



HUNT'S

MERCHANTS' MAGAZINE.

Established July, 1839, by Freeman Hunt.

VOLUME XLIII.

OCTOBER, 1860.

NUMBER IV.

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HUNT'S
MERCHANTS' MAGAZINE

AND

COMMERCIAL REVIEW.

OCTOBER, 1860.

Art. I.—WHEAT TRADE—FOREIGN DEMAND.

THE accounts that reach us from Europe indicate that a very considerable demand for breadstuffs may spring up before the close of the harvest year now just opened. The crops of France and England are represented as in great jeopardy from the continued rain that already had done much damage, and large orders for grain are said to have been sent to America and the Black Sea. One thing is to be kept in mind, however, in reading English accounts in relation to the harvests: it is that the actual and probable wants are always systematically exaggerated; for the reason that the greater the supplies that can be induced to direct themselves towards England the more chance have they to get cheap food at the expense of the growers. Alarm and exaggeration are employed to lower the prices of grain. The enormous revulsion and failures of 1847-8 are still fresh in the public mind. Prices rose on false reports until the price had reached 120s. in June. It was then discovered that the supplies were abundant, and a rapid fall involved hundreds of failures. The extent of the present probable wants is not to be judged of from clamor. In relation to the harvests of France, a significant fact is that an imperial decree had been issued at the close of August opening the French ports for the admission, duty free, of all kinds of foreign grain and flour, irrespective of flag. Vessels with breadstuffs will be exempt from tonnage dues. The government has the means of being well informed, and this movement, after the restoration of the sliding scale dating one year since, has a practical appearance.

The potatoes are represented as showing more disastrous signs than in any year since the famine of 1847. It is to be borne in mind, however, that the dependence upon the potato is not now anything like so general as it then was. The multitudes of people who in Ireland then subsisted only upon the products of their little patches, and were possessed of no capital to purchase a substitute when that crop failed, have disappeared by migration and starvation, and a better class of cultivators have more

diversified means of dependence. The general growth of the countries of Great Britain and France require more food, not only in the proportion of greater actual numbers, but in the increase of food consumers in proportion to food producers. The last census of France shows a great concentration in the cities at the expense of the provinces, and even in these last the manufacturing population increases at the expense of the agriculturists. It is also the case that the general wealth of the people has improved. Thus three prominent causes conspire to create a larger demand for food:—1st, greater numbers; 2d, greater relative town and city population; 3d, more means to purchase food. This has been the direction of events since the last famine of 1847, under the spur of gold discoveries and speculation. The production of food has no doubt been accelerated in some degree, but owing to the improved means of transportation, and the events which have opened broader sources of supply in the Black Sea and Egypt, the prices have not been maintained at rates which encourage the grower. If we were to adopt Adam Smith's standard of prices, and scan that of wheat since the gold discoveries, we should not detect any fall in the value of gold. On the other hand, the figures would indicate a rise in its value, since food has been, on a whole, cheaper. Hence the grower of grain has been less encouraged than the food consumers. The reason is no doubt that, as we have intimated, the means of transportation by rail and boats have been such as to equalize the grain production of all Europe, in something the same manner that the railroads and canals of the United States, by cheapening transportation, equalize the prices of grain between the valleys of the Hudson, the Ohio, and the Mississippi. The long, expensive, and tedious progress of wheat from the interior of Poland and the Danube provinces is now comparatively changed for cheap and prompt delivery. More grain has thus been brought into the service of Western Europe, and the rates there received relatively less. This fact has been doubtless one cause of the growth of French cities, since the rude systems of agriculture there pursued could not stand this influx, causing distressed agriculturists to seek the cities and factories for support. It is also the case that the French trade in grain fluctuates more than any other. This is apparent in the following table:—

IMPORT AND EXPORT OF WHEAT INTO AND FROM FRANCE AND THE UNITED STATES, AND IMPORT OF WHEAT AND WHEAT FLOUR INTO GREAT BRITAIN.

Years.	Great Britain. Imports.		France. Imports. Exports.		United States. Exports.	
	Flour. Cwt.	Wheat. Bush.	Wheat. Bush.	Wheat. Bush.	Wheat. Bush.	Flour. Bbls.
1846.....	3,198,876	11,460,728	16,624,422	3,467,833	1,613,795	2,289,476
1847.....	6,329,058	21,251,232	28,754,658	4,154,427	4,399,951	4,382,496
1848.....	1,765,475	20,752,104	4,494,199	3,576,546	2,034,704	2,119,083
1849.....	3,349,830	32,763,024	1,364,217	5,002,152	1,527,534	2,108,013
1850.....	3,855,059	30,036,745	2,772,081	6,919,398	608,661	1,385,448
1851.....	5,314,414	40,496,072	2,003,943	6,327,735	1,026,725	2,202,335
1852.....	3,889,583	25,551,136	4,126,640	4,014,107	2,694,540	2,799,339
1853.....	4,646,400	35,595,512	10,103,107	2,101,206	3,890,141	2,920,918
1854.....	3,646,505	26,448,816	18,972,988	1,053,132	8,036,665	4,022,386
1855.....	1,904,224	21,342,608	12,165,022	822,256	798,844	1,204,540
1856.....	3,970,100	32,582,864	28,769,732	572,168	8,154,877	3,510,626
1857.....	2,178,148	27,503,656	15,865,574	1,344,063	14,570,331	3,712,053
1858.....	3,860,764	37,175,471	8,927,380	19,336,320	8,926,196	3,512,169
1859.....	3,330,770	32,008,298	4,425,244	23,278,601	3,002,016	2,431,828
1860, 6 mos.	1,429,536	11,155,556	.....	.....	8,000,000	3,000,000

In these returns it is to be considered that the year in Great Britain and France ends December 31, and in the United States, June 30.

The year of the largest import of flour into Great Britain was 1847; but in 1851 the aggregate of wheat, in flour and grain, reached the maximum. The quantities of corn and other grain imported into Great Britain have varied considerably. In 1847 the quantity was 7,448,107 qrs., or 59,584,856 bushels. Of that quantity one-third came from the United States. The quantity required has never been so large since. France was a large importer of wheat in those years—'46 and '47. The demand of those two countries upon the rest of the world was, it appears, 99,849,272 bushels—a quantity nearly equal to the whole crops of the United States. The States of Belgium and Holland were also short, and while all the navigation laws were suspended to give perfect freedom for the transportation of grain, and some national vessels were used to transport it, the prices of freight rose immensely. Flour to Liverpool, from New York, paid \$2 per bbl., and grain 50 cents per bushel. While these enormous supplies were required, and prices that rose at one time to 120s. per quarter were paid, the United States supplied but a very unimportant proportion of the whole amount—that is to say, about 44,000,000 bushels. From 1848 to 1852 France was an exporter of wheat. The demand upon the markets of the world was thereby diminished, and the supply increased. The crop of 1852 again failed in France, and from that date, through the Russian war, she was again a large importer. In the four years ending with 1857 she bought 85,800,000 bushels of wheat, and England bought 184,000,000 in the same time, or together, 269,800,000 bushels, of which the United States supplied 67,700,000 bushels, or 25 per cent. In all that period, in the United States the consumption of food was very active, because the building of railroads was pursued to an extent that absorbed \$600,000,000 of capital; land speculations were rife; 2,000,000 emigrants arrived in the country, and great numbers moved from East to West on the new lands that were to be soon covered with the growing railroads. These causes produced such a demand for food at the door of the growers as to leave but little surplus to send East, and the quantities that did go abroad could be spared only at very high prices. We have in those causes a reason that the United States, a peculiarly agricultural country, have not yet taken their rank as a supplier of food for Europe. In the years of large demand heretofore the means of transportation did not exist. In the last three years, when the means did exist, the demand was slack. The moment has now apparently arrived when the demand is to take place in face of the most extensive means of meeting it. The Western crops are represented as so large as to give rise to fears that it may be overdone, and that the demand, great as it may be from Europe, will not suffice to raise prices, in face of such overwhelming supplies, to a level that will pay for the distant transportation. In other words, that the demand will be met before the most remote States can get their supplies to hand.

If we look back to the famine of 1847, we find that the Erie Canal and the lines of roads that now form the New York Central were the only through communications to the lakes. They were the only means of freight transportation, and the law did not allow the railroad to carry freight until 1850. The basin of the great lakes was fed only by the Ohio canals at Toledo and Cleveland. The Indiana—which canal did

not operate—the Illinois Canal was not then available, and there were no railroads to drain the produce of the interior to the ports. The great rivers carried down supplies to New Orleans, and food found its way abroad thence. The lakes were supplied with a very moderate amount of sail tonnage, and the expense of transportation from Chicago to New York was very great.

The great famine demand began in 1846. At the close of July, in that year, the price of flour in New York was \$4, and the rate rose steadily until it reached \$9 12 per barrel. The course of the New York market was, monthly, as follows:—

EXPORTS OF BREADSTUFFS FROM NEW YORK IN 1846-7, WITH THE PRICE OF FLOUR AND FREIGHTS TO LIVERPOOL AT THE CLOSE OF EACH MONTH.

1846.	Exports.			Freights.		
	Flour, bbls.	Wheat, bush.	Corn, bush.	Flour per bbl.	Flour, bbl. s. d.	Gr'n bu d.
August.....	77,586	99,664	7,231	4 00	2 3	8
September.....	86,895	151,765	117,949	5 00	3 0	10
October.....	163,967	222,380	195,182	5 94	3 6	12
November.....	115,161	303,121	367,350	5 37	4 9	15
December.....	232,894	276,758	245,791	5 62	5 0	16
January, 1847.....	157,357	160,186	510,622	6 50	7 8	22
February.....	132,213	149,217	814,922	7 06	8 6	28
March.....	77,819	82,789	1,188,240	7 12	7 6	25
April.....	100,061	57,759	1,052,042	7 12	3 0	10
May.....	111,700	66,282	471,917	9 12	2 6	10
June.....	342,080	899,877	1,408,508	7 25	3 6	11
July.....	420,812	1,305,986	2,332,535	5 50	4 6	10½
August.....	224,172	322,140	516,221	5 62	2 6	8
Total.....	2,242,667	4,007,929	9,034,138			

The quantities received at tide-water during this period, viz., from July 31, 1846, to August 1, 1847, were as follows:—

Flour.....	bbls.	3,685,387
Wheat.....	bush.	4,489,285
Corn.....		4,257,640

The highest freights were obtained in February, when the cotton shipments were most pressing, and just at the opening of canal navigation. The Erie Canal then being almost the only channel of transportation from the West, and it was so overburdened with business that it cost \$1 25 to transport a barrel of flour from Buffalo to Albany. The supplies from New Orleans at New York were not much increased, because large quantities went thence direct to Great Britain and France, as follows:—

EXPORTS FROM NEW ORLEANS, 1847.

		Great Britain.	France.
Flour.....	bbls.	671,335	314,477
Wheat.....	bush.	818,770	304,358
Corn.....		5,186,330	4,190

The Erie Canal and the Mississippi River were in that year the only outlets for the produce of the West. It followed that, although the European demand raised prices high in New York and New Orleans, yet the cost of transportation absorbed so large an amount of the proceeds, that the producer did not benefit to that degree which would have stimulated large production, although it did not fail to send forward every disposable bushel.

If we now look at the production of the Union we shall observe what proportion was taken off by that active trade.

There are no returns of the amount of crops for that year; but if we assume that they were as large as for the census returns, we may compare the exports with the production:—

	PRODUCE PER CENSUS.		
	1840.	1850.	Exported 1847.
Wheat	84,823,272	100,485,944	26,322,431
Corn	377,531,875	592,071,104	16,326,050

Thus, over 26,000,000 bushels of wheat were exported as flour and grain, and that export raised flour to \$9 12 per barrel. Of corn only 16,326,050 bushels were exported; but that small quantity only—not 3 per cent of the crop—raised the price to 90 cents per bushel, and the freight to 28 s., or 56 cents from New York to Liverpool in February, 1847. The total tonnage of the United States in that year was 1,241,313 registered, and 1,597,733 coasting. Of the latter, 147,883 was owned at the lake ports, and 84,731 at the river ports—there being then no railroad transportation. The production of grain in 1847 was probably by no means so large as the figures given for the census of 1850, since the high price obtained in those famine years not only stimulated production, but also ship building. These two circumstances caused low prices of grain and of freights in the succeeding years. It then appears that one of the most extraordinary famines of modern times could only draw from the United States 42,000,000 bushels of corn and wheat.

The high freights greatly stimulated the building of vessels—as well registered as coasting and lake tonnage—and the returns show that the latter increased 50 per cent, and the building of registered was in as large a ratio. The trade of 1847 was strangled for want of means of transportation. These had increased very much up to 1853. In the five years from 1847 to 1853 the government sold 12,000,000 acres of public lands, and 1,500,000 settlers arrived from abroad, while great numbers moved from the Eastern States to the West. In the same period the Northern line of railroads was opened; the New York Central allowed to carry freight; the Erie was opened through, and the connection between Baltimore and Philadelphia and the West completed. In 1847 the Ohio Canal at Cleveland was the only work which fed the lakes, and these delivered 644,913 barrels of flour in that year. Before 1853 the Indiana Canal was opened; the two great Michigan roads were opened, and the Illinois canal was completed, drawing grain to Chicago, in connection with one or two railroads. The tonnage of the lakes had become large, and the tonnage of the whole country had increased from 2,417,000 in 1847, to 4,138,440 in 1852, or 45 per cent. Such was the state of affairs when the harvests of Europe again failed in 1852. The lake tonnage had increased to 271,100, and the river tonnage to 169,000.

