26
Franklin	3,447	564	14	.....	5,466	666	17	.....
Hancock	7,160	465	8	11	10,996	730	15	16
Kennebec	9,463	1,873	22	9	16,550	3,528	47	12
Knox	5,491	495	24	2	9,104	805	34	2
Lincoln	3,531	89	2	.....	6,242	200	6	.....
Oxford	6,045	1,161	5	3	9,877	1,345	7	3
Penobscot	13,227	3,381	58	71	19,746	4,693	70	104
Piscataquis	3,052	696	1	7	4,700	914	2	12
Sagadahoc	3,437	767	13	10	5,457	1,083	23	11
Somerset	6,283	898	....	3	10,040	1,272	.....	4
Waldo	4,205	156	5	3	7,580	283	6	3
Washington	7,509	1,301	14	93	10,480	2,355	23	137
York	9,598	3,039	15	15	15,794	4,001	21	12
Total	115,111	26,505	294	265	178,341	38,515	445	362

MANUFACTURES.

The census bulletin on manufactures in Maine gives the total number of manufacturing establishments in the State, in 1900, as 8,356, with an aggregate capital of $129,922,852, employing an average of 75,675 hands, paying out $29,020,133 in wages for the year, paying for materials used $69,294,637, which includes $22,112,832 paid for materials in a raw state, $43,528,487 paid for materials in a partly manufactured form, and $3,653,318 paid for fuel, freight, etc., also paying $7,801,191 in miscellaneous expenses, and producing $128,617,181 as the value of the manufactured product.

This number of establishments includes 2,895 hand trades, 1 government establishment, 4 eleemosynary and penal institutions, 1,649 establishments with a product of less than $500, and 3,807 other establishments. The government establishment, the eleemosynary and penal institutions, and the establishments with a product of less than $500 were not reported at previous censuses, and are therefore omitted in further calculations. This leaves 6,702 establishments which is made the basis of all further calculations and comparisons with similar establishments in 1890.

The reports show a capital of $122,918,826 invested in manufactures and mechanical industries in the 6,702 establishments reporting for the State of Maine. This sum represents the value of land, buildings, machinery, tools, and implements, and the live capital utilized, but does not include the capital stock of any of the manufacturing corporations of the State. The value of the products is returned at $127,361,485, to produce which involved an outlay of $3,171,433 for salaries of officials, clerks, etc.; $28,527,849 for wages; $7,774,216 for miscellaneous expenses, including rent, taxes, etc.; and $68,863,408 for materials used,

mill supplies, freight, and fuel. It is not to be assumed, however, that the difference between the aggregate of these sums and the value of the product is, in any sense, indicative of the profits in the manufacture of the products during the census year. The census schedule takes no cognizance of the cost of selling manufactured articles, or of interest on capital invested, or of the mercantile losses incurred in the business, or of depreciation in plant. The value of the product given is the value as obtained or fixed at the shop or factory. This statement is necessary in order to avoid erroneous conclusions from the figures presented.

The value of products for the State of Maine, $127,361,485, is the gross value, and not the net or true value. The difference between these two should be carefully noted. The gross value is found by adding the value of products in the separate establishments. But the finished product of one establishment is often the raw material for another. In such cases the value of the former reappears in the latter, and thus the original cost of certain materials may be included several times in the gross value. The net or true value is found by subtracting from the gross value the value of all materials purchased in a partly manufactured form. In this way the duplications in the gross value are eliminated.

At the census of 1890 the schedule was so framed that it was impossible to find the net or true value. In the present census the schedule asked for the value of the materials in two classes, those purchased in the crude state and those purchased in the partly manufactured form. From the answers to these questions the net or true value of products may be computed. Thus, for Maine, the gross value of products for 1900 was $127,361,485. The value of materials purchased in a partly manufactured form was $43,150,529. The difference, $84,210,956, is the net or true value of products, and represents the increase in the value of raw materials resulting from the various processes of manufacture.

The $122,918,826 capital of the 6,702 establishments is made up of land, $13,105,141; buildings, $18,161,515; machinery, tools, and implements, $31,770,449; and cash and sundries, $59,881,721. The number of proprietors and firm members, not including stockholders in corporations, was 7,501; and the number of salaried officials, clerks, etc., was 3,329. The average number

of wage-earners was 74,816, consisting of 53,701 men 16 years and over, who received $23,384,835 in wages for the year; 18,913 women of 16 years and over, who received $4,835,171 in wages for the year; and 2,202 children under 16 years, who received $307,843 in wages for the year. The miscellaneous expenses consist of rent of works, $791,726; taxes, not including internal revenue, $793,736; rent of offices, interest, etc., $5,287,313; and contract work, $901,441. The cost of materials used is made up of the principal materials, including mill supplies and freight, $66,716,940; and fuel and rent of power and heat, $2,146,468.

TEN LEADING INDUSTRIES.

Ten leading industries, which comprise all with a product of over $2,000,000 except boots and shoes with a product of $12,295,847, and carpentering with a product of $3,056,220, are compared with 1890 in the table on the following page.

These 10 leading industries of the State in 1900 embraced 1,689 establishments, or 25.2 per cent of the total number in the State; used a capital of $86,564,100, or 70.4 per cent of the total; gave employment to 43,730 wage-earners, or 58.5 per cent of the total number; and paid $15,582,291, or 54.6 per cent of the total wages. The value of their products was $73,368,312, or 57.6 per cent of the total. In the discussion which follows, these industries are ranked with reference to the value of their product.

The manufacture of cotton goods is the most important industry in the State. The 15 establishments reported in 1900 gave employment to 13,723 wage-earners, or 18.3 per cent of the wage-earners in the State, and their products were valued at $14,631,086, or 11.5 per cent of the total value of the products of the State. In 1890 there were 23 establishments, with 13,912 wage-earners, and products valued at $15,316,909. The decrease in the value of products during the decade was $685,823, or 4.5 per cent. The waterpower of Maine early attracted the attention of manufacturers of cotton goods. One of the pioneer mills of the State was established at Brunswick in 1809, another at Wilton in 1810, and a third at Gardiner in 1811. Factories were erected at Saco in 1831, at Lewiston in 1844, and at Biddeford in 1845, while in later years Augusta and Waterville secured large plants. Lewiston is, however, the chief center of the industry,

COMPARATIVE SUMMARY OF TEN LEADING INDUSTRIES.

Industries.	Year.	Number of establishments.	Capital.	WAGE-EARNERS.		Miscellaneous expenses.	Cost of materials used.	Value of products, including custom work and repairing.
				Average number.	Total wages.			
Total for selected industries for State	1900	1,689	$86,564,100	43,730	$15,582,291	$5,131,664	$40,889,418	$73,368,312
	1890	1,577	55,588,161	38,791	12,113,471	3,403,567	30,253,337	53,414,788
Increase, 1890 to 1900		112	30,975,939	4,939	3,468,820	1,728,097	10,636,081	19,953,524
Per cent of increase		7.1	55.7	12.7	28.6	50.8	35.2	37.4
Per cent of total of all industries in State	1900	25.2	70.4	58.5	54.6	66.1	59.4	57.6
	1890	31.5	69.1	55.1	52.8	63.1	58.7	55.8
Cotton goods	1900	15	21,087,190	13,723	4,330,297	1,440,425	7,036,287	14,631,086
	1890	23	20,850,754	13,912	4,213,523	1,185,336	8,446,736	15,316,909
Fish, canning and preserving	1900	117	8,481,056	5,567	1,184,850	97,859	2,578,636	4,779,733
	1890	35	527,420	2,342	447,806	94,712	900,674	1,660,881
Flouring and grist mill products	1900	227	1,235,767	192	93,820	43,836	2,827,443	3,399,832
	1890	210	1,194,900	262	95,344	53,632	2,806,869	3,254,690
Foundry and machine shop products	1900	112	4,032,950	2,143	1,036,034	142,334	1,553,168	3,298,706
	1890	82	3,024,473	1,768	916,814	180,559	1,139,070	2,628,572
Leather, tanned, curried, and finished	1900	31	1,376,106	587	229,268	102,332	1,943,204	2,451,713
	1890	51	2,231,702	852	362,841	117,141	2,307,343	3,363,672
Lumber and timber products	1900	838	15,764,538	6,834	2,633,771	514,059	7,994,596	13,489,401
	1890	894	12,978,315	11,540	2,689,845	622,563	6,228,808	11,849,654
Paper and wood pulp	1900	35	17,473,160	4,851	2,162,972	1,394,967	7,118,945	13,223,275
	1890	17	4,273,825	1,509	669,057	322,808	1,673,287	3,281,051
Printing and publishing, newspapers and periodicals	1900	120	1,668,820	1,309	473,026	480,690	514,384	2,190,017
	1890	105	1,140,152	949	433,900	244,936	367,256	1,719,477
Ship and boat building, wooden	1900	115	1,315,820	1,369	749,567	65,463	1,377,769	2,491,765
	1890	85	1,027,756	1,450	777,994	109,032	1,423,175	2,818,565
Wool manufactures	1900	79	14,128,693	7,155	2,688,686	849,699	7,944,986	13,412,784
	1890	*75	8,338,864	4,207	1,506,347	472,848	4,960,119	7,521,317

*Exclusive of one establishment for the manufacture of worsted goods, for which no figures are available, as the statistics were included in "all other industries."

while the twin cities of Biddeford and Saco rank next in importance. At present the cotton mills of Maine are all west of the Kennebec river. They are located, without exception, at the falls of large rivers, and are operated by waterpower.

There were 838 establishments engaged in the manufacture of lumber and timber products in 1900, the industry second in rank, with 6,834 wage-earners, and products valued at $13,489,401. In 1890 there were 894 establishments, with 11,540 wage-earners, and products valued at $11,849,654. The increase in the value of products during the decade was $1,639,747, or 13.8 per cent. Lumbering was begun at an early period in Maine, and has continued to be a leading industry. Owing to the scarcity of pine, which originally was the most important timber cut, spruce has now taken the leading place. Hard woods are cut in considerable quantities. The first sawmill in Maine was erected at South Berwick about 1634, and fifty years later the number in the State had increased to 24. Many changes in methods have been introduced during the history of the industry. Dams and canals have been built, steamers have been placed on the lakes to facilitate log-driving, and in one instance, at Northwest Carry, Moosehead lake, a log-sluice has been constructed, at large expense, to convey the logs overland from the west branch of the Penobscot river to Moosehead waters, the source of the Kennebec. The primitive mills have given place to great plants, many of them operated by steampower, particularly those located on tide waters. Maine's wealth of hard woods, already receiving attention, is destined to be much more appreciated. Birch is in great demand for spool wood, both for local manufacture and for shipment to Scotland, while beech is called for to be converted into orange shooks for Florida and the Mediterranean ports. General woodworking plants have been built in many parts of the State, especially at points accessible to the raw material.

Wool manufactures rank third among the industries of the State, with 79 establishments, 7,155 wage-earners, and products valued at $13,412,784. In 1890 there were 75 establishments, with 4,207 wage-earners, and products valued at $7,521,317; and there was also 1 establishment reported for the manufacture of worsted goods, the statistics of which are not available for comparison, being included with those of "all other industries" to avoid disclosing operations of individual establishments. The

increase in the value of products during the decade was $5,891,467, or 78.3 per cent. Wool manufactures in Maine date back to a period some years prior to the introduction of cotton mills. In 1820 there were 6 small woolen mills in the State, one of the earliest having been established in that year at Dexter, in Penobscot county, by Amos and Jeremiah Abbott, who removed there from Andover, Mass. They purchased the small wool-carding mills already built at Dexter, and a few years later built the present woolen mill. This was, it is claimed, the first firm in Maine to ship woolen cloth out of the State. Owing to the generally favorable conditions for its growth and development, the manufacture of woolen goods is now carried on in nearly every county in the State, water being used for power. The town of Sanford, in the southwestern part of Maine, not far from the New Hampshire line, is the seat of an important branch of this industry, the manufacture of carriage robes, mohair plush, and horse blankets.

There were 35 establishments engaged in the manufacture of paper and wood pulp in 1900, with 4,851 wage-earners, and products valued at $13,223,275. In 1890 there were 17 establishments, with 1,509 wage-earners, and products valued at $3,281,051. The increase in the value of products was $9,942,224, or 303 per cent. Paper manufacturing has been carried on in Maine in a small way since 1735, but it is only within recent years that it has attained importance. The early mills were located, first at Westbrook and later at Mechanic Falls, on the Little Androscoggin; at Gardiner and Skowhegan on the Kennebec; and at Hampden and Belfast in eastern Maine. With the discovery of wood pulp as a material for paper manufacture, great changes were brought about. One of the pioneer pulp mills in the State was erected at Brunswick in 1870. Since that date numerous and costly plants have been built for the manufacture of ground wood, soda, and sulphite pulp. These mills are situated chiefly along the three principal rivers of the State, the Androscoggin, Kennebec, and Penobscot. Recently, immense plants have been constructed at Millinocket on the Penobscot waters, at Madison on the Kennebec river, and at Rumford Falls on the Androscoggin river. Spruce is used gen-

erally in the manufacture of wood pulp. A few mills use also small quantities of poplar, fir, pine, and hemlock, while 3 plants use poplar only.

There were 117 establishments engaged in the canning and preserving of fish in 1900, with 5,567 wage-earners, and products valued at $4,779,733. In 1890, 35 establishments were reported, with 2,342 wage-earners, and products valued at $1,660,881. The increase in the value of products during the decade was $3,118,852, or 187.8 per cent. A leading branch of this industry is the canning of small herrings under the name of "sardines." Imports of "sardines" of this sort in 1872 suggested the use of Eastport herrings for the same purpose, and experiments were at once undertaken. The Eastport product was found to be superior to the imported article, and an important industry was thus established in that city in 1875. During the year 1 cannery was operated. In each of the four succeeding years, 1 factory was added to the number, so that in 1879, 5 establishments were in operation. From that time the industry grew rapidly until, in 1886, there were 45 factories in the State, of which number 32 bordered on Passamaquoddy bay and its tributary waters, and 13 were located along the coast from Cutler westward. At Eastport and Lubec the "sardine" industry, during the first ten years of its existence, increased to such an extent as to outrank in importance, in that locality, all other branches of business.

There were 227 establishments engaged in flour and grist milling in 1900, with 192 wage-earners, and products valued at $3,399,832. In 1890, 210 establishments were reported, with 262 wage-earners, and products valued at $3,254,690. The increase in the value of products during the decade was $145,142, or 4.5 per cent. From the early settlement of the State, mills have been in use for grinding corn, wheat, and other grain. As the people for many years depended, for a livelihood, largely on the products of their farms—principally corn and grain—gristmills were a necessity. Small streams affording waterpower were abundant in every section of the State, and gristmills were erected in every considerable settlement. At first these mills were crude, the millstones being cut from the rock in which the country abounded, and serving only to grind the grain into meal; but as time advanced improved stones were introduced and much excellent flour was made for home consumption. For several

years the State paid a small bounty on every bushel of wheat raised, and in this way greatly stimulated the growth of the cereal. With very few exceptions, the early gristmills of Maine did custom grinding only, but later an extensive wholesale trade grew up in the larger cities, and mills of greater capacity were erected at these central points. As a result, corn meal, instead of whole corn, is now largely distributed to retailers throughout the State. Within a few years several large flourishing plants, using the roller process, have been erected in Aroostook county; in these mills large quantities of native wheat are converted into flour. This has greatly stimulated the growth of wheat in the fertile valley of the Aroostook.

There were 112 establishments engaged in the manufacture of foundry and machine shop products in 1900, with 2,143 wage-earners, and products valued at $3,298,706. In 1890, 82 establishments were reported, with 1,768 wage-earners, and products valued at $2,628,572. The increase in the value of products during the decade was $670,134, or 25.5 per cent. The erection of lumber mills in Maine early led to the construction of foundries and machine shops for the manufacture of shafting, gears, and other mill machinery. As shipbuilding and the cotton and woolen manufacture developed, these foundries and shops were also called upon to manufacture the additional ironwork and the special machinery required. But in recent years there has been a change in the custom of all kinds of large manufacturing plants, most of which now have their own machine shops with from one to a dozen employes. This has had a tendency to reduce the number and importance of the general foundry and machine shops. Portland, Bangor, and Lewiston are now the principal points where these are located. One of the early stove foundries in Maine was established at Hampden about the year 1835.

There were 115 establishments engaged in wooden ship and boat building in 1900, with 1,369 wage-earners, and products valued at $2,491,765. In 1890, 85 establishments were reported, with 1,450 wage-earners, and products valued at $2,818,565. The decrease in the value of products during the decade was $326,800, or 11.6 per cent. As far back as 1608, the "Virginia" was built by the Popham colony near the mouth of the Kennebec; and from that time to the present, shipbuilding has been one of

the important occupations of this region. In early days, shipyards were established at many points on all the principal rivers and along the coast, and Maine became the leading shipbuilding state in the United States, building more than half of all the seagoing vessels of the nation. Of late years there has been a decline in the industry, and the business is now carried on at but few points. Bath, on the Kennebec, is much the most important center, but ship and boat building is also carried on to a considerable extent at Phippsburg, Waldoboro, Thomaston, Rockland, Camden, Rockport, Belfast, Bucksport, Milbridge, and Machias. A notable feature of modern marine architecture is the greater size of the vessels in comparison with those of early days. Two and three-masted schooners have quite largely given place to the large four and five-masted vessels. Of late years the building of steel vessels, especially at the Bath Iron Works, the pioneer steel shipbuilding plant of the State, has become quite an important branch of the industry. Several government cruisers, as well as merchant steamships, have been built at Bath.

There were 31 establishments engaged in the tanning, currying, and finishing of leather in 1900, with 587 wage-earners, and products valued at $2,451,713. In 1890, 51 establishments were reported, with 852 wage-earners, and products valued at $3,363,672. The decrease in the value of products during the decade was $911,959, or 27.1 per cent. The early tanneries of Maine were very small, only a few hides being purchased, for a considerable part of the year's output was custom work. Home slaughtered hides and skins were tanned for home use, the shoemaker afterward making his rounds from house to house among the farmers, to work up stocks of finished leather into a year's supply of footwear for the family.

There were 200 tanneries in Maine in 1810, with an annual average of 275 hides and skins tanned, and an average product valued at $1,156. In 1840, 395 tanneries were reported, while the total number of hands employed, 454, averaged less than 2 to an establishment. York county alone contained 101 tanneries, with but 102 hands employed. Between 1840 and 1860 several tanneries of considerable size were built, and the industry received a further stimulus through the demands of 1861 and the time immediately following, so that during the next fifteen years

many large sole leather plants were established in the eastern part of the State. Hemlock bark has always been the principal material used for tanning purposes in the State, and it is to the increasing scarcity of this bark that the decline in the industry since 1870 must be attributed.

There were 120 establishments engaged in the printing and publishing of newspapers and periodicals in 1900, with 1,309 wage-earners, and products valued at $2,190,017. In 1890, 105 establishments were reported, with 949 wage-earners, and products valued at $1,719,477. The increase in the value of products during the decade was $470,540, or 27.4 per cent. The first newspaper in Maine, the Falmouth Gazette and Weekly Advertiser, was founded at Falmouth, now Portland, January 1, 1785, and has continued under various names, to the present time. Nearly every considerable town in the State now has its local newspaper.

LABOR LAWS OF MAINE.

LABOR LAWS OF MAINE.

CHAPTER 69, PUBLIC LAWS OF 1887, AS AMENDED BY CHAPTER 133, PUBLIC LAWS OF 1891, AND BY CHAPTER 173, PUBLIC LAWS OF 1895.

An Act to provide for a Bureau of Industrial and Labor Statistics.

Section 1. There is hereby established a separate and distinct department, which shall be called the Bureau of Industrial and Labor Statistics.

Sect. 2. It shall be the duty of this department to collect, assort, systematize, and present in annual reports to the governor, to be by him transmitted biennially to the legislature, statistical details, relating to all departments of labor in the State, especially in its relations to the commercial, industrial, social, educational and sanitary condition of the laboring people; and to the permanent prosperity of the productive industries of the State, and also to inquire into the immediate cause of strikes, lockouts or other disturbances of the relations between employers and employes.

Sect. 3. The governor shall, with the advice and consent of the council, appoint immediately after this act goes into effect, and thereafter biennially, on the first Wednesday in February, some suitable person, who is identified with the industrial and labor interests, and who shall be designated commissioner of industrial and labor statistics, with an office in such place as shall be designated by the governor.

Sect. 4. The commissioner herein named, shall receive an annual salary of fifteen hundred dollars, and to aid in carrying

out the provisions of this act, said commissioner is hereby authorized to employ such assistance and incur such expense, not exceeding two thousand dollars per annum, as shall be necessary to carry out the provisions of this act.

Sect. 5. The commissioner shall have power to take and preserve evidence, examine witnesses under oath, and administer the same, and in the discharge of his duty, may enter any public institution of the state, and at reasonable hours when open for business, any factory, workshop, mine or other place where labor may be employed.

Sect. 6. All state, county, city and town officers, are hereby directed to furnish to said commissioner upon his request, all statistical information in reference to labor and labor industries, which shall be in their possession as such officers, and said commissioner shall cause to be published and circulated in this state, six thousand copies annually of the results of its labors, as to the objects for which commission is created.

Sect. 7. There is hereby appropriated out of any money remaining in the state treasury the sum of seven thousand dollars for the ensuing two years for the purpose of carrying out the provisions of this act; the commissioner herein named shall receive his salary in quarterly installments, and the expenses of the bureau shall be paid on the vouchers presented by the commissioner, after the same shall have been audited and approved by the governor and council.

Sect. 8. Chapter one hundred and one of the resolves of eighteen hundred and seventy-three, and all other acts and parts of acts inconsistent with this act, are hereby repealed.

CHAPTER 139, PUBLIC LAWS OF 1887.

An Act to regulate the Hours of Labor and the Employment of Women and Children in manufacturing and mechanical establishments.