In this state of affairs the harvests of Europe again failed—not the potato crop so much as the grain crop—and there was again much excitement, and we may trace its influence upon the markets. It is now just seven years since the English harvests promised the same as they now do. At that time the present writer had occasion to describe the state of the markets as follows, after carefully condensing the news:—

“Many weeks since we laid before our readers the leading circumstan-

ces that were conspiring to make the coming year one of the most important eras in the corn trade. Unfortunately the weather in England and Western Europe has been such as to heighten the worst features of the case, and support large estimates of the probable wants of the West of Europe, including England. The government of France has exerted itself to keep down prices; but the general rise in France of $14\frac{1}{2}$ cents per bushel, together with the suspension of the corn duties in France, Belgium, Holland and Italy, has sent the English and French buyers in competition into this market. Leading English firms, although impressed with the idea that the demand is to some extent speculative and premature, have sent orders for choice flour, limited at 25s., laid down in Liverpool. According to present estimates the wants are:—

Of France	bush.	38,781,165
Of England.....	..	128,000,000
Total, all kinds of grain.....		166,781,161

“In usual years England wants half this quantity, or 64,000,000 bushels, of which France supplies usually 30,000,000, making the two countries dependent upon the rest of Europe for 34,000,000 bushels; hence they require, together, 132,000,000 bushels more than usual; and Holland, Belgium, Italy, and Egypt are short. These general facts are calculated to excite the minds of holders extravagantly, and cause loss and disaster by inducing them to hold for exorbitant prices. The lesson of former years showed that first sellers did best.”

Bearing in mind what we had said of the exaggeration of the English reports, it will be obvious that the estimated wants were three times what was actually imported, and France imported about one-fourth of the estimates.

Such was the state of affairs in 1853, and the description will answer pretty well for the present prospect. In July, 1853, the price of flour in New York was \$4 50, when the demand set in, and the effects of it on the New York market are seen in the following table, which shows the weekly price in New York of flour, wheat, and corn, the quantities weekly exported to Great Britain, with the freights of flour to Liverpool:—

EXPORTS BREADSTUFFS FROM NEW YORK TO GREAT BRITAIN IN 1853.

Weeks.	Flour.			Wheat.		Corn.	
	Price.	Export. Bbbs.	Freight. s. d.	Price.	Export. Bush.	Price. Cents.	Export. Bush.
July 9.....	\$4 50	25,718	1 9	\$1 20	103,126	64	9,463
“ 16.....	4 87	53,403	2 3	1 23	138,197	67	....
“ 23.....	4 87	37,041	2 6	1 27	156,809	69	....
“ 30.....	4 87	34,413	2 6	1 26	199,386	71	....
Aug. 6.....	5 25	18,260	2 6	1 33	128,004	77	....
“ 13.....	5 12	10,393	2 9	1 31	75,682	73	....
“ 20.....	5 06	26,486	2 9	1 31	92,257	74	....
“ 27.....	5 18	30,417	2 9	1 27	108,178	74	....
Sept. 3.....	5 75	17,129	2 6	1 34	81,392	76	....
“ 10.....	6 44	45,883	2 9	1 41	123,019	81	2,200
“ 17.....	6 18	9,558	2 10	1 43	97,015	84	....
“ 24.....	6 25	11,965	2 6	1 43	305,623	81	12,100
Oct. 1.....	6 37	9,396	2 6	1 46	198,646	81	....
“ 8.....	6 67	11,257	4 0	1 52	200,364	85	....
“ 15.....	6 81	13,963	4 0	1 57	152,789	85	....
“ 22.....	6 50	11,498	4 0	1 50	243,191	76
“ 29.....	6 44	14,386	3 9	1 53	189,883	76	1,000

Wheat Trade—Foreign Demand.

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	Flour.			Wheat.			Corn.	
	Price.	Export. Bbls.	Freight. s. d.	Price.	Export. Bush.	Price. Cents.	Export. Bush.	
Nov. 5.....	7 00	26,993	3 6	1 72	270,521	78	21,623	
" 12.....	7 06	33,232	3 9	1 72	268,048	80	14,256	
" 19.....	6 87	70,391	3 6	1 72	320,964	80	48,224	
" 26.....	6 94	55,033	3 6	1 72	271,113	80	21,519	
Total to G. B.		466,865			3,724,104		130,450	
" elsewhere		585,801			1,023,580		36,028	
Total export..		1,052,666			4,747,684		166,478	

EXPORTS TO ALL PLACES.

Dec. 3.....	6 94	83,618	3 6	1 68	309,289	80	20,001
" 10.....	6 81	68,039	3 9	1 68	322,379	80	172,107
" 17.....	6 87	72,363	3 0	1 68	141,162	81	64,942
" 24.....	7 12	73,745	2 6	1 74	333,182	80	11,861
" 31.....	7 68	66,774	3 9	1 85	229,647	80	126,990
Jan. 7.....	7 56	63,493	3 9	1 85	152,688	83	42,751
" 14.....	7 75	46,161	3 6	1 85	183,304	89	95,025
" 21.....	8 06	40,688	3 6	2 00	106,656	92	127,300
" 28.....	9 18	36,455	4 0	2 50	66,985	108	80,225
Feb. 4.....	8 87	12,851	3 6	2 25	64,009	98	38,626
" 11.....	9 12	43,671	4 0	2 05	116,994	103	60,022
" 18.....	8 87	25,624	3 9	2 15	36,825	101	172,274
" 25.....	8 31	20,933	4 6	2 00	36,794	93	126,092
Mar. 4.....	7 87	25,226	4 6	1 90	25,767	86	196,358
" 11.....	7 94	13,804	4 3	1 90	71,078	83	154,430
" 18.....	7 25	18,864	4 6	1 85	65,488	79	16,352
" 25.....	7 37	27,467	4 0	1 85	45,501	81	96,063
April 1.....	7 62	16,309	3 9	1 80	46,364	78	134,332
Total.....		1,808,951			7,121,712		1,901,179

The above table gives the weekly export to Great Britain up to the close of November, and the aggregate to all places. From December to April the total weekly exports to all places are given. It happened in 1853, as in 1847, that the exports of corn grew as the year advanced. In 1847 they were largest in July, and in 1853 they were largest in February. The wheat export was heaviest in December. It is to be remarked that in England the prices of grain were highest in June, 1847, when the rate for wheat was 120s. The situation was fictitious, however, and a sudden breakdown involved the failure of hundreds of merchants. In 1853 the price of flour rose steadily, and corn, with very moderate exports, rose to 108c. per bushel in New York in January, notwithstanding the improved means of communicating with the West. The increase in registered tonnage sufficed to keep outward freights at a moderate level, but the quantities of corn exported were very limited as compared with 1847. The actual exports of the two years were as follows:—

	Flour, bbls.	Wheat, bush.	Corn, bush.	Tonnage.
1847.....	4,382,496	4,399,951	16,326,050	2,417,000
1853.....	2,920,918	4,354,403	2,274,909	4,138,441

This was not a very large result, particularly for wheat, yet the price of that article was well maintained at very high rates. The prices abroad continued very high up to 1858, but the harvest of 1854 failed in the United States, and little grain could be spared even at the high prices paid abroad for it. The manufacture of railroads at the West also consumed a great deal of food, and less could in consequence be spared.

The revulsion of 1857 turned food consumers into food producers—a greater breadth of land has been planted and made more accessible to market. The federal government has sold nearly 50,000,000 acres of land since 1853, and nearly 2,000,000 emigrants from abroad have arrived. Many of these have gone West, and others have settled as manufacturers in the Eastern States in place of native agriculturists who have gone West.

The Canadians have cleared the St. Lawrence of its obstructions, and opened it to the Chicago grain-laden vessels free to the sea. The Ogdensburg Railroad is a northern drain from the lakes to Boston, as the Montreal road is to Portland. The New York Central road is fully equipped to compete with the Erie Canal, which has also been enlarged. The Erie Railroad has been "put through," and a considerable length of double track built. The Pennsylvania road forms a cheap and direct route from Pittsburg to the Delaware, and the Baltimore and Ohio road connects Wheeling with Baltimore. All these routes form eight avenues of great capacity to deliver freight. At the same time, the whole tract of country bounded on the west by the Mississippi, on the south by the Ohio, and on the north by the great lakes, has been covered by a perfect net-work of railroads, which bring every farm in communication with either of these markets.

There have been built 12,000 miles of railroads in the Western and Northwestern States. The intermediate country is drained and crossed in every direction by these works, which, in competition with the rivers and canals, make every bushel of grain available, and equalize the prices. The canals, rivers, and roads empty themselves upon the lakes and Ohio and Mississippi rivers, and the tonnage of those waters is now 427,000 on the lakes, and 172,000 on the rivers. The river and lake tonnage was gradually changed in its character from sail to paddles, and from paddles to screws. The latter have also become gradually improved, and now supersede other means of motion on the lakes. The effect of moving by steam is greatly to increase the capacity of a given amount of tonnage, since the voyages are more prompt and shorter. The effect of this in the past few years, when the foreign demand has been so small for grain, has been to send down freights to their lowest points, and cause many vessels to leave the lakes in order to seek freights in the sea-going ports. The railroads have also taken a considerable portion of the freights, and thus still farther depressed the shipping business. A great change is now apparent. The large breadth of country now covered with settlers, and brought within range of the markets, has given the most prolific yield, and if the reports are not exaggerated there must be 1,000 millions of bushels of corn to come to market. The quantities of this that may be exported will not hold a very large proportion to the whole amount. The Southern crops are represented as a failure in many sections. From that cause will arise a considerable consumption of Western corn; but the surplus will still be such as that the utmost foreign demand will be freely met.

The trade in Indian corn may be said to have commenced in 1847. The sudden failure of the potato crop, at a time when other food was scarce, made corn almost the only alternative; but the strongest prejudices prevailed in the minds of the people against it, and they were, moreover, ignorant of the mode of using it. The greatest exertions were

then made to overcome these prejudices. The clergy exerted themselves to entreat hand mills to grind it, giving instruction also, by precept and example, how to cook the meal. It was found in many cases to have a very bad effect upon the people, who were unaccustomed to it, causing them to swell as if poisoned; nevertheless, a considerable increase in its use resulted, and in England, other articles being used as human food, corn was extensively introduced as fodder, and the export to the British islands has since been very regular. The following table, from official sources, shows the quantities of corn exported to the British islands, and the total quantity, with the average price per bushel, and the total value:

INDIAN CORN EXPORTED FROM THE UNITED STATES.

Years.	England, bush.	Scotland, bush.	Ireland, bush.	Total, bush.	Per bush. cents.	Value.
1845	134,898	.....	790	840,184	49	\$411,741
1846	688,714	78,006	425,960	1,826,068	62	1,186,663
1847	7,216,878	310,708	7,998,939	16,326,050	90	14,395,212
1848	3,865,392	126,907	1,569,921	5,817,634	66	3,837,483
1849	7,859,642	345,316	4,191,284	13,257,309	60	7,966,369
1850	4,431,929	172,732	1,342,545	6,595,092	59	3,892,193
1851	2,226,647	38,940	494,742	3,426,811	52	1,762,549
1852	1,337,651	39,566	517,483	2,627,075	59	1,540,225
1853	1,324,625	18,960	310,255	2,274,909	60	1,374,077
1854	5,488,979	122,033	354,838	7,768,816	77	6,070,277
1855	4,744,745	152,640	1,037,899	7,807,585	89	6,961,511
1856	6,704,105	159,732	828,748	10,292,280	75	7,622,565
1857	4,184,279	160,704	426,223	7,505,318	69	5,184,666
1858	2,716,695	90,226	408,277	4,766,145	70	3,259,039
1859	345,187	.....	.....	345,187	70	221,500
1860	2,286,555	.....	.....	2,600,000	65	1,690,000

This has been the actual extent of the corn trade of the Union, and as compared with the production it is of small account. Indian corn is almost the sole instrument of settling the Western country. It is this sure and abundant crop which, with little labor, gives the pioneer of the wilderness fodder for horses, cattle, and swine, food for the family, materials for bedding, and surplus for sale. Depending on corn the settler pushes fearlessly into the wilderness, certain that a few months' growth of corn will give subsistence for a year for man and beast, and if he can command a market, the means of getting luxuries. Railroads have given him command of the markets for wheat and flour, but in ordinary times the corn is too bulky to pay railroad freights, and goes upon the canals, rivers, and lakes. Indeed, even for flour many prefer the water carriage, because of the wastage upon railroads. The number of acres sold, and the new settlers that occupy them, have brought an immense quantity of land under corn. The crops here are said, however, never to have been so large as now, and the means of transport never so abundant. In fact, both railroads and shipping have been depressed by over-supply, and they can now meet the exigencies of a very extensive export trade. The quantity and value of corn produced in the United States has been given in official tables as follows:—

	Bushels.	Value.
1840, census report.....	377,531,875	\$139,749,612
1850 "	592,071,104	296,035,552
1855	717,812,540	358,101,000
1857, estimated.....	1,200,000,000	600,000,000
1860 "	1,350,000,000	650,000,000

By the census of 1850 more than half the corn was produced in the Southern States. That is to say, over 300,000,000 bushels were produced there, and the remainder mostly West. It is now the case that the Southern crop is mostly cut off by drouth, and that section will have to purchase largely. The crops there may not average more than half that of 1850, or 150,000,000 bushels. At the West, on the other hand, the production has been immense, from a much larger breadth of land and greater number of people, aided by the newly-invented machines. Under these circumstances the crops of that region are estimated at four times as much as that of 1850, or 1,200,000,000 bushels, which, with the Southern crop, will give 1,350,000,000 bushels of corn. The weight of the Western crop would be 38,400,000 tons. If 10 per cent of it is available for export it will give 120,000,000 bushels, weighing 3,840,000 tons of freight, and worth \$96,000,000. Of the surplus crop there will be required, possibly, 60,000,000 bushels for Southern consumption, if the damage done to the crop is there anything like what is feared. That corn must descend the rivers by every mode of conveyance. There has been something like a panic at the South in relation to corn, and offers of responsible parties have been made to supply any quantity at 90 cents. Even if this should be the case, the surplus left for export will meet any reasonable demand.