Section 1. No female minor under eighteen years of age, no male minor under sixteen years of age, and no woman shall be employed in laboring in any manufacturing or mechanical establishment in this State, more than ten hours in any one day, except

when it is necessary to make repairs to prevent the interruption of the ordinary running of the machinery, or when a different apportionment of the hours of labor is made for the sole purpose of making a shorter day's work for one day of the week; and in no case shall the hours of labor exceed sixty in a week; and no male person sixteen years and over shall be so employed as above, more than ten hours a day during minority, unless he voluntarily contracts to do so with the consent of his parents, or one of them, if any, or guardian, and in such case he shall receive extra compensation for his services; provided, however, any female of eighteen years of age or over, may lawfully contract for such labor for any number of hours in excess of ten hours per day, not exceeding six hours in any one week or sixty hours in any one year, receiving additional compensation therefor; but during her minority, the consent of her parents, or one of them, or guardian, shall be first obtained.

Sect. 2. Every employer shall post in a conspicuous place in every room where such persons are employed, a notice printed in plain, large type, stating the number of hours' work required of them on each day of the week, the exact time for commencing work in the morning, stopping at noon for dinner, commencing after dinner, and stopping at night; the form of such printed notice shall be furnished by the deputy commissioner of labor hereafter named, and shall be approved by the attorney general. And the employment of any such person for a longer time in any day than that so stated, shall be deemed a violation of section one, unless it appears that such employment is to make up for time lost on some previous day of the same week, in consequence of the stopping of machinery upon which such person was employed or dependent for employment.

Sect. 3. Whoever, either for himself, or as superintendent, overseer or agent of another, employs or has in his employment any person in violation of the provisions of section one, and every parent or guardian who permits any minor to be so employed, shall be punished by a fine of not less than twenty-five dollars nor more than fifty dollars for each offense. A certificate of the age of a minor made by him and by his parent or guardian at the time of his employment, shall be conclusive evidence of his age in behalf of the hirer, upon any prosecution for

a violation of the provisions of section one. Whoever falsely makes and utters such a certificate with an intention to evade the provisions of this act, shall be subject to a fine of one hundred dollars.

Sect. 4. It shall be lawful for any person, firm or corporation engaged in any manufacturing or mechanical business, to contract with adult or minor employes to give one week's notice of intention on such employe's part, to quit such employment under a penalty of forfeiture of one week's wages. In such case, the employer shall be required to give a like notice of intention to discharge the employe; and on failure, shall pay to such employe a sum equal to one week's wages. No such forfeiture shall be enforced when the leaving or discharge of the employe is for a reasonable cause. Provided, however, the enforcement of the penalty aforesaid, shall not prevent either party from recovering damages for a breach of the contract of hire.

Sect. 5. No child under twelve years of age, shall be employed in any manufacturing or mechanical establishment in this State. Whoever, either for himself, or as superintendent, overseer or agent of another, employs or has in his employment any child in violation of the provisions of this section, and every parent or guardian who permits any child to be so employed, shall be punished by a fine of not less than twenty-five nor more than fifty dollars for each offense.

Sect. 6. No child under fifteen years of age shall be employed in any manufacturing or mechanical establishment in this State, except during vacations of the public schools in the city or town in which he resides, unless during the year next preceding the time of such employment, he has for at least sixteen weeks, attended some public or private school, eight weeks of which shall be continuous; nor shall such employment continue unless such child in each and every year, attends some public or private school for at least sixteen weeks, and no child shall be so employed who does not present a certificate made under or by the direction of the school committee, superintendent of the public schools, or the teacher of a private school, that such child has so attended school. And it shall be the duty of such committee, superintendent or teacher, to furnish such a certificate in accordance with the fact upon request and without charge. Provided,

that this section shall not take effect until January one, eighteen hundred and eighty-eight.

Sect. 7. Any parent or guardian who procures a child to be employed contrary to section six, and any corporation, owner, superintendent or agent of the owner, of such establishment violating the provisions of said section, shall forfeit the sum of one hundred dollars, one-half to the use of the county, and one-half to the use of the city or town where the offense is committed. Money so recovered to the use of the city or town, shall be added to its school money. It shall be the duties of the school committees and superintendent of public schools, to inquire into violations of said section and report the same to the county attorney, who shall prosecute therefor.

Sect. 8. Every owner, superintendent or overseer of any such manufacturing or mechanical establishment shall require and keep on file, a certificate of the age and place of birth of every child under sixteen years of age employed therein, so long as such child is so employed, which certificate shall also state in the case of a child under fifteen years of age, the amount of his school attendance during the year next preceding such employment. Said certificate shall be signed by a member of the school committee of the place where such attendance has been had, or by some one authorized by such committee, and the form of said certificate shall be furnished by the state superintendent of schools, and shall be approved by the attorney general. The deputy commissioner of labor hereinafter named or either of his assistants, may demand the names of the children under sixteen years employed in such establishment, in the several cities and towns of the State, and may require that the certificates of age and school attendance prescribed in this section, shall be produced for his inspection, and a failure to produce the same, shall be *prima facie* evidence that the employment of such child is illegal.

Sect. 9. The governor, by and with the advice and consent of the council, shall appoint a deputy commissioner of labor, at a salary of one thousand dollars a year, who shall hold office for two years, or until his successor is appointed, unless sooner removed. It shall be the duty of the deputy commissioner of labor to inquire into any violations of this act, and also to assist

in the collection of statistics and other information which may be required, for the use of the bureau of industrial and labor statistics. And said deputy commissioner shall, in addition to his salary provided by law, be allowed his reasonable expenses. Whenever the governor of this state shall be satisfied that the deputy commissioner of labor cannot perform all the duties of his said office required by this section, in person, he shall, with the advice and consent of the council, appoint a sufficient number of assistant deputies to assist him in so doing. Said assistants shall hold their office for the term of two years, and act under the direction of said deputy commissioner of labor, and shall receive the sum of two dollars per day and reasonable expenses while actually engaged in duty. Said assistants may, at any time, be removed for cause by the governor. All bills for the expenses of the deputy commissioner of labor and for the services and expenses of such assistant deputies, shall be audited by the council. For the purpose of inquiring into any violation of the provisions of this act, and enforcing the penalties thereof, such deputy commissioner and assistants may, at all reasonable times, enter any manufacturing or mechanical establishment and make investigation concerning such violations. Such investigation shall be conducted with as little interruption as possible to the prosecution of the business of such establishment. Whoever interferes with said deputy commissioner or his assistants, in the performance of their duties as prescribed in this act, shall be fined fifty dollars.

Sect. 10. Nothing in this act shall apply to any manufacturing establishment or business, the materials and products of which are perishable and require immediate labor thereon to prevent decay thereof or damage thereto.

Sect. 11. This act shall take effect July one, eighteen hundred and eighty-seven.

CHAPTER 220, PUBLIC LAWS OF 1893.

An Act to change the Official Title of the Deputy Commissioner of Labor.

Section 1. The official title of the officer now known as the deputy commissioner of labor is hereby changed to inspector of factories, workshops, mines and quarries.

Sect. 2. Chapter one hundred and thirty-nine of the public laws of eighteen hundred eighty-seven, is hereby amended by striking out the words, "deputy commissioner of labor," wherever they occur in said chapter, and inserting in their place the words 'inspector of factories, workshops, mines and quarries.'

CHAPTER 134, PUBLIC LAWS OF 1887, AS AMENDED BY CHAPTER 55, PUBLIC LAWS OF 1895.

An Act to provide for the Fornightly Payment of Wages.

Section 1. Every manufacturing, mining, quarrying, stone-cutting, mercantile, horse railroad, telegraph, telephone and municipal corporation, and every incorporated express and water company, and any person or firm engaged in any of the above specified kinds of business, having in their employ more than ten persons, shall pay fortnightly each and every employe engaged in its business, the wages earned by such employe to within eight days of the date of said payment; provided, however, that if at any time of payment, any employe shall be absent from his regular place of labor, he shall be entitled to said payment at any time thereafter on demand.

Sect. 2. Any corporation violating any of the provisions of this act, shall be punished by a fine not less than ten nor more than twenty-five dollars on each complaint under which it is convicted, provided, complaint for such violation is made within thirty days from the date thereof, by any employe to whom wages is then due.

Sect. 3. When a corporation against which a complaint is made under this act, fails to appear after being duly served with process, its default shall be recorded, the allegations in the complaint taken to be true, and judgment rendered accordingly.

Sect. 4. When judgment is rendered upon any such complaint against a corporation, the court may issue a warrant of distress to compel the payment of the penalty prescribed by law, together with costs and interest.

Sect. 5. The provisions of this act shall not apply to municipal officers whose services are paid for by the day, or to teachers employed by municipal corporations.

Sect. 6. This act shall take effect May one, eighteen hundred and eighty-seven.

CHAPTER 292, PUBLIC LAWS OF 1893.

An Act authorizing and requiring the Inspector of Factories, Workshops, Mines and Quarries to enforce the laws relating to fortnightly payments, sanitary conditions of factories, and to require him to report annually.

Section 1. It shall be the duty of the inspector of factories, workshops, mines and quarries, upon complaint, to inquire into, and prosecute for, any violations of chapter one hundred and thirty-four of the public laws of eighteen hundred and eighty-seven.

Sect. 2. It shall be the duty of the inspector of factories, workshops, mines and quarries to examine into the sanitary condition of factories, workshops, mines and quarries, and when any condition or thing is found that, in his opinion, endangers the health or lives of the employes he shall notify the local board of health, and it shall be the duty of said board to investigate the matter.

Sect. 3. It shall be the duty of the inspector of factories, workshops, mines and quarries to enforce the due observance of sections twenty-five and twenty-six of chapter twenty-six of the Revised Statutes, relating to the swinging of doors in all factories and workshops.

Sect. 4. The inspector of factories, workshops, mines and quarries shall, on or before the first day of December annually, submit his report to the commissioner of industrial and labor statistics which shall be incorporated in, and printed with the annual report of the bureau of industrial and labor statistics.

Sect. 5. All acts and parts of acts inconsistent herewith, are hereby repealed.

Sect. 6. This act shall take effect when approved.

Sections 25 and 26 of chapter 26 of the Revised Statutes, which are referred to in section 3 of chapter 292, Public Laws of 1893.

Sect. 25. Every building intended temporarily or permanently for public use, and every school-house and school-room, shall have all inner doors, intended for egress, open outwards. The outer doors of all such buildings shall be kept open when the same are used by the public, unless they open outwards; but fly-doors opening both ways may be kept closed.

Sect. 26. Every public house where guests are lodged, and every building in which any trade, manufacture, or business is carried on, requiring the presence of workmen or other persons above the first story, and all rooms used for public assembly or amusement, shall at all times be provided with suitable and sufficient fire-escapes, outside stairs, or ladders from each story or gallery above the level of the ground, easily accessible to all inmates in case of fire or of an alarm of fire; the sufficiency thereof to be determined as provided in the following section.

CHAPTER 303, PUBLIC LAWS OF 1889, AS AMENDED BY CHAPTER 127, PUBLIC LAWS OF 1891.

An Act relating to Employment of Labor.

Any employer, employe, or other person, who by threats of injury, intimidation or force, alone or in combination with others, prevents any person from entering into, continuing in or leaving the employment of any person, firm or corporation, shall be punished by imprisonment not more than two years, or by fine not exceeding five hundred dollars.

CHAPTER 19, PUBLIC LAWS OF 1891.

An Act to make the first Monday in September of each year a Legal Holiday.

Section 1. The first Monday in September of each year, being the day celebrated and known as labor's holiday, is hereby made a legal public holiday, to all intents and purposes, in the same manner as thanksgiving, fast and Christmas days, the twenty-second day of February, the thirtieth day of May and the fourth day of July, are now by law made public holidays.

Sect. 2. This act shall take effect when approved.

REPORT

OF THE

Inspector of Factories, Workshops, Mines and Quarries.

STATE OF MAINE.

OFFICE OF INSPECTOR OF FACTORIES,
WORKSHOPS, MINES AND QUARRIES,
BIDDEFORD, December 1, 1901.

To Hon. Samuel W. Matthews, Commissioner of Industrial and Labor Statistics:

In compliance with the requirements of an act of the legislature, approved March 29, 1893, directing the Inspector of Factories, Workshops, Mines and Quarries to make a report to the Commissioner of Industrial and Labor Statistics on or before December first annually, I have the honor to herewith submit my fifth annual report.

Very respectfully,
CHARLES E. ATWOOD, *Inspector.*

REPORT.

In submitting this, my fifth annual report as Inspector of Factories, Workshops, Mines and Quarries, I take pleasure in stating that the record of the year in my department of the State's service is of a satisfactory character. Complaints of violations of the laws which I am sworn to execute have not been so numerous as in former years. It is therefore evident that the laws are well understood by the people and are generally lived up to. Occasionally, however, lapses in this particular are brought to the attention of the inspector, when measures are immediately taken to remedy the evil and correct the abuse.

Complaints of violation of the child labor law have not been many, and these have come mostly from members of school committees, who, apparently, are desirous of placing the responsibility of enforcing the truancy law upon the inspector rather than assuming it themselves. It may not be amiss for me to state that this department has nothing to do with the enforcement of any school law other than to see that no child between the ages of twelve and fifteen years shall be permitted to work in any manufactory or mechanical establishment unless given sixteen weeks schooling each year. The only way this may be determined is by a certificate issued by the school authorities, setting forth the fact that the child has attended school for the prescribed period. A child with such a certificate cannot be prevented from working, and the parents of such children as are at work are certain to have certificates correctly and properly made out and duly signed.

There is a difference between the child labor law and the truancy law. The first provides that no child under twelve years of age shall be employed in any manufacturing or mechanical establishment in this State, and that none between twelve and

fifteen years of age shall be employed in any such establishment, except during vacations of the public schools in the city or town in which he resides, unless a stated amount of schooling has been had; the latter law, as amended by the last legislature, states that every child between the ages of seven and fourteen inclusive shall attend some public or private day school during the time such school is in session, provided that necessary absence may be excused by the superintending school committee or superintendent of schools or teacher acting by direction of either. The enforcement of the former law is carefully observed, so far as I am able to ascertain. The latter law is in the hands of the truant officers of each town and should be by them enforced, if violations thereof are known to them. It is not the duty of this office to take cognizance of children except to see that every working child inside the ages specified shall be in possession of a duly attested certificate showing the required school attendance in each year.

CHILDREN EMPLOYED.

The following schedule will show the number of children under fifteen years, also those between fifteen and sixteen years, employed in our factories in 1901, as compared with those in 1900. The list covers the cotton mills of the State and includes the few worsted and woolen mills where such children are employed.

It will be seen that the number of children under fifteen years of age has decreased, while the number between fifteen and sixteen years has increased. This may be accounted for from the fact that when business is prosperous the causes that prompt infractions of the law are not so pressing. When labor is scarce and wages are reasonably high, there is not the same incentive to send children of tender years into factories to work as when the reverse is the case. Business depression causes a lowering of the wages received by the father and hence induces him to resort to subterfuges, if not to absolute violation of law, in order that his under-age children may assist him to eke out the usual family income. But the year 1901, in all branches of manufacturing enterprise, has been very prosperous, and for that reason the number of children under fifteen years of age, employed in industrial pursuits, has appreciably fallen off.

Name of Corporation.	Location.	Children Employed.					
		1900.			1901.		
		Under 16 years.	Between 15 and 16 years.	Under 15 years.	Under 16 years.	Between 15 and 16 years.	Under 15 years.
Androscoggin Mills	Lewiston	26	18	8	49	38	11
Bates Manufacturing Company	Lewiston	30	20	10	45	34	11
Continental Mills	Lewiston	27	19	8	37	30	7
Hill Manufacturing Company	Lewiston	19	14	5	23	19	4
Barker Mill	Auburn	7	5	2	6	6	-
Cabot Manufacturing Company	Brunswick	74	41	33	94	77	17
Lockwood Company	Waterville	69	39	30	97	82	15
Edwards Manufacturing Company	Augusta	72	51	21	44	37	7
Farwell Mills	Lisbon	31	19	12	35	26	9
Pepperell Manf. Co., Laconia Division.	Biddeford	81	61	20	136	101	35
Pepperell Manf. Co., Pepperell Division	Biddeford	74	44	30	76	69	7
York Manufacturing Company	Saco	35	20	15	47	37	10
Goodall Worsted Company	Sanford	57	28	29	120	86	34
Sanford Mills	Sanford	55	33	22	86	54	32
Maine Alpaca Company	Springvale	-	-	-	37	20	17
Old Town Woolen Company.	Old Town	7	7	-	-	-	-
Worumbo Manufacturing Company	Lisbon Falls	11	6	5	14	9	5
		675	425	250	946	725	221

In 1899 the number of children under fifteen years of age employed in manufacturing and mechanical establishments in the State was 349; in 1900, the number was 250 and in 1901 it was 219. The falling off in the number of children employed under fifteen years is partially accounted for by the change in the law of last winter reducing the school limit from fifteen to fourteen years inclusive. Children between fifteen and sixteen years of age, being released from compulsory school attendance, increased in the mills from 425 in 1900 to 725 in 1901, and to some extent have displaced those under fifteen years.

On the whole, however, the condition of child labor in the factories and workshops of the State shows a commendable advance on previous years.

WORKSHOPS, MINES AND QUARRIES.

There has been only one complaint against any of the above branches of enterprise. That was lodged against a man in an interior town, who was carrying on a small workshop, employing less than twenty hands, for failure to pay his help fortnightly. When the complainant was informed that the man had violated no law he was somewhat amazed, being unaware of the fact that the fortnightly payment law applied only to corporations.

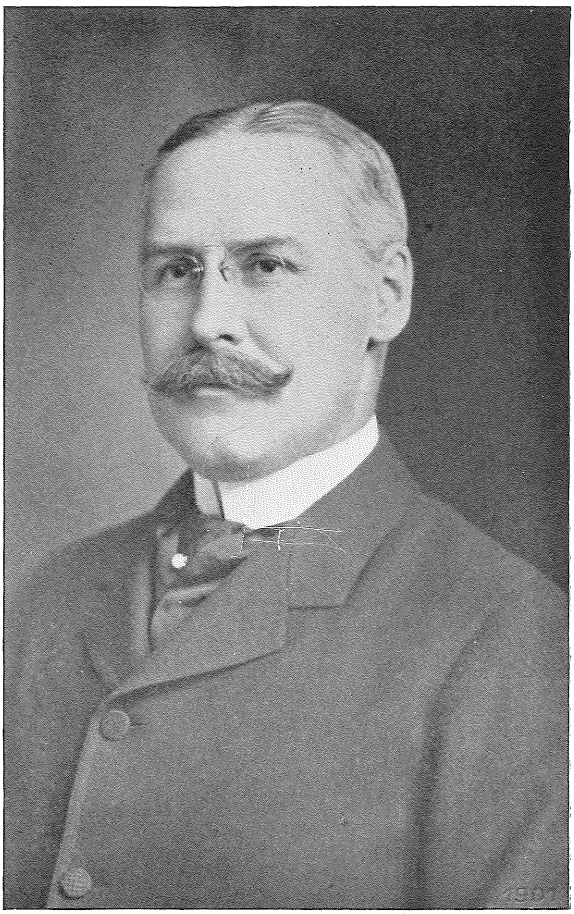
Business in the granite quarries of the State has been remarkably good during the year, and no troubles, since the settlement of the wage schedule nearly two years ago, have come to my knowledge.

Here and there, in different parts of the State, mining for gold, silver, copper, mica, feldspar and other minerals is being carried on to a limited extent. On Simpson's island, near Ellsworth, operations are being conducted on quite an extensive scale. About twenty men are at work mining copper ore, largely mixed with silver, which yields about $35 to the ton. A shaft has been sunk 125 feet, and plans are being perfected to put in diamond drills, crushers and other expensive machinery early in the spring.

CONCLUSION.

The prediction made in my last annual report that the year 1901 would prove the most prosperous in the history of the State has been more than verified. It is hoped that the same will prove true of 1902.

INDEX.



GOVERNOR JOHN F. HILL.

REPORT

OF

OLD HOME WEEK

IN

MAINE

August 10th--17th

1901

SAMUEL W. MATTHEWS, Secretary

AUGUSTA
KENNEBEC JOURNAL PRINT
1902

OFFICERS.

President.—Gov. JOHN F. HILL, Augusta.

Vice-Presidents.—HON. F. M. DREW, Lewiston.
CHARLES B. TENNEY, Houlton.
COL. F. E. BOOTHBY, Portland.
JOHN M. S. HUNTER, Farmington.
HON. HANNIBAL E. HAMLIN, Ellsworth.
CHARLES S. HICHBORN, Augusta.
HON. E. K. GOULD, Rockland.
*R. T. RUNDLETT, Wiscasset.
GEORGE M. ATWOOD, South Paris.
HON. HENRY LORD, Bangor.
WILLIS E. PARSONS, Foxcroft.
EDWARD C. PLUMMER, Bath.
HON. JOSEPH O. SMITH, Skowhegan.
HON. W. C. MARSHALL, Belfast.
GEORGE A. MURCHIE, Calais.
HON. CHARLES H. PRESCOTT, Biddeford.

Treasurer.—HON. ORAMANDAL SMITH, Litchfield.

Secretary.—HON. SAMUEL W. MATTHEWS, Augusta.

Executive Board Additional.—MRS. HELEN FRYE WHITE, Lewiston.
MRS. W. C. SPAULDING, Caribou.
MRS. ADELAIDE BOOTHBY, Portland.

* Deceased.

OLD HOME WEEK—AUGUST 10-17, 1901.

The annual meeting of the State Old Home Week Association was held in the Hall of the House of Representatives, State House, April 18, 1901, at 10.30 A. M. The meeting was well attended and the desire that the yearly celebration of Old Home Week should be observed in 1901 was generally expressed. The matter of location for the State Day celebration was discussed at length and it was decided to leave the matter of the selection of the place to the Executive Board. Subsequently Rockland was fixed upon as the place for the State Day celebration and August 10-17 as the time. The following list of officers was brought in by the committee and accepted by the association:

President—Hon. John F. Hill, Augusta.