The production of wheat in the United States cannot be easily ascertained. The figures were given by the census of 1840 and by that of 1850, and estimates have been made from time to time since, but these are merely vague estimates, and do not appear to be entitled to much confidence. The only mode in which an approximation to the facts may be made, is to adopt the figures of the census, and by taking the known quantities exported, allow for seed the usual quantity, and the remainder is the amount consumed. The following table is compiled on this data:

Years.	Population.	Consumption of wheat at 8½ bushels.	Actual exports.	Seed.	Crop.	N. York.	Price in
1840.....	17,069,656	59,743,796	11,198,098	8,482,727	84,827,272	\$5 44	
1850.....	23,267,726	81,437,041	8,827,017	11,500,000	104,479,923	5 62	
1851.....	24,250,000	84,875,000	12,948,490	12,500,000	110,323,490	6 68	
1852.....	24,500,000	85,750,000	13,600,680	13,000,000	120,000,000	4 37	
1853.....	25,000,000	87,500,000	18,958,990	13,500,000	122,000,000	4 94	
1854.....	25,750,000	89,125,000	28,148,595	14,000,000	130,000,000	9 25	
1855.....	26,500,000	92,750,000	7,821,548	14,000,000	100,571,548	9 50	
1856.....	27,400,000	95,900,000	25,708,007	14,500,000	136,108,100	7 52	
1857.....	28,500,000	99,750,000	33,130,596	15,000,000	147,880,596	6 50	
1858.....	29,500,000	100,825,000	20,487,031	15,500,000	142,312,031	5 25	
1859.....	30,400,000	106,400,000	15,161,156	15,000,000	148,560,156	5 12	
1860.....	31,360,000	109,550,000	23,000,000	16,000,000	.....	5 25	

In this table of the crop of 1839, 11,198,098 bushels were exported, and nearly nine million bushels were used for seed in 1840, leaving a remainder which gave three-and-a-half bushels per head of the whole population for consumption. And as this took place at the normal price of \$5 44, it may be supposed the quantity about sufficed for the usual wants. The production of 1849, after the great spur given to production by the prices of the famine years, gave about the same results—three-and-a-half bushels per head, at \$5 62 per barrel for flour. The production of 1850 was consumed in the year 1851, and following the increase of the population, which is that of the Treasury estimates, it did suffice to

admit of the same rate of consumption, and allow of 12,948,490 bushels to be exported, with a rise of price to \$6 68. In the following year the crop was so much larger that it allowed 18,600,680 bushels to be exported, after feeding the people, and their remained still a surplus which caused prices to fall \$2 per barrel. The crop of 1853 was large, but the European demand set in when it was coming to market, and 28,148,595 bushels were exported early in the year. This was found to be far more than could be spared, since prices rose rapidly, and remained at over \$9 through that and the succeeding year. The crop of 1854 was quite short. Notwithstanding the very high prices abroad only 7,821,548 bushels could be exported, and prices were maintained at \$9 50. These high prices stimulated production, and the crop of 1856 sufficed to admit of the usual consumption, and allow 33,130,596 bushels to be exported, while the price fell to \$6 50. Since that year the prices have continued at about \$5 25, a rate which has not paid very well to cultivate. The subsidence of the speculations at the West since 1857 has greatly diminished the consumption of food. The number of travelers, speculators, emigrants, and road builders, has been greatly reduced, and caused far less local consumption; while the crop of 1859 has been abundant for the wants of the home consumers, and to allow of a steady export, without much change in prices. The exports from July 17th to September 1st have been, from New York to Great Britain and Ireland, as follows:—

	Flour, bbls.	Wheat, bush.	Corn, bush.	Prices.		
				Flour.	Wheat.	Corn.
To July 17.....	465,000	2,545,297	1,634,000	\$5 25	\$1 45	61
July to Sept. 1st..	208,000	2,392,000	156,000	5 75	1 35	64
Total	668,000	4,937,297	1,790,000			

These figures indicate that the supply has been sufficient. The stock at the West, with the new crop coming in, will afford abundant supplies to meet the export demand, which is likely to be steady and without speculative action, thus allowing the whole surplus to pass out of the country, as it did in the year 1853. It is obvious that it is not the interest of the grower, under such circumstances, to hold. The exports of 1853 are an example. The table given shows that, of the whole quantity exported up to April 1st from New York, 7,121,712 bushels and 1,808,951 barrels, more than two-thirds, went before December, at gradually rising prices. The result proved that more was sent out of the country than could have been well spared, and consequently that the whole home trade paid very high prices. The exports of wheat for the year ending June, 1854, were, it appears, 28,148,595 bushels from the whole country, out of a crop of 122,000,000. It resulted that the stocks were exhausted, and the price remained at over \$9 for two years. By exporting the surplus at comparatively low figures, the farmers obtained very high prices from the whole home market. The sales of the wheat and corn this year are likely to remove a considerable surplus, since the mistake was committed in 1858 of refusing to sell unless the high figures of 1857 could be obtained, and as a consequence no doubt much old wheat accumulated.

ART. II.—NEW YORK BAY—ENCROACHMENTS.

THE advisory council of the Coast Survey has received from the Superintendent a map, prepared, under his direction, by A. Boschke, Esq., comparing the shore lines and hydrography of New York bay and harbor, and the approaches, as shown in the surveys of 1835-36 and of 1855-56 by officers of the Coast Survey. On this map they make report of great interest to the mercantile community.

This comparative map has been prepared with great care and ability by Mr. Boschke, and shows in a conspicuous manner the changes which have taken place within the last twenty years in the harbor and its dependencies.

Mr. Boschke calculated that, between the Hudson and East rivers alone, 1,220 acres of land have been made, upon which, formerly, the tide rose more than four-and-a-half feet, removing thus a tidal space of nearly nine millions of cubic yards from this part of the harbor.

To this encroachment is to be added the space occupied by piers and slips, amounting to 519 acres, since the tidal currents are so checked between the piers as to lose nearly their whole scouring action. The piers alone displace about 312,000 cubic yards. It is, of course, to be considered that these encroachments are made upon a port of great capacity, and that they represent but a small fraction of the total area of even this portion of the harbor. If made according to a systematic plan which would have considered all the circumstances of the problem, they would by no means have produced injurious consequences, but the contrary.

The importance of these changes to the welfare of New York, as a great emporium of commerce, needs no enforcement from us. They should be watched carefully, be faithfully chronicled, and be attentively studied.

It is not sufficient to know the changes and their extent. The causes which have produced them must be ascertained. In this way alone can they be regulated and controlled. Thus only can injurious changes be prevented, and favorable ones be assisted. It by no means follows that, because a partial change in a particular direction is favorable, that if this be continued indefinitely it will still be advantageous. For example: a diminution in the water-span of a harbor, by increasing the velocity of the current, may deepen the harbor, and thus a first encroachment may appear to be advantageous. Continue this, and the velocity of the current becomes excessive; navigation is impeded by it; the bed of the harbor is torn up in one place to be deposited in another; the capacity of the harbor is contracted injuriously. Again: the contraction of the entrance to the harbor may act, at first, favorably by increasing the rate of flow of water over the bar, and thus increasing its channels; but this contraction, if continued, may so alter the direction of the currents as to destroy the first favorable effect, and may even be carried so far as to obliterate, by its encroachments, some of the principal channels.

It will be seen, in the course of our remarks, that an increase in the velocity of currents and changes in their direction have, in many cases, produced favorable results, and that even the advance of Sandy Hook into the main ship channel may, up to this time, have been advantage-

ous, while, if encroachments in the same direction were continued beyond certain limits, the destruction of the harbor might ensue.

It will be further seen that the *physical survey* of the harbor and approaches, which we have heretofore recommended in strong terms to the commissioners, is absolutely essential to furnish materials for the study of the diverse and complicated phenomena which the harbor presents. We have the basis of this in the present topographical and hydrographic surveys of the Coast Survey; but we need very elaborate observations on the tides and currents, and on the movement of the sand and other materials constituting the bottom of the harbor, before we can satisfactorily trace the causes of all the effects which the comparative map brings to light. We have an example of what is desired in the satisfactory results obtained from the observations on the growth of Sandy Hook, and a case in which the minuteness of the facts enables us to draw very safe conclusions.

We cannot too strongly or too often urge upon the commissioners the necessity for knowing whence the materials of the bar are derived, and how they are brought to their present places; why they are deposited as we find them, and why they change their places according to laws, which are obvious on a casual inspection of the comparative map, and are confirmed by a close study of its details.

In following out the important changes which have taken place in the harbor, we have been greatly assisted by the able report of Mr. Boschke, before referred to, and refer to it as our test for most of the numerical results, for many of the facts, and for some of the deductions which we present.

We begin with the changes at the entrance of New York Bay, and, first, with those of the land on the south side, namely, at Sandy Hook; second, with those on the north side, at Coney Island and the shore of Long Island to the eastward as far as Rockaway Beach; and next proceed to the changes of the bar itself, outer and inner, and the channels and shoals into which it is divided.

Upon the depths of the channels of this bar depends the commercial prosperity of New York.

CHANGES AT SANDY HOOK.

The lighthouse, which is now more than a mile from the point of Sandy Hook, was built near to that point. Maps of nearly a century ago show it as about one-third of a mile from the end of the Hook. The point both advances and recedes, but, upon the whole, grows to the northward, jutting out more and more into the main ship channel. Its rate of growth, on the average, for the last century, has been about one-sixteenth of a mile in twelve years. In the main ship channel, where, at the time of Captain Gedney's survey, there was 120 feet of water, there is now but 21 feet. Large areas, over which twenty years ago there was from 20 to 40 feet of water, are now dry ground. Within twenty years the point has grown to the northward 220 yards, narrowing the main ship channel, and changing in a degree the direction of both ebb and flood currents at this part of the entrance.

Various causes were assigned for this growth; and minute observations of the tides and currents were made by the Coast Survey, under the immediate direction of the Superintendent, by Sub-Assistant Henry Mitchell,

under authority of the commissioners, to test the different suppositions, and to collect such a body of facts as would lead undoubtedly to the full solution of the problem.

The observations have shown that on both sides of Sandy Hook, the outer or ocean side, and the inner side of Sandy Hook Bay, there prevails during the ebb and flood tides northwardly currents, varying in strength at different times and at different distances from the shore, but tending to carry the sand on both the outer and inner shores to the northward. On the outside, in False Hook Channel, this current prevails for seven hours out of the twelve, being strongest in mid-channel, and the weakest on the shore of the Hook and on the False Hook Shoal. On the inside the northwardly current prevails for eleven hours out of the twelve. At the meeting of these currents their motion is lost, and the sand which they transported is deposited. The comparative chart by the form of the curves of 6 and 12 feet depth off the point of the Hook shows this in a very perspicuous manner.

It is easy to see from the principles of the motion of fluids how these currents exist while the tidal currents are flowing in and out of the entrance to the bay. On the ebb the outside current is an eddy current, having nearly the opposite direction to the general tidal current issuing from the bay. Inside both ebb and flood draw the water from Sandy Hook Bay by the western shore of the Hook, which is thus worn away.

The northwardly current outside has not only carried the materials of the New Jersey coast northward, but it has diminished very much the area of the shoals known as the False Hook and Outer Middle Ground; has deepened the bar at the southern end of False Hook Channel from 21 to 22 feet; has, according to Mr. Boschke, deepened the channel by about one foot and a half; and has removed the bulkhead, which, in 1836, closed the northern end of False Hook Channel, giving 30 feet of water where there was twenty years ago but 13 feet. Eighteen feet can now be safely carried through this channel at mean low water. The projecting shoals formed just north of what was in 1836 an inlet, about a mile north of the old Shrewsbury Inlet, have also considerably diminished. Shrewsbury Inlet, which, in 1835, was about 1,100 yards north of the Ocean House, and through which six feet could be carried at low water, and the wider but shoaler entrance just referred to above, are now entirely obliterated.

Seeing in these northwardly currents the power which transports the sand to the point of the Hook, we have the obvious remedy afforded by jetties, at suitable intervals and of proper lengths and directions, for stopping the progress of the material. These constructions have of late years been so much studied by engineers that most of the circumstances attending them have been ascertained, and it will be easy, whenever the growth of Sandy Hook ought to be arrested, to do so by simple and comparatively inexpensive means.