Vice-Presidents—Hon. F. M. Drew, Lewiston; Charles B. Tenney, Houlton; Col. F. E. Boothby, Portland; John M. S. Hunter, Farmington; Hon. Hannibal E. Hamlin, Ellsworth; Charles S. Hichborn, Augusta; Hon. E. K. Gould, Rockland; R. T. Rundlett, Wiscasset; George M. Atwood, South Paris; Hon. Henry Lord, Bangor; Willis E. Parsons, Foxcroft; Edward C. Plummer, Bath; Hon. Joseph O. Smith, Skowhegan; Hon. W. C. Marshall, Belfast; George A. Murchie, Calais; Hon. Charles H. Prescott, Biddeford.

Secretary.—Samuel W. Matthews, Augusta.

Treasurer.—Hon. Oramandal Smith, Litchfield.

Executive Board Additional.—Mrs. Helen Frye White, Lewiston; Mrs. W. C. Spaulding, Caribou; Mrs. Adelaide Boothby, Portland.

The following letter of invitation was prepared by Gov. Hill and 20,000 copies issued from the office of the State Secretary.

GOVERNOR HILL'S LETTER OF INVITATION.

STATE OF MAINE,
Executive Department.

"Who has not felt how sadly sweet,
The dream of home, the dream of home,
Steals o'er the heart, too soon, too fleet,
When far o'er sea or land we roam?"

The setting apart of a week each summer, known as Old Home Week which is given up to the entertainment of relatives and friends who come back to visit the old home, is a most beautiful custom and has so generally received the approval of the people of this State, that it seems likely to become an established institution.

The week from August tenth to seventeenth, inclusive, has been designated this year as Old Home Week in Maine, and in behalf of the State, I desire to extend an earnest and cordial invitation to every son and daughter of Maine, as well as to their families and friends, to visit Maine at that time, and they may be assured that they will be greeted with heartfelt gladness and a sincere welcome, and will be amply repaid for a visit to the old home, whose memory must always be dear while life lasts.

JOHN F. HILL,
Governor of Maine.

CELEBRATIONS.

While probably as many Maine born citizens living in other sections of the country came back to revisit the scenes of their childhood, as last year, celebrations were not held in as many places, the visitors, in many cases, preferring to return directly to their old homes in all parts of the State. Many informal receptions were given to these local visitors, from which no reports have been received. The following accounts of the celebrations were received from secretaries of local associations or are condensed from those given in the local papers.

ROCKLAND.

Old Home Week, August 10-17, inclusive, was celebrated in Rockland with immense success, over 1,200 guests from other states being present. The week officially began on Sunday, when special services appropriate to the occasion were held in the various churches. The streets were bountifully decorated with flags and bunting, and nearly all places of business, the homes of the various fire companies and the public buildings, were arrayed with the red, white and blue. The presence of the United States dispatch boat Dolphin in the harbor contributed much to the interest of the occasion.

On Monday evening occurred the reception at the Central Club. The receiving party consisted of Governor and Mrs. Hill, Adjutant General and Mrs. J. T. Richards, Mayor and Mrs. E. K. Gould, and Mr. and Mrs. C. M. Walker. The reception began at 8.30 p. m. and in the course of the evening several hundred visitors were presented to Governor Hill and the other members of the committee. We publish below the excellent address of welcome by Mayor Gould.

MAYOR GOULD'S WELCOME.

"It is my very pleasant duty to welcome to the city of Rockland, this Old Home Week, guests of the city and of the State. For Rockland is not only acting the host for her own former residents, but she is also discharging that very agreeable duty to all the returning sons and daughters of Maine from whatsoever town or city of the State they may have gone forth. We are proud to have as our guests these strong, aggressive and brainy men who have left the homes of their birth and gone to seek fame and fortune in other and more promising fields. We are proud to receive among us these noble and gracious women, the fair daughters of the Pine Tree State, who adorn with wifely and motherly presence so many homes in different states. We extend the hand of welcome to all who by birth or marriage can claim kinship with a son or daughter of Maine. We are pleased also to welcome those who are natives of other states, but who for a time claimed Maine as their adopted state. Your presence here attests to your affection for the scenes and the people with whom in times past you have been associated.

Last year the number of former residents attending the local and state celebrations of Old Home Week exceeded the expectation of the most sanguine. This year, the crowded trains and steamboats are bringing into Maine a multitude of visitors which promises to exceed in numbers that of last year. This is most convincing testimony of the love and affection for the homes and scenes of early childhood which every true man and woman cherishes in his heart.

Scott has well said in these familiar lines:

> "Breathes there a man with soul so dead,
> Who never to himself hath said,
> This is my own, my native land."

Long years may separate men from the homes of their childhood; success may abundantly reward their industry in new fields of labor; honors may crown them; new friends may come to them; other interests may wean them for a time from the scenes and acquaintances of youth, but not forever. Down deep in the hearts of every man and woman is an affection for the land of their birth that nothing can eradicate. They love the plain and simple cottage wherein they first saw the light of day, which is full of the most tender associations of sainted ones long since gone. They quaff the sparkling water from the same old well, and they almost feel that they are boys and girls once more. They tread the old familiar paths, seek again the cosy nooks, fish in the same streams and ponds, and range the forests and meadows so strongly associated with memories

of youth. In imagination these familiar scenes are peopled with the friends of long ago, and memory is active with events almost forgotten. So long as men and women have such experiences can they forget their native state? Can they be disloyal to her, or conceive for her other than the strongest affection?

Maine is proud of her sons and daughters wherever they may be. They have peopled the lands along the Pacific and made them blossom like the rose. They have helped to reclaim the great Northwest from primeval waste and desolation, and covered its broad prairies with fertile farms and prosperous cities. The energy and the thrift of the Yankee from Maine have spread through the South until Phenix-like, she has arisen from the ashes and desolation of war, and is basking in the sunlight of peace and prosperity. In Massachusetts, in New York, in Pennsylvania, in Ohio, in Illinois, in all the great states and cities of this land, will be found the men and the women from Maine. The sturdy stock from which they came makes them a valuable addition to any state or community.

Look among those who sit in high places in other states and in the nation, and there you will see the man from Maine. Go where pluck and energy and brains have built up great industries that give employment to thousands, and at the head of many of them you will find the man from Maine. Visit those splendid farms with broad acres bounded by the horizon, whose presiding genius is the man from Maine. In the front ranks of the professions of law, medicine, and the ministry; in the factories, the stores, the offices, and in every other honorable employment, can be found the man and the woman from Maine. They lead in every profession and employment because the sturdy stock from which they sprang makes them honorable, industrious, and intellectual men and women, capable of grasping with and mastering the great problems of life.

Rockland is fortunate in having these men and women for its guests. They too are fortunate to have as a host the most enterprising, progressive and hospitable city in all Maine. There may be cities in Maine with a larger population and greater wealth, but there are none better than fair Rockland by the sea. Maine may have sent thousands of her best sons and daughters to other states, but there are a goodly number of them left, and we have more than our share here in Rockland.

Maine called for a man who would be a worthy successor to the honored and lamented Dingley, and Rockland gave Charles E. Littlefield to the country and to the world. And when our present honored governor, whose presence on this occasion affords us so much satisfaction, shall have decided to retire from the high office which he now fills with such unexampled grace and dignity, and to the satisfaction of all of our people, then Rockland will supply a man who will not be unworthy to succeed Governor Hill as the chief magistrate of Maine.

Rockland is progressive and prosperous because she has able and enterprising business men to make her so. Rockland is hospitable and generous and charitable and kind-hearted, because she has the fairest, the best, the most refined and cultured of women to draw out all her noblest impulses, and make her the best dwelling-place in all the world.

From the fathomless depths of her great and generous heart Rockland has bidden me, as her representative, to welcome back to home and native land these honored guests of the Pine Tree State. We have decked our streets and buildings in gorgeous array in honor of your coming. Long processions will tomorrow fill our streets as an indication of the warmth of our greetings; sweet strains of martial music and the cheers of countless thousands will make the air resonant with sounds of joyous welcome. The arching sky bends lower to envelop you in genial greeting; mountains and forests, meadow and shore have donned their richest robes of green to do you honor. The flowers of the fields have come in countless millions, and with serried ranks resplendent in the glorious tints of nature, are waving you perfumed welcomes from every hillside and vale. The cool refreshing breezes of the ocean touch your cheek in rapturous greeting, and the deep diapason of the sea joins in the grand symphony of welcome.

All that the most generous and warm-hearted of natures can do, our people have done to make your welcome complete and satisfactory. I trust your sojourn among us may be full of pleasure, and that you may find in this renewing of old ties and associations, a greater love for the State of your birth—the state of the North Star and the pine tree."

THE PARADE.

A grand parade, consisting of three divisions and headed by the Rockland Military Band, with General J. P. Cilley as chief marshal, took place Tuesday forenoon. The parade included fifty sailors from the Dolphin, companies of the Rockland fire department and firemen from several other towns. Many floats, representing the business of Rockland, were in the line. There was also a floral division, which was one of the prettiest demonstrations ever made in the city. In the vanguard of the floral division was a barouche occupied by several young ladies and decorated with Easter lilies, the background being spruce and pine boughs, ferns and asparagus. There were many stylish turnouts in the line, while a dozen or more hay racks filled with school children, brought up the rear of the procession. The extreme left of the line was occupied by a carriage containing several of the high officials of the Modern Woodmen. The

entire parade was one of the grandest pageants ever seen in Rockland.

The reviewing stand, located on a lawn at the corner of Granite and Main streets, was occupied by about 200 persons, among whom were Governor and Mrs. Hill, with members of the governor's staff. Other prominent men who saw the parade were ex-Governor Henry B. Cleaves, ex-Senator George P. Wescott and George F. West of Portland, Senator George Morrison of Saco and Colonel F. W. Plaisted of Augusta.

A band concert and ball, Tuesday night, formed an interesting and successful feature of the Home Week. Rockland's second Home Week was an immense success from start to finish.

BELFAST.

The celebration of Old Home Week at Belfast, like that of one year ago, was a decided success, and the meeting of old friends and the renewing of old associations will cause it to be long held in pleasant remembrance. The weather on the whole was favorable and enabled every feature of the program to be fully and successfully carried out. The observance began Sunday with appropriate services at the Baptist, Universalist and Methodist churches. The pulpit of the Unitarian church is vacant, and the pastor of the Congregational church was absent on his vacation.

SERMON BY REV. ASHLEY A. SMITH, PASTOR OF THE UNIVERSALIST CHURCH.

The Acts 21:39, "But Paul said, I am a man which am a Jew of Tarsus, a city in Cilicia, a citizen of no mean city."