Mr. Boschke estimates that in twenty years a million and a half cubic yards of sand have been removed from this channel; that about a million cubic yards of sand have been transported from the Outer Middle and False Hook shoals, of which half a million have been re-deposited at the northern end, increasing it as is shown upon the comparative map. Thus two millions of cubic yards of sand have been transported towards the point of Sandy Hook, the main ship channel, and the southern part

of the bar from this locality alone, bounded on one side by Sandy Hook shore, and on the other by the outside of the Outer Middle and False Hook shoals.

Does not this show the absolute necessity of the most minute observations of currents, extending not only over these localities, but further out from the land? Do not these facts argue that continued watchfulness is necessary in regard to these changes, and that no labor and no reasonable expense should be spared to keep them constantly under observation? The average depth of the main ship channel has changed but little. The western part has shoaled, but a deep hole has been excavated due north from the east beacon. On the whole, Mr. Boschke reports that but ninety-five thousand cubic yards of sand have been deposited in this channel. The growth of the Hook has added about two millions and a half cubic yards to this encroachment, representing, with the quantity just stated, more than the excavation from False Hook Channel. The wear from the inside of the Hook is estimated at about one hundred thousand cubic yards within the last twenty years. The wearing of the bluffs must not be confounded with the wearing of the shore, for the sand which is thus removed is deposited on the shore and on spits, causing an actual increase of the Hook. From these facts it is probable that the sand from False Hook Channel does not at once reach the bar. The importance of knowing positively where the bar derives its supply of sand is obvious; since in that knowledge is involved the question whether this supply can be so cut off or diminished as to cause a deepening on the bar by natural means; and whether, if dredging were applied and the source of supply of the sand cut off, the improvement of the bar would be possible. This question of the deepening of the bar has, in the progress of commerce, in the change in the burden of ocean steamers and sailing vessels, derived new importance, and it is altogether probable that future progress will render it a vital question.

NORTHERN SIDE OF ENTRANCE, CONEY ISLAND AND SOUTH SHORE OF LONG ISLAND.

The western part of Coney Island has made to the westward since 1855. The eighteen, twelve, and six feet curves of depth are now more than eighty yards further to the westward than they were twenty years ago. Rockaway Inlet, which drains Jamaica Bay, has passed, according to Mr. Boschke, 620 yards to the westward since 1836; and Duck Bar Island, which then was mainly on the eastern side of the entrance, is now on the western side. The shore of Barren Island to the west of Rockaway Inlet has lost, according to Mr. Boschke's calculations, nearly a square mile of area, and the destruction would have been greater had not the woods upon the beach checked it. Hog Inlet has shifted nearly a mile in the same time. We thus see a great westwardly movement of the sand along the south shore of Long Island perfectly established. It remains for such an examination as was made at Sandy Hook to explain the causes of these changes and their probable future progress, and thus to put us in possession of the means of controlling them.

Near the western end of Coney Island there is a tendency to form a channel close to the land, which is the correlative of False Hook Channel at Sandy Hook. This channel has not altered much in its general features since 1836, having moved, however, somewhat to the northward.

Great changes have taken place in the bar of Rockaway Inlet, its depth having decreased from fourteen to twelve feet, and the direction of the entrance over it having changed to the southward and eastward, which is unfavorable. The point of the western six feet shoal has advanced southward and eastward nearly three-quarters of a mile; and that of the eastern side has receded nearly as much. The general curves of six, twelve, and eighteen feet along this shore to the west of Rockaway Inlet seem to show that its influence does not extend more than two miles and three-quarters, there being little or no change in those curves at that distance; but this point is too important to rely upon indirect observations to establish it. It would seem that the accumulation of sand at Rockaway Inlet, and the projection of its shoals and bar further into the sea, may have stopped a portion of the supply of sand from the coast of Long Island to the New York bar. We want at every step direct observations of the tides and currents along this shore to enlighten us as to the causes of the changes which are determined.

If the supply of sand to any part of the great bar is derived from this shore of Long Island, how desirable must it not be to know it positively, and to be in possession of all the particulars of the movement?

NEW YORK BAR.

In the old maps the bar was represented by a large bank called East Bank, the main ship channel skirting its western edge, and then turning along the southern side to the ocean.

In fact, across New York entrance below Sandy Hook and Coney Island lies an extensive bank, "intersected by five channels, giving thus alternately a shoal, a channel, a shoal, a channel, and so on." The main ship channel is next north of Sandy Hook, its direction is due east, and its width 1,050 yards, the passages from it through the outer bar are by Gedney's Channel with $23\frac{1}{2}$ feet, and by the south channel with 23 feet, at mean low water. North of this, and separating it from the Swash Channel, is Flynn's Knoll, (the southwestern part of which is known as the S. W. spit,) covering an area, within the eighteen feet curve of depth, of 852 acres. Northeast of Flynn's Knoll lies the Swash Channel, the general direction of which is S. E. by S., gently curving from its upper entrance so as to pass more eastwardly; its average width is 900 yards, and through it 21 feet can be carried at mean low water.

Though the main ship channel has the best water, the Swash, from its superior directness, is the favorite channel into New York. Northwest of the Swash Channel is the Romer Shoal, the area of which is 2,080 acres. Northeast of the Romer Shoal is the eastern channel, 750 yards in width, running S. E. for half its length, then E., and passing over the outer bar with 19 feet water, a remarkable slue running nearly due south, connecting this with Gedney's Channel. Next, to the northeast, is the Middle Ground Shoal, covering 1,548 acres. Next, the Fourteen-foot Channel, running to the S. E., and closed by a wide bar with $14\frac{1}{2}$ feet upon it. Then the extensive East Bank, covering 3,063 acres. Finally, the slue close to the Long Island shore, having a bulkhead at its western end, near the point of Coney Island, and a bar at its eastern end. This entire bank, through which the channels are cut, is of sand, similar to that of the beaches of New Jersey and Long Island, the river deposits taking place higher up in the bay.

The directions of these channels and shoals show, in a general way, the directions of the forces of the water acting at this entrance. The tidal currents of ebb, reinforced by the affluents of New York and Raritan bays, displace the sand which the flood deposits, and the channels thus measure, in a general way, the forces of these affluents. A thorough investigation of the forces requires nothing less than the complete physical survey which we have recommended. Time would be wasted for purposes of navigation upon such a survey, but when it comes to those of improvement, nothing less than a physical survey will answer. A few thousand dollars thus expended, by determining the minute actions of the tides and currents and their causes, may save hundreds of thousands in expensive tentative works of improvement. These observations could hardly fail to show where natural actions were to be aided or restrained, and when art might profitably come to their aid, or must be used to control, modify, or change them.

While we consider that we are not yet justified in speculating upon the causes which have produced the peculiarities of these shoals and channels, and have led to their changes within the last twenty years, these changes are so clearly marked upon the map that we can be at no loss to discover their direction and magnitude. It is observed that, in general, there has been a movement to the northward and eastward of all the channels and shoals. Flynn's Knoll has been carried to the northward and westward.

From the elaborate computations of Mr. Boschke, it appears that in twenty years Flynn's Knoll has been carried 240 feet to N. W. by W.; Romer Shoals 920 feet to the N. E.; the Middle Ground 270 feet to the N. E.; and East Bank 2,840 feet to the N. E. What portion of the movement is due to the extension of Sandy Hook, and what portion to other causes, acting in the lower and upper bay, we do not undertake to say, not having sufficient data for this purpose.

While this movement has gone on, the channels have generally increased in depth, and the shoals have diminished in extent. The main ship channel is the great exception to this rule among the channels, and the Middle Ground to that among the shoals. The enormous quantities of sand that have been shifted in position, and small portions of which have been again deposited inside of the outer bar, while the main bodies have been carried away into deep water, are shown in the interesting tables of Mr. Boschke.

These alterations, by the removal of sand, prove that changes have occurred in the force and direction of the tidal currents, in regard to the nature and extent of which only a complete physical survey can inform us, and that for the future.

That twenty years have sufficed to produce such changes is a fact surely sufficient to make us alive to the necessity of procuring at once the materials by comparison with which, five, ten, fifteen, or twenty years hence our successors may draw their conclusions.

From the channels the enormous amount of three millions of cubic yards is known to have been actually removed, or shifted in position, and in the shifting of the shoals fifty-four millions of cubic yards have been carried onward. While this has been going on, the main ship channel has had a deposit of sand in it of nearly one hundred thousand cubic yards, and the Middle Ground a deposit upon it of nearly a million of

cubic yards. The shoals within the eighteen feet curves have diminished in extent nearly fifteen per cent, or from nearly nine thousand to between seven and eight thousand acres. For these positions we refer to the tables of Mr. Boschke.

An inspection of the comparative map will show changes on the West Bank in harmony with those which we have noticed at length. Gravesend Bay has also changed very materially, the deposit in it being much increased.

It would lead us into too much detail to discuss thus elaborately the changes in other parts of the lower bay; the following, to which our attention has been directed by Mr. Boschke, will suffice, as bearing specially upon the navigation of the bay:—

1. The outer bar has become more uniform in its depth, as is shown by the section across it on the comparative map. Gedney's Channel has slightly improved. The north and south channels have coalesced, forming a better entrance than when they were separate. A few isolated spots or lumps, of seventeen-and-a-half and eighteen feet, occur, which possibly have for their nucleus portions of wrecks, or of the obstructions which were placed at the entrance by the British, during the revolutionary war, to prevent the entrance of the fleet of our allies, the French. We adopt the suggestion of Mr. Boschke that these should be removed by blasting or dredging, and that, in fact, a steam dredge should be kept at work on the bar during the time of ebb current, and in suitable weather, to promote the tendency to deepen which now seems to exist. Two lumps, the one north of Gedney's Channel, and 710 yards from the sailing line, with eighteen feet on it, and the other south 220 yards, with seventeen-and-a-half feet on it, should also be removed.

2. West of Flynn's Knoll a small lump of eighteen feet has formed, which should be removed. It does not interfere, however, with the main ship channel, on the range for which twenty-three feet can be carried.

3. The Swash Channel has widened and deepened; the bar at its southern entrance, which had only twenty feet upon it, has deepened to twenty-three feet. The eighteen feet lump which lies inside of the channel should be removed.

In consequence of the changes in position of the Swash Channel, the ranges require to be used by keeping the upper lighthouse open about twice its length to the northward of the lower, according to Captain Craven's sailing directions. This carries not less than twenty-one feet through the Swash at mean low water.

Lieutenant-Commanding Craven draws special attention, in his sailing directions, to the danger, when passing through the Swash, of being set on the Romer Shoal, especially at half ebb, when the tidal current sets strong towards the shoal.

4. The East Channel has improved, and the bar at its eastern entrance has diminished in width. Lieutenant-Commanding Craven calls attention to the danger, in passing through this channel on the flood, of being set upon the Romer, and on the ebb upon the East Bank.

5. The Fourteen-feet Channel has much improved; it is still, however, of relatively little value.

6. At the entrance to the Narrows, Lieutenant-Commanding Craven discovered, in his survey of 1855, a small shoal, marked as Craven's Shoal on the comparative map. Lines of soundings on the former map do not

run over this shoal, so that it is impossible now to say whether it existed in 1836, or has been formed since. It should be removed.

In closing this portion of our report, which relates to changes in the lower bay, we would call attention to the importance of the Narrows, as giving the velocity and direction to the waters of the ebb, upon the scouring action of which the depths on the bar depend. The sooner the commissioners' lines are established there the better. The shores being rocky, natural changes will not be likely to occur, but artificial ones might seriously injure the harbor. In connection with this, we would call attention to the great importance of the shore lines, recommended by us in a former report to the commissioners, from the Quarantine to Fort Tompkins, and from Owl's Head to Fort Lafayette. The present condition of the shore, as Mr. Boschke justly remarks, between the Quarantine and Fort Tompkins, is unfavorable from its many irregular projections.

NEW YORK UPPER BAY.

A general glance over the surface of the comparative map from north to south shows, by the portions left uncolored, the great body of the Hudson River flowing onward through the upper and lower bays, and passing by the underwater delta of the bar into the Atlantic.

The colored shoals on each side show that the expansion of the water, by checking its rate of motion, causes deposits of the silt, which it carries with it, forming extensive flats like those between Jersey City and Kill van Kull on the western side, or the Middle Ground and the flats of Gowanus Bay on the eastern.

The East River is, in fact, a mere arm of the sea, and which, as the tidal currents divide on this side of Throg's Neck, the ebb running to the east through Long Island Sound, and to the west through Hell Gate, may be regarded as a tidal stream heading at that point of division.

Its influence is readily seen, as its ebb passes out on either side of Governor's Island, sweeping through Buttermilk Channel, forming Yellow Hook and Owl's Head channels, and causing the deposit of a triangular shoal at the south side of Governor's Island and of the Middle Ground, as it comes in conflict with the main current from the northward. Buttermilk Channel, to which attention was first directed by the survey of Lieut. D. D. Porter, U. S. N., one of the assistants of the Coast Survey, is of increasing importance, and nothing which can by possibility lead to its obstruction should be permitted. The shoal towards its southeastern entrance, by the Atlantic Dock, seems to have at its point a rocky nucleus. The current of flood passes directly along the edge towards the entrance of the dock. It has undergone but little change since the date of the first survey. The shoal off the southern side of Governor's Island, on the contrary, has worn away considerably. Mr. Boschke estimates that the inner bay contains 14,629 acres, or nearly 23 square miles. Of this, the Narrows to New Brighton occupy one-fourth; the Jersey flats and the main ship channel, from New Brighton to the Battery, nearly one-third each; and the Middle Ground and Gowanus Bay nearly one-eighth. The Jersey flats contain 4,427 acres, the Middle Ground and Gowanus Bay, 2,020 acres, and the shoal south of Governor's Island, 83 acres.