Most men, like Paul, are proud of the city of their nativity, they speak of it with respect and tenderness; when far from it, they hold it in their memory and long to return to it and see once more the familiar scenes, meet and talk with the old friends and acquaintances in the old familiar way; walk the streets and byways consecrated by the life of innocent childhood and rendered sacred by the dreams and intimacies of growing youth. The old school, the playground, the village common, the old homestead, are awaiting our coming; changed perhaps, as all things change, and yet retaining enough of the old charm and familiarity as to greet us not coldly or indifferently, but warmly as in olden times. As Byron has said: "Home, how much is contained in the word, how much of affection, kindness, what memories of a mother's care and tenderness, of a father's coun-

sel and guidance, a brother's or sister's love." Perhaps the old home has been consecrated by the plighting of marriage vows, the advent of children, the Christmas festivities or other holiday gladness. Home: without hearts there is no home, but with love, the lowliest or highest place, the cottage of the poor man or the mansion of the rich, becomes a heaven, a dwelling place of God, for God is love. A man or woman who can sing little else can sing that familiar song of John Howard Payne that has brought such comfort and cheer to millions of human hearts, the familiar song whose refrain is "Home, Sweet Home."

A few years ago, in the neighboring State of New Hampshire, the governor conceived the idea of setting apart a week in the month of August for the return of the sons and daughters of the State. It met with instant and remarkable success. The idea so happily conceived and carried out by our sister commonwealth was introduced last year into our own State of Maine. The experiment was successful, many cities and towns of the State being visited by old residents; old relationships, friendships and acquaintances were renewed, and these cities and towns vied with each other in extending a cordial welcome, and in ministering to the comfort and happiness of the visitors. It was, as the phrase is, "open house" at the old Maine homesteads; sons and daughters of the Pine Tree State were welcomed back to the towns and cities of their nativity. There was great happiness and rejoicing. This year Governor Hill, in his invitation and proclamation, said: "It is a custom that has so generally received the approval of the people of this State that it seems likely to become an established institution." His words of cordial invitation find echo in the hearts of every true native resident of Maine: "I desire to extend an earnest and cordial invitation to every son and daughter of Maine, as well as to their families and friends, to visit Maine, and they may be assured that they will be greeted with heartfelt gladness and sincere welcome and will be amply repaid for a visit to the old home, whose memory must always be dear while life lasts." The governor has set apart the week beginning yesterday as Old Home Week in the State of Maine. How more fittingly observe today, the Sabbath of that week, than by appropriate religious services in the old church homes of former residents? The sons and daughters of Maine who have removed from the State remember the old church where as children they went to attend its services in the family pew, where as young men and women they took eager and earnest part in its activities, and looked to its pulpit for guidance and counsel.

Paul looked back upon Tarsus, a city of Cilicia, with love and reverence; he was proud to claim citizenship there, and to speak of it as his old home, a city honored and respected among the cities of the time. So men and women who have gone out from

these Maine towns and cities are proud of the place of their birth, and speak of it with the same wholesome and legitimate pride with which Paul of olden time said, "I am a citizen of no mean city." So surely should every man say of the city of his birth; so especially could it be said of our own Belfast, the city of homes, a city honored and respected among those of the State. Like every other human production, like every other city, there are faults and failings, shortcomings and wrongdoings, these it is only honest to admit. But this you can say, often in greater measure, of every other city in the world. It does not become a citizen of this or any other city, to so exaggerate and magnify the evils and iniquities of the town that the impression is spread broadcast over the country that it is a place given over to vice and indulgence, and without sense of honor, respect for law or order. Revivalists and reformers, in the excess of their fervor and zeal, are apt to lose sight of the fact that there is any virtue or civic righteousness. They are so intent on denouncing or attacking the vice that the virtue and right-living of the majority of the citizens are apt to be ignored or forgotten.

Concentrated energy and diversified power are found in the chief centres of human life, the cities of the world. In our own comparatively small city this energy and power is seen. We wish of course for more power of enterprise, more broad philanthropic citizenship, more of a large generous outlook on the welfare of the city in making it a place of business activity and progression. Some cities are centres of convervatism, others of progression. Some seem to be always bringing new industries and enterprises while others have difficulty in keeping even the few that they have. Some have every modern improvement and convenience in lighting and locomotion, others have few or none. In either case it is the men and women that make the cities progressive or unprogressive; the citizens that make the cities stagnant and inactive, or energetic and enterprising. If a city is growing and improving, men make it so; if it is dead and dying, men make it so. Our New England seer, Emerson, once said of the nation, what is equally true of any city: "That country is best which is inhabited by the noblest minds." We want our city to be a human community, righteous, not with righteousness of angels or cherubim or seraphim, but with the righteousness of men and women. Noble men and women make a noble city, nor can the finest architecture ennoble it without them. Perhaps there is no better or surer way of serving our city or our country than by private virtues, industry and honesty. If your life, in its common every-day relationships, is a true life, a really manly or womanly life, you are doing your best to make your city or your country wiser and better. The man or woman who is living this kind of a life is often doing more for the upbuilding of a city or nation in nobility and righteousness than the orator or mere

office-holder. The question then is a personal one. Is my influence in this city or nation ennobling or degrading? Am I, by my work, word and character, making our city a healthier, happier, holier, nobler place? That is the test not only of our citizenship, but of our religion, our Christianity as well. Yes, the question is even more direct than this. Do I believe in the home, the school, the library, the church; in all things that make for purity and nobleness of living? Do I believe in these things enough to work for them and to make sacrifices for them? Antagonism to righteousness is of two kinds, that which is downright opposition, positive antagonism, and that which is summed up in the word indifference. The man or woman who is indifferent to righteousness and the forces and influences that make for it in this or any city, namely, the home, the school, the church, is one of its worst enemies. Righteousness says to you and me, as Christ said centuries ago: "He who is not with me is against me, and he who gathereth not with me scattereth." There are comparatively few open, direct, positive antagonists of these three forces in this city that make for righteousness, the home, the school, the church; but the worst enemy, the most powerful opponents, are those men and women who are indifferent to them; those who care nothing for the home, (ridicule it perhaps); those who take no interest in the school and care nothing for reputable looking or well ventilated school buildings; those who never attend church, but are the self-constituted critics and censors of it. These are the bad citizens who are apt to say things in criticism of the city; the men and women whose influence, while not positively vicious, is at least degrading and damaging. The worst foe and the worst antagonism is that of indifference. We hear much, from time to time, about the evil of licentiousness or intemperance in our city and other cities, but the terrible thing about them is, that they displace and destroy so much of goodness. The awful thing about sensual indulgence is not that men and women find a low and degraded pleasure in it, but the pitiful and terrible part of it is found in the fact that all such indulgence mean impaired health, squandered property, blasted homes and wounded hearts, loveless marriages, unwelcome and despised children and deadened and dulled appreciations and sensibilities. Indulgence inevitably sooner or later means these things. A home that at marriage commenced well, with great happiness and purity and promise, is polluted and corrupted by it; a young wife's love is embittered, a child's life blighted by it. Bad as the indulgence is, the worst things about it are these things already mentioned.

Like Paul then we ought to be proud of our city, the city of our residence or nativity; but that pride should not make us blind to its faults, but reveal them to us the more surely and make us labor for the uprooting of them, and the surest way of uprooting

them is by living a life whose influence shall make for righteousness. A citizen of almost any Maine city has a right to say as did Paul, "I am a citizen of no mean city." On the whole these cities are communities of right-thinking and feeling and living people. Now this is not to say that there are no shortcomings and iniquities practiced, but that the majority of the citizens are living lives whose influence is good. In our own city there are many outward and visible signs of inward and spiritual grace. Men and women take pride in their homes, make them places of cleanliness, simplicity and beauty; the churches, library, public buildings and most of the school buildings are a credit and honor to the town. Such organizations as the Village Improvement Society are bringing about commendable results. The thriftiness, and indeed in some measure, the morality of a community, are seen, in the well-painted houses, the well-kept lawns, the trim trees and gardens; happiness and prosperity are seen in the well ordered and happy family life that is a distinctive feature of the life of our city. The Home is the centre and seat and source of a city's happiness and healthiness. There is no better ideal of home than that of Keble:

> "Sweet is the smile of home; the mutual look,
> When hearts are of each other sure;
> Sweet all the joys that crowd the household nook,
> The haunt of all affections pure."

There are hundreds of these homes in our city and in every city; they are the strong helpers of those other influences and forces that make for righteousness, the school and the church. They are the three great co-operative forces for righteousness in our city and nation. Daniel Webster once said: "Whatever makes a man a good Christian makes him a good citizen." Every true citizen wants his city to be founded in righteousness, wants peace and brotherhood to be the reigning powers.

From time to time modern men, like John of old in the Apocalypse, have some visions of the holy city, the New Jerusalem, descending out of heaven from God. Men still have dreams and visions of human communities living in righteousness, justice and peace; cities wherein there are no narrow class distinctions, no heartless customs and ceremonies, no commercial frauds and dishonesties, no sensual impurities or corrupting indulgences, no avenue of luxury and wealth and fashion in one part of the city, and alleys of foul tenement houses or places of infamy in the other. Men dream, and always will dream, of a city of a living brotherhood, glad and prosperous and fruitful in the idea of a Fatherhood of God.

A city's prosperity and welfare depend upon the individuals, the citizens who compose it. It will be a moral city if there are

moral men and women resident in it; it will be a progressive city if progressive citizens compose it. Our community will have the virtues, graces and nobilities which are in the citizens; it will also have the vices, disgraces, and ignobilities that are practiced by the residents. Remember the three strong forces that build up character in men and righteousness in the community are the forces represented by the words, the home, the school, and the church. These influences lie at the foundation of all strong, pure, noble life. Most men conceive that the idea of a citizen is simply and solely to vote with this party or that; the majority of citizens are little concerned with making the city or country better by their influence and example, by their word and work. The intelligent and fearless Christian citizen takes his part in the struggle against all frauds and dishonesties, whether municipal or national. Only by the work and influence of right-thinking and feeling men is the world going to be regenerated and redeemed; only by their labors is this city or any city to be brought a little nearer to the kingdom of God. Only by such work, honestly and fearlessly done, can a man stand up with the pride and consciousness of having done well, and say as did the ancient prophet, "I am a citizen of no mean city."

It does not require genius or power or great learning to bring about these results. It requires simply courage, moral manhood, the fortitude to scorn hypocritical custom, to struggle against dishonesties and unrighteousness. Something of that courage that spurns the plea, "everyone else does it, so I must do it;" the fortitude and bravery of a man who stands in the majesty of his manhood, the dignity of his nature and says, "no bullet or sword, no threat of king or emperor shall keep me from doing my duty," like one of the olden time. In those ancient days, gladiatorial shows and contests of man with beasts were provided by the emperors of those ancient nations. This horrible cruelty and bloodshed was practiced even after the beginning of Christianity. But these iniquities were stopped by one man; a rude, uncouth, illiterate, unknown priest, who believed and had the courage to say, "This is wrong;" had the courage to face the emperor and say to him: "This iniquity must cease." The horrible spectacle was in progress, men and women were gathered in the Coliseum to witness the show, the gladiators were matched and engaged, the emperor was in his chair surrounded by his nobles and courtiers; there was a sound of clashing steel: a spurt of blood, the applause of the rude multitude. But a priest in rough dress sprang into the arena, and unarmed placed himself between the blood dripping weapons of the gladiators. This man was the rude, blind, despised monk, Telemachus. The crowd cry out for his life as forfeit for such presumption, such insolence, and the gladiators bury their swords in his body, and the infuriated mob cry out against him in their rage, and hurl stones at the lifeless

mangled mass, beaten to death by brutal blows. This is the only fact known of this poor, blind priest, that he had the courage to say these iniquitous battles should stop, and to give his life toward that end. His act hastened the abolishing of these shows. It needed not genius, great power of learning; only fortitude, moral courage. So the same kind of courage, moral courage, is required in battling against evils and wickedness in high places, in being true to the highest duties and ideals of good citizenship and taking heart in obeying the strong, stirring words of Matthew Arnold:

"Charge once more, then, and be dumb,
Let the victors when they come,
When the forts of folly fall,
Find the body by the wall."