The Jersey flats have increased in extent and diminished in depth within the last twenty years. The well-defined edge has grown out par-

ticularly near to Jersey City, pointing to the encroachments there as the cause of this change, and showing so clearly the connection of this line or border of the flats with the encroachments as to indicate for the future what must occur if they are extended. The material of these flats is of soft mud, supplied by the river from the upland and from the sewerage of the cities. There are rocky or stony patches scattered over the area, but these are exceptions. The mud extends to a considerable depth before firm bottom is reached. Between Ellis' Island and the canal basin, in Jersey City, the eighteen feet curve has advanced in twenty years some 230 yards. The computations of Mr. Boschke show that an average daily deposit of 1,550 cubic yards takes place on these flats. Gowanus Bay has in like manner shoaled from the same causes, increasing the area over which there is six feet and less of water by 177 acres. These spaces are, in fact, the expansions of the river bed, into which the waters, passing with diminished velocity, find places of deposit for the solid matter which the more rapid current above has carried off.

While these comparatively quiet spots have increased, the Middle Ground and the shoal south of Governor's Island have worn away. This is, in part, no doubt, due to the general increase of velocity in the currents by local encroachments, but, as the map shows, is also produced by the changes in the shore line below Castle Point, (Hoboken and Jersey City,) which have thrown the current more over on the eastern side of the bay.

This same increase of velocity in the tidal current has deepened the main ship channel generally, and especially at the mouth of Kill van Kull.

The small changes of velocity necessary to effect these and other similar changes could only be established by the most elaborate and refined observations on the tidal currents. Such results as are ample for purposes of navigation would fail to detect such small changes. The variations in the rate of the currents at different parts of the lunar month follow those of the tides from which they are derived, and must be connected with them by observation, or else marked out independently by such a long-continued series of observations as would deter the most indefatigable observer.

This entire matter would form part of the complete physical survey of the harbor, to which we have so often called your attention. The Coast Survey observations have shown, experimentally, the variation of the tidal currents with the well known tidal inequalities, called the half-monthly and the daily inequalities. This whole field should be explored in a way to put upon permanent record the most minute information for future guidance in reference to encroachments and to improvements.

An examination of the tidal registers, in the archives of the Coast Survey, does not show any change in the tidal establishment at Sandy Hook or at Governor's Island of sufficient amount to be adopted as a certain conclusion. Had the observations of twenty years ago been continued over periods as long as those more recently made, we might have been able to decide this question definitely. In fact, in important harbors like New York, tidal observations should be constantly kept up, the time of high and low water, as well as the height, being carefully ascertained. The Coast Survey self-registering gauges give these elements, and, besides, the law of the rise and fall of the tide.

NEWARK BAY.

This tidal reservoir, containing an area, according to Mr. Boschke, of about 6,000 acres, is supplied and drained through Kill van Kull into New York Bay, and through Arthur's Kill and Staten Island Sound into Raritan Bay. It receives at its head the waters of the Hackensack and Passaic rivers. The bay is an extensive flat, with two channels, of which the principal one leads into Kill van Kull. The average depth of the bay is about six feet at mean low water, and the bottom generally of soft mud. The shortness, depth, and breadth of Kill van Kull render it the principal outlet and inlet for Newark Bay, notwithstanding the sharp turn which the water is obliged to make as it passes from the bay into the kill. Arthur's Kill is longer, narrower, shoaler, and more crooked than Kill van Kull, and the bottom is quite irregular, the profile of the channel presenting shoals and pools alternately. The minute tidal and current observations in the kills have shown that the tides meet somewhere between Fallen Beacon and Elizabethport, and that the tidal currents meet over an area south and west of Shooter's Island. The drainage channel from one kill to the other, across the mud flat, which is most clearly shown on the map, has really not less than seven feet in it at mean low water, but is so narrow that no vessel of any size can keep in it and carry this depth.

Newark Bay has not altered generally in depth since the first survey. Kill van Kull has deepened, and Arthur's Kill has undergone changes of different kinds in different localities. In our former report we strongly urged uniform shore lines for these passages. When they have been adopted, there will be a tendency to greater uniformity of depth in Arthur's Kill, and dredging will be very effective. This would even now be quite useful, and would produce favorable changes in the flow of the tides, and in the amount of rise and fall at the upper end of Arthur's Kill. Dredging is the best resource for making a deeper passage between the two kills, and would necessarily be resorted to at intervals. It is an easy operation in such a locality and with such a bottom as here.

HUDSON RIVER.

We quote from Mr. Boschke's report:—"The average width of the lower section of the Hudson River is 1,300 yards. Its average depth is from 30 to 50 feet, the channel being on the New York side, and the New Jersey shore being bordered by a flat of an average width of 400 yards, upon which there is at most eighteen feet of water.

"The construction of the Hudson River Railroad has closed up the various little bays, and has given a more uniform shore line to the river, which has caused a general deepening and more uniformity of depth. The considerable encroachments between Thirtieth-street and Hammond-street have narrowed the river, and deepened it, on the average, six to ten feet in that locality, throwing, besides, the current over to the New Jersey shore. Below and above the projecting piers, and within the slips from about Thirtieth-street south, the ground shoals considerably, and, from the nature of things, dredging must necessarily be resorted to to give an increased depth. The extension of the piers on the New York side, and particularly near the Battery, has increased the eddy in front of the Battery, and therefore cause the extension of the shoal there."

These changes, which the map fully shows, enforce all that we have

heretofore said in regard to the danger of encroachments in this part of New York city front. We cannot too often repeat, that whatever changes the direction and velocity of the current, must change the regimen of the harbor for good or for evil.

EAST RIVER TO THROG'S NECK.

The value of Buttermilk Channel has been already referred to. Its eastern entrances are divided by a middle ground, one channel running close to Governor's Island, the other to the Brooklyn wharves. These channels should be most jealously guarded from obstruction. The middle ground has, according to the statement of Mr. Boschke, drawn from the map, increased in area within the eighteen feet curve by five-and-a-half acres since 1836, and a spot of eleven-and-a-half feet at mean low water has formed since the first survey. A considerable deposit has occurred on the north shore of Governor's Island. While the eastern branch of Buttermilk Channel has somewhat deepened, there has been an accumulation on and south of the shoal in front of the Atlantic Dock. We agree with Mr. Boschke in the judgment, that while the encroachments on the East River, between Corlaer's Hook and Fulton Ferry, have increased the rapidity of the current so as to tear up the bottom in many places, they have also thrown the current of ebb more on the New York side, so that the Brooklyn side depends chiefly upon the flood current for keeping up the depth between the Atlantic Dock and Fulton Ferry. There is a general deepening of the river from the Navy Yard to the western side of Kip's Bay, caused by the contraction of the stream until the point is reached, where the influence of Lowber's Bulkhead, between Seventeenth and Fourteenth streets, is felt. The shoal between Fourth and Eighth streets has increased, and the channel has less water than before the construction of the bulkhead. This is caused by the deflection of the water from Kip's Bay more directly to the opposite, or Williamsburg shore, by Lowber's Bulkhead—an inference which the deepening in the new direction of the current towards the opposite shore fully sustains.

The rocky character of the shore and bottom between the points just noticed and Hell Gate precludes much natural change. In the cove between 100th and 116th streets Mr. Boschke notices a slight deposit.

From Astoria to Throg's Neck great changes have been produced. In the general there has been a deepening of the deeper water, but sometimes a mere transfer of shoal spots and deep ones to other localities, and sometimes a decrease of depth. Mr. Boschke computes that the area of this part of the river is 6,200 acres, and that 15,000,000 of cubic yards have been removed from its channels and shoals, giving an average deepening of between one and two feet.

The influence of the tide of Long Island Sound disappears almost entirely at Pot Cove, between which and Throg's Neck the tide wave is compounded of that of Long Island Sound and of the East River. The area over which the currents meet lies near to Throg's Neck and west of it.

Direct observations are wanting to establish definitely what changes have taken place in the rise and fall of the tides, and in the currents over this space; but we can hardly suppose that, with the great changes in the East River, some alteration has not occurred in the general phenomena of the tides and tidal currents. The changes shown by the map, like those in the upper and lower bays of New York, correspond on the

average to an increased velocity of current, which is thus, as before, fully established by the indirect observations, and is in accordance with what the encroachments of the kind and degree already made upon the water-space would necessarily produce.

Some of the changes in this part of the river require especial notice; such, for example, as the decrease of the shoal on the eastern side of Riker's Island, where the six-foot shoal has, according to Mr. Boschke, lost 130 acres in area; the decrease of the eighteen-foot shoal of Flushing Bay by 35 acres; the deepening of the passages between Port Morris and North Brother Island, and between North and South Brother islands.

The shoals having six feet and less than six feet upon them, in the bays and coves, have generally increased in extent since 1836.

The main channel through this part of the river, from Throg's Point to Hell Gate, has nowhere less than thirty-seven feet of water at mean low water, affording the greatest encouragement to the removal of the dangers of Hell Gate from this eastern entrance to New York harbor.

The general changes in New York harbor, within the last twenty years, are thus shown to have been beneficial, while in special cases encroachments are found, conclusively, to have acted most injuriously upon particular localities, turning the channel away from the New York city side of the river, where natural causes had made it flow, increasing the velocity so as to wear the river-bed into hollows and contribute materials to shoals, and even, in some cases, to be injurious to navigation. While thus the general result is a favorable one, so many of the particular local results have been bad as to make it plain that a very different system should have been pursued in furnishing the facilities required by commerce on the water and on the land. The same good result, and a much better one, could have been obtained without such instances of evil had the shore-line been regulated years ago according to a systematic plan. The advisory council has not been opposed to such additions to the land as were required for present or future accommodation by wharves and docks; on the contrary, they have everywhere endeavored to provide such, where encroachments had not already been carried to the verge of imprudence, or beyond it, or had not been guided by erroneous principles, tending to produce injury to many while seeking individual benefit.

We have endeavored to trace such lines as would produce regular shores without abrupt changes of direction and width, to alter the proper directions of currents, or to increase or check their regular movement. The large traced map furnished to the commissioners, when spread upon a level surface, shows admirably the general harmony of the harbor lines which we have proposed. That we have not been unmindful of the wants of future commerce is proved by the fact that we have provided 1,840 acres of area for dock accommodation, according to the calculations of Mr. Boschke, made in reference to this matter. That we have not feared to recommend proper facilities for the riparian owners, within just limits, is proved by the fact that our lines contemplate the filling in of 2,480 acres of land now under water, amounting to some thirty-four millions of cubic yards. But this is done according to a systematic plan, which will avoid the dangers we have observed or have been able to foresee, and which will, as far as they have effect, favor those changes for the better which are now going on, and avoid injurious ones.

Art. III.—VALUATION OF LIFE INSURANCE POLICIES.

NUMBER VI.

For the true valuation of a life policy, a correct table of mortality is necessary. For this purpose we have in former articles brought together the rate of mortality in Sweden for 81 years, in Norway for ten, in the city of Carlisle for ten, in Northampton for seven, and in the Tontines and Annuities of Great Britain for more than fifty years. We propose now to add to these the results in England, Prussia, Saxony, and Hanover, reserving the experience of life insurance companies for a subsequent article.

The first table of Dr. Farr is founded on the mortality in England and Wales during the year 1841. The census of the living having been taken in that year, and the registered deaths being nearly an average for several years before and afterwards, the numbers are worthy of much confidence. The population amounted to 15,927,847, and the deaths to 343,847.

In constructing his table, Dr. Farr adjusted the irregularities in his observations, and corrected the "inaccuracies in his returns," by treating "the two series of numbers representing the mortality from 15 to 55 and 55 to 95, as geometrical progressions." In this way the decennial mortalities were made regular. The logarithms of the probabilities of living a year for each intermediate age were then interpolated by the method of differences.

These two mathematical artifices are very ingenious, and no doubt give close approximations to the true mortality at every period of life. They are not precisely in accordance with the laws of Mr. Gompertz or of Mr. Edwards, to which laws the Doctor refers with approbation in his report, but are more nearly correct than either of those laws would give. Since, however, they modify the observations considerably, (as much as ten to fifteen per cent in some of the quinquennial periods,) and are founded on an assumed law extending over forty years of life, we have thought it best to reconstruct the table, and give one corresponding exactly to the observations. For this purpose we have taken the living and the dying for each decade, and interpolated them by the method of differences, and thence obtained the ratio, and then the mortality for every age from 15 to 100. So far the results will agree precisely with the observations. We have then adjusted the rates of mortality, by supposing the law of geometrical progression to extend for each five years, from 15 to 20, from 16 to 21, from 17 to 22, &c., to the end of the table—this being the same law which Dr. Farr extended to forty years. For the short periods proposed, it is entirely free from objection.

In column second, at the end of this article, is inserted the rate of mortality from Dr. Farr's table, the rates being adjusted by the method of geometrical averages. This produces no effect scarcely, except near the age of 55, which was the dividing point with Dr. Farr of two separate laws of mortality above and below that age. The adjustment, therefore, merely smooths over the breach of continuity at that period, and harmonizes the whole table.

In column third is to be found Dr. Farr's rates for males only, adjusted

as before. As the vast majority of persons insured are males, we have thought it best to use this table, as well as the table for persons, in forming the combination we propose.

In column fourth is the reconstructed table before described. By comparing it with Dr. Farr's, it will be seen, that though lower at 15, and higher at 19, it agrees at 17; that from 20 to 30 it is higher, and from 30 to 50 lower; that for the next ten years it rises above Farr's, but again declines for the following ten; that from 70 to 80 it is higher in the first part of the decade, and lower in the second part; and that for the rest of the table, both are nearly coincident. The differences are everywhere small, at no age reaching ten per cent, and for the most part not exceeding five. The one table corresponds with the observations, the other with a mathematical law closely approximating to the observations. Both are sufficiently regular and harmonious, and both deserve much weight in the combination proposed.

In the ninth volume of the registrar's reports, for Great Britain, Dr. Farr has published the living and the dying for the seven years from 1838 to 1844, and from these, by interpolation of the numbers for each age, we have obtained column fifth below. This is a valuable table.

The tenth volume of the registrar's reports, contains Dr. Farr's table No. 2, which is founded on the deaths among the males for the seven years from 1838 to 1844. As males are the principal persons insured, and the mortality of the two sexes is slightly different, this table is more suited for the purposes of an insurance company, than if the whole population had been considered. When we consider the immense population on which this is based, the system and accuracy with which the registrations have been made, the care and labor with which the returns have been scrutinized to correct errors and omissions, the skill and scientific accuracy with which the table has been constructed, we will be ready to allow it a large weight in the combination we are about to make. The rate of mortality for this table is inserted in column sixth.

We have reconstructed this table, discarding all hypothesis, and making it conform exactly to the observation. The result is in column seventh below, and a comparison of it with the preceding, will show how closely Dr. Farr's assumed laws have corresponded with his observations.

In the seventeenth annual report of the British Registrar-General will be found the continuation of these English observations for ten years later, from 1845 to '54. As a second enumeration of the people had been taken in 1851, this element is more accurate than for the former period; and as the deaths are reported for ten years instead of seven, these observations are worthy of much confidence. A table has been constructed for the males for this period on the same principles as before, and is inserted in column eighth below. It gives a higher mortality than for the previous seven years, the difference being caused in part by the second and third appearance of cholera in Great Britain in 1849 and 1854. The average mortality for the ten years was 2.364 per cent, or 10 deaths in 423 living, while for the seven years before it was 2.270 per cent, or 10 in 441. As the cholera was not severe, and as a true table of mortality must include years of plague and famine as well as of health and prosperity, the value of the last table is not less than the first.

To these English tables we have added in column ninth the mortality for Saxony, founded on the official observations published by Dr. Farr, in

his sixth annual report. The deaths are for the ten years ending 1841, and amount to 495,666. The census of the people was taken four times in this period, and their near agreement at all ages at each of the four enumerations is evidence of the care and accuracy of the observations. From these we have obtained the average population for the ten years from 1832 to 1841, and then interpolated the living and the dying for each age, and then proceeded as before. The deaths are not always given for the same ages as the living, but this presents no difficulty in using the method of differences for interpolating—merely increasing the labor of obtaining the result. The mortality is harmonious for different ages. Under 45 it gives a less rate than in Great Britain, but afterwards the mortality increases rapidly, and is largely in excess over the English tables.

In column tenth is inserted the Prussian mortality, founded on Dr. Farr's report of the living and dying for the year 1841. The whole number of deaths is published for every year from 1816 to 1841, but for the several ages only for 1841. The total amounts show, however, that this was an average year. For the five years from 1836 to 1840 the deaths averaged 411,000, while for 1841 they were 415,256; the population having slightly increased in the interval, these numbers show that the mortality in 1841 was not above or below the mean. The ages of the males are not given for the same intervals as the females, nor are they given for separate decades after sixty. The difficulty of interpolating up to sixty was easily managed; but after sixty it was necessary to introduce some hypothesis as to the distribution of the people in each ten years from sixty to one hundred. The deaths are given for each decade, and we have used the law so often adverted to by Dr. Farr, that the rate of mortality doubles for each ten years after sixty, to obtain the living for each period. This gives harmonious and satisfactory results, and as the population is large—14,928,501—the resulting mortality deserves much confidence. It approaches more nearly to the English table than the one for Saxony does, both at the earlier and later periods of life; but still it approximates more closely to the Saxon than to the English, as might be expected from the similarity in the race and condition of the people.

In column eleventh is added a table for Hanover, founded on the official observations communicated to the English government, and published by the Registrar-General of Great Britain. The deaths are given for the ten years from 1830 to 1840, during which interval the census of the people was taken four times. As the population exceeds a million, and the deaths among adults alone amount to more than 200,000, the resulting table is of much value.

Age.	Farr's English, No. 1.	Farr's English, Males.	Farr's No. 1. Remade.	English, 1838-44. Male & fe.	Farr's, No. 2. Males.	Farr's, No. 2. Remade.	English, 1845-1854. Males.	Saxony, 1830 to 1840.	Prussia, 1841. for	Hano- ver, 1830 to 1840. for ver,
15	.0073	.0069	.0067	.0069	.0054	.0066	.0069	.0040	.0050	.0069
16	74	71	72	73	60	70	73	44	58	70
17	76	73	76	76	65	74	76	48	63	71
18	78	75	80	79	71	77	80	51	68	73
19	79	77	83	82	77	80	83	55	72	74
20	81	79	86	84	80	83	86	59	76	76
21	83	81	88	87	82	85	89	63	80	79
22	85	83	90	89	84	88	91	67	84	81
23	87	85	92	91	85	90	93	70	88	84
24	89	88	94	93	87	91	94	73	92	87

Valuation of Life Insurance Policies.

Age.	Farr's English, No. 1.	Farr's English, Males.	Farr's No. 1. Remade.	English, 1838-44. Male & fe.	Farr's, No. 2. Males.	Farr's, No. 2. Remade.	English, 1845-1854. Males.	Saxony, 1880 to 1840.	Prussia, for 1841.	Hano- ver, 1830 to 1840.
25	91	90	96	94	88	92	95	76	96	90
26	93	92	97	95	90	93	96	79	100	93
27	95	95	99	96	92	94	98	82	104	96
28	98	97	100	97	94	95	99	84	107	99
29	100	100	101	99	96	96	100	86	108	103
30	102	102	102	100	98	97	102	88	109	106
31	104	105	103	101	100	99	104	91	109	110
32	107	108	105	102	102	100	106	93	109	114
33	109	110	106	104	104	102	108	95	109	118
34	112	113	108	106	107	104	111	97	110	122
35	115	116	110.	109	110	107	114	100	110	126
36	117	119	113	112	113	110	117	103	111	131
37	120	122	116	116	116	114	121	106	111	135
38	123	125	118	119	119	118	125	109	112	140
39	126	129	121	123	122	122	129	113	114	144
40	129	132	124	127	126	127	133	118	117	149
41	132	135	126	130	130	131	137	122	121	154
42	135	139	129	133	135	135	142	128	125	159
43	138	142	131	137	139	140	147	135	131	164
44	141	146	133	140	144	144	152	142	137	168
45	144	150	136	143	149	149	157	151	144	172
46	147	154	139	146	155	153	163	161	153	175
47	151	158	143	150	160	158	169	171	162	179
48	154	162	147	154	166	164	176	183	173	183
49	157	166	153	159	173	171	184	195	187	190
50	161	170	159	166	180	178	192	208	202	198
51	165	174	167	174	187	187	201	223	219	208
52	169	179	176	183	194	197	212	238	239	222
53	176	186	186	193	202	207	222	255	261	236
54	186	199	198	204	211	218	233	273	287	253
55	199	213	212	216	222	230	244	292	314	273
56	215	231	228	230	237	243	256	313	343	294
57	234	251	245	244	254	258	269	336	373	320
58	253	270	263	261	274	276	285	363	403	348
59	273	291	281	280	297	296	304	396	431	381
60	295	314	299	302	320	320	327	428	460	422
61	319	339	317	326	345	347	353	467	489	468
62	344	366	335	352	371	377	383	509	517	519
63	372	395	353	382	399	408	414	551	546	574
64	402	426	374	414	429	443	448	596	575	631
65	433	460	398	447	461	477	483	643	605	687
66	468	496	425	481	495	513	520	691	640	743
67	506	535	458	517	532	548	557	742	676	808
68	546	577	496	553	573	586	596	799	719	870
69	589	622	539	591	617	625	637	863	774	938
70	637	670	588	633	666	668	683	935	838	1013
71	686	722	642	677	717	718	734	1019	912	1093
72	740	778	700	725	773	772	792	1116	998	1184
73	799	838	765	781	833	833	858	1219	1094	1280
74	861	903	835	845	898	902	931	1334	1194	1384
75	929	972	911	919	966	977	1008	1461	1301	1488
76	1001	1046	995	1010	1040	1061	1094	1600	1424	1603
77	1079	1125	1087	1105	1119	1152	1187	1750	1561	1713
78	1162	1210	1178	1209	1204	1250	1289	1902	1687	1831
79	1251	1300	1268	1322	1295	1360	1405	2063	1811	1939
80	135	140	136	144	139	149	154	222	192	208
81	145	150	145	156	149	163	169	233	200	220
82	155	161	155	171	160	179	188	255	208	230
83	167	173	166	188	171	195	206	274	216	239
84	179	185	179	206	183	212	223	294	222	244
85	192	193	194	224	196	228	233	313	230	245
86	205	212	212	237	209	243	250	331	241	246

Age.	Farr's English, No. 1.	Farr's English, Males.	Farr's No. 1, Remade.	English 1838-44, Male & fe.	Farr's No. 2, Males.	Farr's No. 2, Remade.	English, 1843-1854, Males.	Saxony, 1830 to 1840.	Prussia, Han- over, 1830 to 1840.	
87	220	226	232	248	222	252	258	346	256	247
88	235	241	251	254	236	263	264	361	278	248
89	251	257	270	256	250	270	271	373	306	251
90	267	274	282	257	265	274	278	386	332	254
91	285	291	293	260	281	278	285	399	354	259
92	302	309	302	263	297	282	292	419	375	265
93	322	328	311	266	314	286	300	442	391	272
94	341	348	325	270	331	291	312	461	402	279
95	361	368	337	287	348	321	334	480	414	287
96	381	389	355	316	366	354	364	500	431	299
97	403	410	377	375	384	421	432	522	479	321
98	424	431	432	473	402	501	502	537	513	342
99	448	453	517	666	421	667	667	571	667	400

Art. IV.—NAVAL ARCHITECTURE—WAVE LINE.

At a meeting of the Institution of Naval Architects, J. Scott Russell read a paper on the wave line theory, the material portions of which we lay before our readers:—

The only reluctance which the author felt on the subject arose from the feeling that a principle, which he observed nearly thirty years ago, and fully published in the transactions of the scientific societies as soon as it was verified, and which many of his brethren had done him the honor to exemplify in their works, could now be scarcely said to possess the interest of novelty. But, as their notices had been scattered over many places, and appeared at different times, and as no united or systematic account had ever yet been given of the wave principle, he had been assured that the meeting would listen to such an account with patience, and not without interest. He was proud, therefore, to lay before the Institution of Naval Architects the first connected exposition of the principle as complete and systematic as he could make it, and of its application to the formation of an exact scientific method of construction of ships, although conscious of the difficulty of reading it to an audience the best fitted in the world to approve the accuracy, or expose the deficiency of his work.

The question of least resistance, indeed the whole question of the free motion of disturbed water, when moved as it is moved by the passage of a ship, is one the difficulties of which the highest and most refined methods of mathematical research and prediction have been unable to surmount. Even as a matter of physical observation, of logical discussion, and of practical experiment merely, the author had found the motions of waves of water, produced by the disturbance of a ship, more difficult to understand thoroughly and clearly than any other subject of mechanical knowledge. And if hard to understand, it was much harder to explain. What becomes of the particles of water moved out of the way of a ship—where they go—how they get there—if they ever return to their old places—what force takes them away—what brings them back—if they do not come back, whence come those that replace them—how *they* come there, and how their place is in turn re-occupied?—all this requires minute observation of the phenomena before it can be understood.

The shape adopted for a sailing ship should be the easiest possible to drive ahead, and the hardest possible to drive to leeward—or a form offering the least possible resistance one way, and the greatest possible resistance another way. The problem of least possible resistance, and its complement the problem of greatest possible resistance, must be solved at once before we can proceed with certain steps to construct a ship of which we shall be able to predict beforehand the exact performance. Accordingly, every great writer on the Science of Naval Architecture has attacked this problem; but in the most recent English treatise—by a distinguished and much-lamented member of the Royal School of Naval Architecture, Mr. Creuze—it is clearly laid down that it has remained unsolved.

The phrase, “solid form of least resistance,” which has been so frequently employed by naval constructors, implies a pre-existing conviction that there is some form of solid body which, *when afloat*, (for the case of a submerged body is altogether a separate one,) would not be opposed by the water so much as any other form. This thought assumes a previous one, viz., that the water has some bias, law, tendency, or way of moving which forms part of its nature; in a word, some way of least resistance. We want to know what shape of ship will give water this motion, or induce water of itself to take this motion. We have, then, two questions to consider—the way of the ship, and the way of the water about the ship.