Other men, who come after us, may win the victory, and sing the hymn of triumph but we may have the consciousness of being the means, the indispensible means, toward that triumph and that victory.

ARRIVAL OF THE DOLPHIN.

The first event of the celebration was the arrival of the United States dispatch boat Dolphin in the harbor at 4.30 o'clock Wednesday afternooon, at which time she dropped anchor a short distance inside Steele's ledge beacon. She was visited that afternoon by Mayor Small and members of the committee and the arrangements were made for the part the officers and men were to take in the celebration. In the evening the Dolphin gave a search light exhibition.

AT THE OPERA HOUSE.

The opera Pirates of Penzance was given in the Belfast Opera House by local talent Wednesday evening, and the hall was filled to its full seating capacity. Mayor Small and the officers of the Dolphin were guests.

Thursday forenoon was chiefly devoted to the entertainment of guests by families and individuals, and preparation for the later events.

BASE BALL.

At 3 o'clock in the afternoon of Thursday the Belfast and Bangor ball teams played on the Congress street grounds and on Friday afternoon the Belfast team and a nine from the Dolphin

played a game before a large audience. Lieutenant Commander Southerland was present and coached his men, and a commissioned officer played in the game.

THE RECEPTION.

The Belfast Improvement Society gave a reception in Memorial Hall from 3 to 5 p. m., Thursday, which proved a very interesting and enjoyable occasion. The hall was very prettily decorated. The windows were barred with festoons of oak leaves, the front of the stage was banked with ferns, and festoons of asparagus were draped in artistic designs about the hall. The receiving committee were Mrs. Fred W. Pote, president of the Belfast Improvement Society, Mrs. Charles A. Pillsbury, Mrs. Elmer Small and Mrs. H. H. Johnson. Light refreshments were served, and the attending ladies were attractively attired in colors corresponding with their respective tables.

Mayor Small introduced the officers of the Dolphin, who entered heartily into the spirit of the occasion; old acquaintances were renewed, and general sociability reigned. Ames' orchestra rendered several numbers during the reception. Informal receptions were tendered at various places throughout the city, and Mayor Small took a party of the officers to Northport on a buckboard ride. They were entertained at the summer home of Col. Gilman P. Lombard of this city, and met there the other residents of the North Shore.

ACADEMY AND HIGH SCHOOL REUNION.

One of the most successful features of the celebration was the reunion of the teachers and scholars of the Belfast academy and the Belfast high school on Thursday evening. The invitations by the "committee on high school day" of the Old Home Week Association included all past and present teachers and pupils of the Belfast high school, all who attended the Belfast academy as teachers or pupils, past and present superintendents and members of the school committee, with their husbands or wives. The hall was filled to its utmost capacity, and representatives of all ages from the pupils of the early days of the academy to the present time were there. The Belfast band was in attendance and gave several numbers at intervals during the evening.

The meeting was called to order by Superintendent John R. Dunton, and the following officers were elected: president, Charles S. Bickford; vice-president, Mrs. Edward Sibley; secretary and treasurer, W. R. Howard; historian, John S. Fernald.

George A. Quimby read a paper on "The High School as I knew it," and W. R. Howard, principal of the Belfast high school, on "The High School of Today." Several letters were read from those unable to attend. After the exercises the remainder of the evening was devoted to renewing old acquaintances, reminiscences of school days, etc. Refreshments were served by the ladies of the class of 1901.

THE PARADE.

The parade Friday forenoon was one of the most pleasing features of the celebration and was a success in every particular. It was under the direction of G. P. Lombard, marshal, and was headed by an automobile, followed by a squad of police. It was made up of several companies of Uniformed Rank Knights of Pythias, detachments from the Dolphin, Grand Army Veterans and Sons of Veterans, fire companies with apparatus, buckboards, hayracks and private carriages, a large number of carriages representing the local business houses, and a large number of young people on bicycles. Decorations of bunting, flags and flowers were in evidence in all parts of the parade. The business houses and most of the private residences along the route of the procession were elaborately decorated.

CLOSING FEATURES.

Friday afternoon was devoted to yacht racing. In the evening the exercises of the week were closed with a ball in Memorial Hall.

CASTINE.

The report from the secretary of the Castine Old Home Week Association was very meager and the celebration seems to have been confined principally to amusements as no mention is made of literary exercises. The sports, as enumerated, were a yacht race, boat races, a canoe carnival and, in the evening, a display of fireworks. A procession of 100 teams, finely decorated, was also a feature.

The secretary adds that though the people are interested and will keep up the organization, yet it is hardly probable that they will hold a celebration every year.

CLINTON.

The chief events of Old Home Week in Clinton for 1901 were a banquet to Hon. William W. Brown, the donor of the Brown Memorial Library, and the free lecture by the Rev. Dr. Jenkins, both of Portland, which occurred August 15th. Mr. Brown selected Dr. Jenkins for this lecture and accompanied him and Mr. and Mrs. Davis of Portland to Clinton on the above date. A committee selected by the Old Home Week Association and consisting of J. M. Winn, E. G. Hodgdon, H. W. Dodge and Alton Richardson met Mr. Brown and party at the station with carriages and drove them about town and up to Mr. Brown's old home.

At 6.30 p. m., Mr. Brown was taken completely by surprise when he was informed that a private banquet had been arranged for him and his guests at the Clinton House. Those present at the banquet were Hon. William W. Brown, Rev. Dr. J. L. Jenkins, Mr. and Mrs. Davis, all of Portland, J. M. Winn and wife, E. G. Hodgdon, H. W. Dodge and wife, Alton Richardson and wife, Rev. A. H. Hanscomb and wife, S. P. Felker and wife, Manly Morrison and wife, Dr. A. A. Shaw and wife, Mrs. Lottie Bigelow and Miss Grace Weymouth. After the banquet S. P. Felker acted as toastmaster at the postprandial exercises. No set speeches were made but many good things were said, and the company were unanimous in their appreciation of what Mr. Brown had done for his native town by donating the public library.

Promptly at 7.30 o'clock, the company adjourned to the town hall, where they mingled with a good sized audience and listened to a very able lecture by Rev. Dr. Jenkins on "The Best Use of Books." Rev. A. H. Hanscomb presided at the hall and Besse's orchestra furnished the music.

DEXTER.

Dexter celebrated her centennial anniversary in Old Home Week, August 14th, in a manner most creditable to that enterprising town. That the century milestone should be fittingly observed enthusiastic citizens had labored industriously for weeks. The efforts thus put forth were prolific of grand results. Miles of bunting, hundreds of flags and other forms of decoration were utilized and the streets and buildings presented a most gay appearance. The day before, hundreds had arrived in the village and on Tuesday evening an immense crowd gathered to witness a bonfire on Bryant's hill.

On Wednesday morning, August 14th, Dexter's centennial was ushered in amid the booming of cannon and the ringing of bells. Never in the town's history has there been such a home coming. According to conservative estimates, from six to eight thousand visitors, including many former residents now living in other states had gathered to celebrate the occasion.

There was an immense parade a mile in length and requiring upwards of two hours to pass over three miles of streets. Many floats, barges and wagons, trimmed and decorated, were in the line. One float containing 135 school children dressed in white, and drawn by six horses, formed a striking feature.

The exercises on the common in the afternoon, consisting of music and remarks, were well attended. The singing by Mrs. Helen B. Winslow was loudly encored. In addition to the regular program were remarks by Owen B. Williams of Sangerville, and Volney A. Sprague, Esq., of Joliet, Ill. An eloquent and instructive historical oration was delivered by Hon. Stanley Plummer, followed by a characteristically witty poem by Holman F. Day.

In the evening at the town hall, there gathered the largest crowd ever seen in the building. The attraction was a comedy drama given by local talent.

LEBANON.

The second annual celebration of the Lebanon Old Home Week Association took place at Fernald's grove at North East pond, Thursday, August 15th. The weather conditions were all that could be desired the greater part of the day. The grove in which the picnic was held is one of the most beautiful spots around the pond and overlooks the entire sheet of water.

The crowd began to collect by nine o'clock in the morning and the number present, by conservative estimate, was 2,000. The steam launch Mayflower, owned by John C. Jones, was at the free service of all who desired a ride on the pond. The North Berwick band furnished the music. At noon was rendered James Fulton's march, "United States Battleship Oregon," followed by other selections. Lemonade was furnished free to all.

The exercises began at 1.30 p. m., the president of the association presiding. After a selection by the band there followed prayer by Rev. H. E. Maider, pastor of the Baptist church, Lebanon, then the address of welcome by Rev. Edward C. Haynes, president of the association. The next was a poem read by Mrs. E. C. Haynes. This was followed by the reading of letters by Rev. George E. Kneeland, secretary of the association, from George F. Stackpole of Riverhead, New York, and Hon. Charles E. Littlefield of Rockland, Maine. A letter from Deacon Samuel Shapleigh, formerly of this town but now of Ashburnham, Massachusetts, was not received in season to be read at that time.

The first speaker from out of the State was D. S. Farnham of Newton, Massachusetts, followed by a selection by the band. Then followed addresses by Prof. George W. Chamberlain from Weymouth, Massachusetts, George E. Murray of Lawrence, Massachusetts, and Hon. Edwin W. Wood of Lawrence, Kansas. After another band selection, there followed addresses by Mayor H. L. Worcester of Rochester, New Hampshire, Prof. H. S. Cowell of Cushing academy, Ashburnham, Massachusetts, and ex-Mayor Elihu B. Hayes of Lynn, Massachusetts. Several selections by the band concluded the exercises, and all went home well satisfied with the day's celebration.

The president in his address of welcome said he was glad that those who had attained success outside of the State had shown, in

the localities in which they had lived, what the old Pine Tree State had done for them in the days of their childhood. He hoped that the motto, "Dirigo," had stimulated each to noble thought and action. He alluded to the trout streams and ponds of their native town, and said it would do each good to briefly live over again the bygone years. He extended the town's welcome and an individual welcome from the association. He alluded to the memories of sadness and those of pleasure, and hoped that the happy memories would outweigh the others.

Mr. D. S. Farnham congratulated the association on its excellent work.

Prof. George W. Chamberlain was enthusiastic and won applause from the audience.

George E. Murray paid tribute to the citizens of the town and to its growth and development, and closed by relating a dream great in prospective.

Hon. Edwin W. Wood was in his early days a teacher in this town, and in 1840 left New England for the West, where the most of his life has been spent, having seen his old home town but five times since.

Mayor H. L. Worcester paid a glowing tribute to the dead soldiers of Lebanon.