A simple method of approaching the problem is to ask how a ship may move through the water so as to waste no power by producing unnecessary movement in the water. The first inevitable motion of the water is one of very great amount. The moving power exerted upon a ship in motion has to excavate the water out of the entire way along which the ship moves. This is the minimum of the work to be done. A ship 36 feet broad and 15 feet deep, having a midship section of, say 540 square feet, in moving at the rate of 10 knots an hour, has to move out of its way 270 tons weight of water in each *second* of time. This consideration gives a first principle, viz., that the channel formed, and therefore the midship section of the ship, shall be as small as possible. The area of this section is, however, limited in practice by other conditions; further reduction must, therefore, be sought by other means. And, as the bow or entrance of the ship is most exposed to the action of the water, it may be asked how far the shape of this bow affects the resistance which the water offers to removal out of its place. A ship with a flat bow, square to the line of motion meets with a definite, ascertained resistance, which may be measured by the force which would raise the displaced water to a certain height—the height due to the speed of the ship—that is, the height through which a weight must fall to gain that speed. From this consideration we get the following relations:—

Speed of ship in feet per second	8	16	24	32
Heights corresponding in feet	1	4	9	16
Resistance to each square feet of section in pounds...	62½	252	662½	1008

These measures of resistance are the best established perhaps, both in theory and by experiment, of any facts in hydrodynamics. The author had, however, taken the trouble to verify them from 2 up to 12 miles per hour.

After referring to the experiments of the French academicians, and to those of the Society for the Promotion of Naval Architecture—which showed but little more than that a long sharp entrance goes more easily through the water than a bluff round one—the author thought it would be admitted that when he began his experiments in 1834, no definite form had anywhere been laid down as a practicable form of least resistance applicable to the construction of ships. His own first approximation to such a form was based on three considerations. 1st. That the form of least resistance should be such as to remove the particles of water far enough out of the way to let the midship section pass, and no further. 2d. That the ship, finding the particles at rest, shall leave them so in their new positions. 3d. That, the time in which their displacement is to be effected being given, the force applied to them should be a constant force, and the least possible. He next conceived it probable that a hollow water line, composed of two joining arcs of a parabola, taken from the vertex, with their convexities reversed, and their tangents in the line of, or parallel to, the keel, would give the required motions to the fluid particles; and, notwithstanding many apparently adverse considerations which occurred to the author on trying the experiment on a large scale, he found that it did impart such motions. While the straight bow and the convex bow struck light floating spheres with more or less violent and repeated shocks, and with consequent waste of power, the double-parabolic bow entered among such spheres without shock, and carried them outward so gradually that they never left the skin of the vessel until her midship section had passed beyond them, occasioning, as may be inferred, no waste of power whatever.

But, admitting that a hollow water line produced less waste of power than a straight or convex line, it remained to be seen whether the proper form of hollow line had yet been obtained. In prosecuting this inquiry, the author discovered a true theory on which to found the formation of the entrance of the ship. The phenomenon which helped him to construct that theory, from its close analogy to the phenomenon of a water particle moving freely near the surface of the water from one point of rest to another, was that first known as Hooke's experiments. A heavy ball is suspended by a thread from a fixed point, forming a pendulum free to move equally in every direction. It may be made to oscillate like a pendulum, first in one direction, and next in a direction at right angles to that; or it may have impulses in both of those directions imparted to it simultaneously, in which case it will oscillate in neither of the two directions, but will go round the circumference of a circle in which it will describe equal arcs in equal times. It will also go round from one point in the circumference to the opposite point in the same time in which it would have gone straight across if it had only one motion given to it. The author further found that the spaces through which the body is moved in this experiment in equal intervals of time correspond to the versed sines of the corresponding arcs.

In endeavoring to apply the principles involved in the foregoing experiment to the construction of the bow of a ship, the author divided the whole length of the entrance into a number of equal parts equal to the number in which he divided a circle. He also divided the half-breadth of the vessel into the same number of parts by means of perpendiculars from the extremities of equal arcs of a semi-circle. Then he drew a continuous curved line in such a way that its ordinates at right angles to the

keel should be equal to the versed sines of the circle on the half-breadth, or to the before-mentioned divisions. This is the curve of versed sines on which was founded the construction of the curve of entrance of a ship, or what the author has called "The True Wave Line."

After dwelling at some length upon the properties of this line, the author proceeded to remark that he had not thus far demonstrated, nor did he assume, that what held true of fluid particles would hold true of a mass of homogeneous fluid. He was prepared to find that water *might* refuse to obey the proposed water line. But, on the other hand, he considered the wave line bow to be perfectly adapted to the true nature of water in *free* motion, and this "free motion," he believed, for various reasons, really meant *wave motion*. These reasons—which were not adopted until the author had read all that Sir Isaac Newton, Laplace, Bernouilli, Lagrange, Cauchy, Poisson, Thomas Young, Whewell, and Lubbock had written on the mathematical relations of the forces concerned in wave motion—were mentioned at great length.

It was, therefore, in the belief that the wave bow, as before described, would give to the particles of water a movement analogous to the free movement of the wave itself when obeying its own nature, that the author proceeded with confidence in 1834, to build the vessel called the "Wave" with that form of bow. He believed it would be attended with the least resistance from the water, that it would produce least disturbance in the water, and that it would waste the least quantity of propelling power. The following are the resistances of the "Wave," as subsequently ascertained by experiment, compared with those of three other vessels of nearly the same size, and exactly the same weight, all built by builders of eminence—A, being the "Wave," and B, C, D, the other vessels, all of them being in the same trim for the same velocities:—

Speed in miles.	A.	B.	C.	D.
5.68.....	84	126	166	148
9.69.....	189.5	225	241	225

The author said his object was now to consider the nature of the motion imparted to water when disturbed by a vessel pushed through it by motive power of any kind. It was in the investigation of this subject that he had seen some of the most important principles that guide us as to the general proportions of ships, as well as their shape, with reference especially to velocity.

The first inquiries to be made were—what became of all the water which a ship removed out of her way? and how did it get out of the way? In prosecuting these inquiries the author had first employed a small trough or canal, a foot wide, a foot deep, and of considerable length, and began with a very simple experiment. He supported a small heap of water above the level of that in the trough by means of a partition at one end, and then withdrew the partition to see what the water would do, and found that it assumed a beautiful wave-form of its own, ran along the whole length of the channel to the end, and left the surface of the water over which it passed as still as it was before. Had the end of the trough been just level with the surface of the still water, the wave would have jumped over and left the whole of the water in the canal perfectly undisturbed. This phenomenon is now known as the "solitary wave of translation." This wave would travel to an almost incredible distance. The author had followed such a wave on horseback, and by other means,

for miles. It leaves a little of itself, however, along the whole surface over which it passes.

The next fact ascertained was that, whenever the bow of a ship is moved through the water a wave of this kind is produced, and this is the "traveling" or "carrier wave," which gets rid of all the water out of the canal which the vessel has to excavate. The ship feels no more of it, for it spreads itself in a thin film all along the surface of the water ahead of the vessel—not behind the vessel, nor on each side of it—with a far greater velocity than that of the vessel itself. After having made experiments on a small scale, the author took vessels on a large scale, had them dragged by horses, and in other ways, through the water, and by positive observations and measurement found that this was really what became of the water displaced by the bow of a boat. On one occasion he drew so large a number of boats along a canal in one direction on a certain day that the waves carried a great part of the water from one end of the canal to the other, and in the evening the water in the canal was found raised 18 inches at one end and depressed to the same extent at the other. The velocity with which the traveling wave moved was found to depend entirely on the depth of the water.

At	3 feet deep	the wave travels	6 miles	an hour.
"	5	"	8	"
"	7	"	10	"
"	10	"	12	"
"	15	"	15	"
"	20	"	18	"
"	30	"	20	"
"	40	"	25	"
"	50	"	30	"

In addition to a constant velocity this wave has a constant shape, a drawing of which was exhibited by the author. And a most extraordinary circumstance was that its form corresponded exactly with the form of bow which he had previously, and from altogether different considerations, constructed as the form of least resistance. Moreover, he found that what he had endeavored to do in constructing that form, viz., move the particles of water gradually out of the way from one position of rest to another, the traveling wave also did; for on closely observing the water in the experimental trough under the action of such a wave, he observed that it lifted every particle of water over which it passed out of one place forward into another place, and there left it perfectly at rest. In the traveling wave, therefore, as in ordinary waves, the particles of water composing it were continually being replaced by others, while the wave itself advanced without apparent change. The foregoing facts convinced the author that the form of bow which he had adopted, and which has since been called the "wave form," was analogous and conformable to the nature of water and of wave motion.

Like many others, the author at first thought that the stern of a vessel ought to be of the same form as the bow; but thought it proper to undertake a series of experiments with the view of ascertaining what happened when a hole in the water had to be filled up. Where did the water that filled it come from? And how did it come? He first found that the hollow made in the water had no tendency to travel with an independent velocity of its own, but moved just as fast, and only as fast, as the body which produced it. He then discovered that the currents

of water rushing into such a hollow, from different directions, met and produced a wave, which he called the "following wave," or the "refilling" or "replacing wave," and which always moved with the velocity of the ship, and had nothing to do with the depth of the water. The "following wave" also repeated itself, in an endless series astern of the vessel. The author explained that the nature of this wave required that the stern of the ship should be formed of cycloidal curves, and showed how this fact was applied in actual construction.

The author might be asked, (reverting to the wave at the bow,) what became of the water at the bow supposing he dragged the boat faster than the water could spread itself? The answer was, with only a moderate force at his disposal the boat could not be made to travel faster; but if he had force enough to compel it to go in spite of the water, the water would rise up and stand on both sides of the boat until the load had passed, and then fall down into the hole left behind it. In a shallow canal in Scotland, where the carrier wave traveled only seven miles an hour, he had compelled a boat to go ten miles, and he found that the water not only rose up, but lifted the boat with it, so that she drew less water than before, and actually went easier at ten miles an hour than at five. Had not railways come into fashion just at the time, the country would have been covered with little troughs, and people would have been riding on the tops of these waves in an easier and cheaper mode than by any other means then known.

After explaining the different results which are sometimes obtained at trials in the Thames, owing to the velocities of the traveling wave varying with the depths of the water, the author described the best means of observing the wave on rivers and other like places, and then proceeded to the application of some of the principles before laid down to practice. First, he said, it was a delightful circumstance that the wave principle did not meddle at all with the form of a ship's midship section, but left the conductor entirely free to adopt any form of section he pleased. Next, it did not tie him down to any proportion of depth to breadth. It was therefore a plastic thing, and could be applied to any general form of ship whatever. The third and most important proposition was, that the wave line prescribed the exact length of ship for every speed at which you wished a ship to go, and explains why a long ship is indispensable to speed. To go six miles an hour, your vessel must be at least 30 feet long; for eight miles an hour, 50 feet long; for 10 miles, 70 feet; for 12 miles, 100 feet; for 15, 150; for 18, 200; for 20, 300; for 25, 400; and for 30, 500. The author had himself tried to obtain higher velocities than these with shorter vessels; and he had got them, but at such a fearful waste of power that it was insanity and folly not to lengthen the vessels for the purpose. The wave line theory also told you that the length of the bow should be to that of the run as 3 to 2. The cause of this was explained.

The lines of the Great Eastern, the author said, were neither more nor less than an exact copy of the wave lines. The length of the bow was 330 feet; the length of the run 226 feet; and having got this length of entrance and run, and feeling that more capacity was wanted, it was of no use lengthening the bow or the run, because there was already provision for greater speed than the 15 miles an hour which the power to be put into her could be expected to give; 120 feet of parallel body were

therefore put into her amidships. The great ship might be of less fine-lines and still go with the same velocity.

There was a very valuable conclusion for practical shipbuilders to be drawn, independently of what had been stated about the lines. It was this; that proportionate length and breadth was not necessary at all for a fast vessel. It was not necessary for a fast vessel that she should be a narrow, thin, long vessel in proportion to her size. The author had taken vessels on the wave line principle 200 feet long, and had made them of every variety of breadth, and as long as they were 200 feet long, and had the lines belonging to 15 or 16 miles an hour, so long they had gone at that velocity with a given power. Further, the resistance which a vessel experiences from the sticking of water to the skin was a most formidable element of her whole resistance; and greater velocity in proportion to power would be got out of a vessel which was shorter than another, and also broader and deeper than another, providing length enough for the velocity aimed at were got at starting.

The author's paper next contained remarks upon the effects of the wave line upon the stability of ships—its bearing upon the load-water line—how it affected the form of the deck—how it should affect the structure of the vessel—how vessels should be built upon it so as to have a maximum of capacity—how the various proportions of length, breadth, and depth affected resistance—how the whole form could be so managed as to properly arrange the balance of the ship—how the wave line affected the navigable qualities of a ship—how it affected the materials of which the ship should be built—and how it influenced the properties of sailing ships, paddle-steamers, and screw-steamers respectively. But these considerations could not then be gone into. They would, however, appear in the institution's forthcoming *Transactions*.