Prof. H. S. Cowell, one of the principal guests, spoke of his visits to his native town, also of his earlier educational advantages. He won vigorous applause.

Hon. Elihu B. Hayes spoke of the rapid advancement of the age, and took his seat amid loud applause.

The celebration was a success and will long be remembered.

LEEDS.

Old Home Week in Leeds was made the occasion of a celebration in honor of the one hundredth birthday of the town, on August 15th. The sons and daughters of the town came from every point of the compass, until the largest crowd that ever assembled in the town had gathered there. Leeds still continues what she has ever been, an agricultural town, but a town of happy, prosperous homes, of picturesque and charming scenery and a place to which fond memory ever brings her sons and daughters to renew the friendships and again ramble among the scenes which they once loved so well.

Thursday morning, everything was in readiness for the celebration. For several days the people had been coming until every house in the town was filled with guests. Nearly every state in the North and West was represented, as were also several southern states. The State of Mississippi sent a delegation. From far off California, Oregon, Idaho and Washington came several more. Massachusetts and other New England States sent them in by scores. The trains from both directions were loaded Thursday morning. A steady stream of teams came into the little village from all the outskirts and surrounding towns. At sunrise the roar of fifty guns sent its reverberating echoes into the woods and hills around.

The grand parade started at nine o'clock in the morning and lasted for one hour. This part of the program was highly interesting. Next came the hall exhibit of antiques, illustrating the wonderful progress of a century. At 10.30 a. m., the big tent where the speaking exercises occurred was packed with people to it utmost capacity. The great meeting was presided over by Hon. Seth Howard, chairman of the general committee, who made a brief but most interesting and appropriate address. Next came an address of welcome by Frank H. Herrick, secretary of the centennial committee, followed by a response from John C. Stinchfield of Wayne, the historian of the town.

After music by the Brigade band Chairman Howard introduced the orator of the day, Major-General O. O. Howard, a native of the town; and as the old hero of a hundred battles faced his hearers, he was greeted with most tumultuous applause. The oration was a noble tribute to the town, the State and nation. He began in an easy and familiar style, as if addressing his old neighbors, relatives and friends. At times he seemed to be lost in the memories of the past and in an unconscious manner arose to true flights of eloquence. He pictured with a master hand the struggles and sorrows of their forefathers, and showed how out of those harhships had sprung a nobler manhood that had left its impress upon posterity. Throughout the discourse ran a deep religious vein which is so thoroughly characteristic of the man. Loud applause followed the close of General Howard's address. Never had the old battle scarred hero more reason to be proud of his native town, and never had Leeds more reason to be grateful for the services of her distinguished son.

The next event of the day was a poem by Miss Elsie M. Bryant of North Leeds. The poem, which was largely of a historical character, was listened to with the keenest interest and was received with a hearty round of applause.

A substantial dinner, a regular grange affair, followed the literary exercises. In the afternoon a great crowd assembled in the auditorium when toasts and responses were given. Among the speakers were L. C. Bateman of Lewiston and Prof. W. W. Stetson, superintendent of public schools, both of whom spoke earnestly and eloquently. Mr. Rodolphus Jennings of Minneapolis made an able response to the toast, "The past of Leeds." The celebration was a success in every respect.

LITCHFIELD.

Litchfield celebrated the birthday of its old academy August 15th, with a reunion of its students and teachers. Fully 2,000 people were gathered here from all parts of the country, looking once more upon old scenes, meeting again old class-mates, renewing old acquaintances and for the day living over again the experiences of their happy school life. A committee consisting of Hon. Oramandal Smith, James E. Chase and Henry Taylor, spared neither time nor labor in their endeavors to make the day one of the greatest in importance and interest and were most successful in their efforts. The folowing was the program arranged for the day:

Music, Miss Kindrick; Address of Welcome, Oramandal Smith; Music, Lotus Quartet; Prayer, Rev. E. A. Harlow; Selection, Quartet; Poem, Mrs. Etta Taylor; Selection, Quartet; Oration, Rev. Smith Baker; Solo, Miss Emma Gilbert.

Dinner from 12 M. to 2.30 P. M.

Short addresses by the prominent men who have graduated from the academy and institute.

Lewis M. Palmer, M. D., of South Framingham, Mass., a former student of the academy, acted as president. The meeting was called to order at 10.30 A. M. and an address of welcome was delivered by Hon. Oramandal Smith, after which a poem was read by Mrs. Etta Taylor. There was then an able and interesting address by Rev. Dr. Smith Baker, of Portland.

PORTLAND.

Portland celebrated Old Home Week, on Thursday, August 15th, with a special home day observance which was styled "Cumberland County Day." "Western Maine Day" would have been more applicable, for among the thousands who thronged the city streets were visitors from nearly every city in the five western counties of the State, and quite a number came from points as far east as Bangor. From all over Cumberland county, people came by trolley line, steam cars, and in private conveyances. The farm, the village store, the shop and the various hives of industry were temporarily deserted, and all roads for the day led to Maine's metropolis.

THE PARADE.

Following the instructions issued in Chief Marshal Mattocks' general orders, the participants in the afternoon street parade assembled early in the various points assigned. The military division assembled on Pearl and Federal streets, the right resting on Franklin street. The fire apparatus, accompanied by its uniformed custodians, wended its way from the various engine houses to Congress street, near Pearl. Portland Veteran Firemen there formed in line. The trade division, under the command of Leroy T. Sanborn, with its numerous teams and floats, was assigned its place. while gayly arrayed coaches, barges, carriages, decorated floats and automobiles came from all directions and got into line with the division to which had been assigned Franklin, Federal and India streets.

The parade started shortly after 2 o'clock, headed by a squad of policemen. Next in order rode the chief marshal, General Charles P. Mattocks, with his staff. Chandler's First Regiment band occupied the next place in line. The military and naval division, under the command of Lieutenant Colonel Chas. Collins, with five infantry companies were next in line. Others in this division were the Portland Naval Reserves, commanded by Lieutenant H. M. Bigelow, battalion of Portland High School Cadets, contingent of Uniform Rank Odd Fellows, Sons of St. George, and Hibernian Knights, behind whom came the sailor boys' brigade and the Kearsarge Guards of Peaks Island.

The second division comprised the carriages containing members of the city government and guests, the fire department companies, and the newsboys.

The last division of the parade was the trades procession, which was a magnificent exhibit of the business of the city. The principal business firms of the city made fine displays in elegant and elaborately decorated teams, barges and floats, which attracted the attention of a dense crowd of spectators. The decorations along the route of the procession were many and magnificent, houses, stores and public buildings displaying flags and bunting in profusion.

The evening meeting was a very enjoyable one for the large crowd present. The speaking was eloquent and much appreciated. Hon. John D. Long was the especial guest of the occasion and made an inspiring and characteristic speech. Other speakers were, Mayor F. E. Boothby, Judge Symonds, Hon. Amos L. Allen, and Colonel James G. White of Boston.

While the celebration was not on so elaborate a scale as that of last year, it was a most enjoyable one and highly creditable to the city.

POWNAL.

Old Home Day was celebrated in Pownal in a very interesting manner, Friday, August 16th. The weather was delightful and the old town extended hearty greetings to its many sons and daughters who came from far and near to celebrate the day. At twelve o'clock, a bountiful dinner was served to the visitors who numbered over five hundred. At three o'clock in the afternoon, interesting exercises were held in the old Congregational church, which was tastefully decorated for the occasion. The following program was carried out:

1. Singing—Coronation, by the audience.
2. Prayer—by Mr. Riley, pastor.
3. Music.
4. Address of welcome by Mr. Conrad Snow.
5. Response by Rev. George A. Merrill of New Sharon, Me.
6. Music.
7. Remarks by Percy Chapin.
8. Remarks by Joseph A. Kenney.

9. Reading by Miss Elizabeth H. Soule.
10. Remarks by J. A. Chase.
11. Original poem written by Mrs. Jonathan Snow.
12. Remarks by Jabez True of Portland.
13. Remarks by Samuel Latham of Gray.
14. Remarks by Rev. James Tryon of Attleboro, Mass.
15. Business, reports of secretary, etc.
16. Singing—America, by audience.

STANDISH.

The Standish Old Home Association held its second annual celebration at Sebago lake, August 16, 1901. The day was exceptionally fine and a large gathering of citizens and invited guests were present. The morning was spent in visiting and registration of those present. There were also a ball game and various other sports for the young.

At two o'clock, p. m., the meeting was called to order by Mr. Joseph W. Knight, one of the vice-presidents, who had been chosen to preside in the absence of the president, Mr. Orville S. Sanborn. A chorus of the townspeople, led by Prof. Julius E. Ward, sang, "The dearest spot on earth to me is home, sweet home," and Rev. C. M. Rogers offered prayer. Hon. H. H. Sturgis gave an address of welcome and Hon. B. F. Chadbourne responded in very appropriate words. The chorus sang another selection. Then there was held a brief memorial service voicing the sadness that all felt because of the decease of Alvin C. Dresser, the first president of the association. Hon. Henry W. Swasey spoke of Mr. Dresser very feelingly and appropriately as a lawyer and friend, and Rev. C. L. Parker spoke beautifully of him as the president of the Standish Old Home Association, conveying to the minds of all our appreciation of Mr. Dresser and the high esteem in which he was held as our president.

This service was followed by a solo by Miss Maria M. Phinney. Then the audience listened to a characteristic address by Hon. Solon Chase, whose father was born in Standish. After singing by a ladies' quartet, an open meeting was held, in which addresses were made by Hon. Hiram Knowlton and others. The singing of the ode and the benediction by Rev. C. L. Parker completed the exercises of the day.

PERMANENT ORGANIZATION.

A meeting was called for August 31, 1901, to form a permanent organization. At this meeting it was voted to make the Standish Old Home Association a permanent organization, a constitution was adopted and officers elected for the ensuing year as follows:

President, Mr. Herbert H. Sturgis, South Standish.

Secretary, Mrs. N. E. Sawyer, Sebago Lake.

Treasurer, Mr. Charles Phinney, Standish.

Vice-Presidents, Mr. Millard Cram, Standish; Mr. John H. Rich, Sebago Lake; Mrs. H. H. Sturgis, South Standish; Miss Lucy Coolbroth, Steep Falls; Mr. Joseph Knight, Standish Neck; Mr. John Rand, Jr., Oak Hill; Mr. E. A. Moore, Elmwood; Mrs. Cyrus Rich, Richville.

OTHER CELEBRATIONS.

Several other towns, from which we have received no returns, celebrated Old Home Week in various ways. At Berwick there was quite an elaborate celebration, where Gov. Hill was a guest. The leading feature at the Buckfield celebration was the dedication of the Zadoc Long free library. The celebration at Hartford was under the management of the Custard Pie Club, where the venerable Solon Chase delivered a characteristic address. Monmouth celebrated by a reunion of the past and present teachers and pupils of the Monmouth academy. Windham celebrated by a picnic at Windham Hill, at which the principal speakers were Lindley Webb, Esq., of Portland and Rev. Alonzo Stevens of Windham. An interesting feature was the presence of Dr. Kilgore, who had been absent twenty-seven years. Limerick and several other towns held celebrations, of which we have received no information whatever.

INDEX.