It was the duty of the author, however, to say a word or two on the history of the subject, and the degree of novelty or non-novelty to which it pretended. And he begun with saying that he did not claim to be the inventor of hollow bows. They had existed as far back as he could trace steam navigation. When he had first discovered what he believed to be the principles of nature which bore on this subject, he felt that the form of vessel which accorded with them could not be new, and he set about examining all classes of vessels. He found proofs immediately; so many, that he felt astonished that the books and treatises on naval architecture had not all told them to do nothing but make hollow bows from the beginning. He showed that it must have been impossible for barbarous men to have made a rough boat from two flat planks without forming such a bow. But the old tonnage laws had compelled builders to make ships of the greatest possible capacity compatible with certain measurements. Hence the bluff bow was made a matter of necessity. When, during the wars, we captured Spanish ships or privateers with fine, and often hollow, lines below, vessels which sailed admirably under their original trim, in which they were down by the stem, we invariably found that they proved but dull sailers in our hands, owing undoubtedly to the fact that we not only overloaded them with weights, but trimmed them nearer to an even keel, and so brought the bluff upper part of their bows down into the water. The boats of the London waterman illustrated the same principle. The author next alluded to the *Vesper*, built from Mr. Ditchburn's design by Fletcher and Fearnall, in which, on coming to

London in 1836 or 1837, he found a confirmation of the views which he embodied in the *Wave* in 1835. He also referred to a boat built by the late Mr. Assheton Smith, and to several other vessels built successively by himself and others.

ART. V.—THE VALLEYS OF THE ST. LAWRENCE AND THE MISSISSIPPI.

VERTICAL TOPOGRAPHY, AND CLIMATOLOGY OF THE VALLEYS OF THE ST. LAWRENCE, THE OHIO, AND MISSISSIPPI, WITH THE AVERAGE FALL OF RAIN PER ANNUM—THE EFFECT OF RAIN, WITH THE TROPICAL TRADE WINDS, IN PRODUCING WHEAT, AND PARTICULARLY INDIAN CORN, ON OUR PRAIRIES, AS COMPARED WITH THE CANADAS—THE SEVERAL PRODUCING REGIONS OF THE UNITED STATES, DEPENDENT ON EACH OTHER—THE IMPORTANCE OF RAILWAYS FROM OUR SEABOARD TO OUR GRAIN PRAIRIES.

A LATE discussion between the *Hamilton Spectator*, U. C., and the editors of the *Chicago Press and Tribune*, in a review by the former of Mr. James Caird's valuable work, entitled "Prairie Farming in America"—treating of the soil of the States of Ohio, Indiana, and Illinois, to produce grain, the climate, and the healthiness of their prairies, as compared with the Valley of the St. Lawrence, and also of the relative merits of the two regions for the emigrant from Europe to remove to—the correspondent of the *Spectator*, who describes the prairies as "one vast trembling mass of peat—a semi-fluid of mud"—has led the writer to look into the drainage from the St. Lawrence water-shed, south of the lakes, and from New York and Pennsylvania, to ascertain how far the peculiar topography of this part of our continent has its effect in settling the question, that the prairies of Ohio, Indiana, and Illinois, and we may add the States of Michigan and Wisconsin, with the States forming to the west of the Mississippi, are among the best, if not the *very best, body of GRAIN LANDS* in the world, and are not "a semi-liquid mass of peat;" while the lands in the narrow and peculiarly formed valley of the St. Lawrence, and particularly the frosty high grounds of 1,200 to 1,500 feet elevation above tide, on the north of the lakes, cannot be compared with Ohio, Indiana, and Illinois for agricultural purposes, and is not superior to these States for climate and health.

The numerous levels taken for canals and railways of late years, and in every direction, show the summits of lands and direction of drainage, both in the United States and the Canadas. They present some curious topographical facts that are interesting, as to the heights of ground, the depression of valleys, the latitudes, and the relative nearness of the Ohio and the St. Lawrence to the hot tropical trade-winds that, coming from Africa across the Atlantic, are forced into the valley of the Mississippi, and of the Ohio, causing thereby an earlier spring and a later fall, to ripen Indian corn, and which wind does not fairly reach the valley of the St. Lawrence.

"The mean distribution of rain for the year, on the North American continent, between latitude 25° and 50° north," (see Blodget's *Climatology*, page 354,) presents some facts, from which we make extracts, to show the fall of water in the year on the Southern States, the valley of the Ohio, and the St. Lawrence, having an important influence on heat and moisture so necessary in raising wheat and corn, as well as cotton.

It is ascertained that the head waters of the St. Lawrence, or more properly the head waters of Lake Superior, and the head waters of the Mississippi commingle and divide at and near the Lake Itasca, (lat. 45, long. 94,) in three directions: to the North Sea by the Red River; to the East and Northeast by the lakes forming the St. Lawrence Valley, discharging their waters into the Atlantic, latitude 46 north, where—and it is a singular fact, too—the dividing ridge south of and opposite Quebec is 1,500 feet above tide, the same as at its source and at several points on its southern and northern borders, as we shall show. To the South the Mississippi River discharges in lat. 29, with a steamboat navigation nearly its entire course, while the Missouri reaches near the head waters of the Columbia River, on the Pacific.

It is interesting to get a view, if we may use the term, of the peculiar *make of the ground* for drainage from along the water-shed on Lakes Erie and Michigan, the course of the streams, and the fall of water into the Ohio Valley, and the shape of the country and its adaptation to grain agriculture, as well as pasture.

The inquiry is an interesting one as to the effect of the east or trade winds passing through the tropics—starting from Africa—with the great evaporation in its course, precipitated in fertilizing rains, on the *unique cotton lands* of the Southern States, to the extent of 48 inches in South Carolina; 63 inches per annum in Alabama, according to fertility, and 60 inches in Louisiana and Mississippi.

On our *grain lands* the rain falls 45 to 48 inches per annum to the north of the Ohio up to the dividing line or water-shed, that drains from near Lake Erie into the Valley of the St. Lawrence, where, to show the difference in fertility and in moisture, the rains fall in Canada West, north of Lake Erie and east of Detroit, on the average, only 30 inches per annum, and 36 inches in the region of Montreal, as compared with 4 feet in the Valley of the Ohio and the Mississippi.

The effect of the trade or south and southwest winds in producing an early spring is obvious. It drives back the Northers and North-westers into the St. Lawrence Valley, so that Indian corn and spring grains can be sown much earlier in the Valleys of the Mississippi and Ohio than in the Valley of the St. Lawrence. This is very important in an agricultural point of view, for, in the Canadas, we find Indian corn—the king of grains—is often cut off by early frosts, and it is an uncertain crop, even in its dwarfed state, of the early eight-rowed species. This class of corn cannot be compared with the prairie corn, 12 to 18 feet high, with ears 12 to 18 inches long, and yielding 80 to 100 bushels to the acre—wheat, 20 to 50 bushels.

An acquaintance with the reports of railway surveys, and thus of the general topography of the country, enables us to present the following facts:—Whether the shape of the earth arises from its upheaving in certain parts and depression in others, making valleys and the course of streams, as contended for by geologists, or by the subsidence of the waters into their several channels after the Deluge, we will not now discuss. The formation of the St. Lawrence and the Mississippi Valleys is peculiar. Take a topographical map and you will find, as we have stated, that the waters of the Mississippi and the St. Lawrence nearly unite 1,570 feet above tide. There is the same summit in a ridge of land that extends on the north shores of Lake Superior, and continues to past Lake

Huron, and diminishes to 1,100 and 1,200 feet at and near Lake Simcoe, and from thence diminishes to Montreal—the head of navigation, being 70 feet above tide. The dividing ridge of land opposite Quebec, and the Atlantic Ocean, is 1,500 feet, the same as at the source of the valley, and nearly the same on the north and south sides of the valley.

Lake Ontario.....	feet above tide	236
Lake Erie.....		565
Lake Michigan.....		580
Lake Huron.....		580
Lake Superior.....		680

Thus forming what is called the Valley of the St. Lawrence. This valley is moderate, and varying in width. It has some good but much inferior soil. This is indicated by the Alpine character of the timber, being in fact the *great lumber and pine region* east of the Mississippi.

The southern line of the Valley of the St. Lawrence is a well defined ridge of land through New York, to be found in Jefferson County, near the sources of the Black River. This stream drains into the St. Lawrence on the *north*, 1,500 above tide, and to the *south* by the Mohawk River and the Little Falls, to the Hudson and the Ocean. The dividing ridge, a little south of Little Falls, and the head waters of the Susquehanna River is 1,488 feet above tide. From these head waters of the Susquehanna, proceeding west, near the center of waving table lands of New York, and south of the Erie Canal, is a well defined ridge of land, until it strikes the head waters of the Genesee River, and the Alleghany River, that by a singular coincidence, is also 1,488 feet above tide, being the summit of the Genesee Valley Canal.

These two streams also drain in opposite directions. The one, north to Lake Ontario, the other, south and southwest, drains by Pittsburg, situated 700 feet above tide, into the Ohio River, which stream has a descent, with perfect steamboat navigation, spring and fall, to Cairo on the Mississippi, situated 275 feet above tide, thus making the ascent or drainage from the sources of the Alleghany 1,213 feet. There is a slight ridge of from 100 to 300 feet extending along the shores of lake Erie, from the State of New York through Pennsylvania, to Ackron and Portage, Ohio, by which place we have the Ohio Canal, connecting Cleveland, on Lake Erie, with the Ohio River at Portsmouth, distant in a direct line 210 miles, and with a drainage of about 2 feet to the mile. On the west part of the State we have the Maumee and Miami Canal—the longest in the United States, with nearly a south course to Cincinnati. In a direct line it is 195 miles from lake to river, and with a drainage into Lake Erie of 3 feet to the mile, and a like descent by the Maumee to the Ohio. Near this line is Belfontaine, 1,400 above tide, "*the highest land in Ohio.*" These canals, with their branches, number 796 miles. The railways in this State, up to the 1st January, 1860, completed and in operation, numbered 3,008 miles, built at a cost of \$127,949,123. They are drawing to themselves the business of the canals, and serving materially to drain the country and to facilitate its settlement with agriculturists from New and Old England.

In Indiana we have the Wabash and Erie Canal, that diverges from the Maumee Canal in Ohio, and, after passing through the State of Indiana from its northeast corner, empties itself into the Ohio at Evansville, in its southwest corner. The average drainage, from north to south, of

the States of Ohio, Indiana, and Illinois is from $1\frac{1}{2}$ to 2 feet to the mile. The railways completed in Indiana to the 1st January, 1858, was 1,231 miles, at a cost of \$28,000,000, aiding also to drain the State and facilitate its settlement.

We have in Illinois her ship canal, commencing near Chicago, 610 feet above tide, and 30 feet above Lake Michigan, that discharges itself with the river into the Mississippi near Alton, situated 380 feet above tide, with a general southwest course. Its descent is near 2 feet to the mile. This is sufficient, with the numerous affluents of Illinois River, to drain this part of the State. The southern part, or Egypt—famous for its rich wheat and corn lands, with beds of bituminous coal—is drained by the Kaskaskia and the Little Wabash Rivers and their branches. The north part of the State of Illinois is drained by Rock River, abounding in water privileges, and with excellent waving wheat and corn lands. The number of miles of railways in this State, completed and in operation to the 1st January, 1860, was 2,616 miles, costing \$86,446,291, among which is the famous Illinois Central, holding out great inducements to buy its lands, at long credits, and to settle on the same. This State has great facilities to reach the Baltimore, Philadelphia, and New York markets by railroads, or to float down the Mississippi to New Orleans, and thus an outlet to the West Indies and Europe.

The situation of these three grain States—the present granary of the United States—is peculiar. The trade winds, with rain, burst on them early in the spring, giving them a much earlier and a longer season than either Upper or Lower Canada. We find, as stated, they are drained from the sources of the Alleghany in New York and Pennsylvania to the Mississippi, with a descent of full 1,000 feet, with a southwest aspect, presenting the most magnificent body of wheat and corn lands on this continent, if not in the world, yet the *Hamilton Spectator* stigmatizes this region “as a vast mass of trembling peat,” and not to be compared with the timber lands of the Canadas, so expensive to clear.

The comparative fall of rain per annum in the two regions is striking. Opposite and east of Detroit, on the best lands of Upper Canada, laying north of Lake Erie, the fall is only 30 inches, as compared with 50 inches in Illinois and Indiana, and 42 to 48 inches in Ohio. The true grain region of the United States is from lat. 33 to 40. Parts of Ohio and Kentucky have been under tillage for corn and wheat for upwards of 70 years, and continue to produce excellent crops without manure. Indian corn, it is stated, can be raised at from 8 to 12 cents per bushel, and wheat at from 25 to 30 cents, and such are the facilities and the competition of rival lines, by water and by rail, to the seaboard, that we can deliver a bushel of wheat of the best quality in London, the regulating market for Europe, at a cheaper rate, paying cost, than the English or French producer, who has annually to buy his manure—an animal pabulum—to produce this grain, and has also to pay heavy rents and taxes for the land, now monopolized by a few families who formerly, with their corn laws, kept their operatives to nearly the starving point, until the corn riots forced their repeal, when, and only after this period, John Bull became amiable, and found out traits in Brother Jonathan's character, who had grain to sell, that he could never discover before.

It does not appear that much, or in fact any, dependence is placed by Great Britain in finding a surplus of grain in the Canadas to answer the

wants of her grumbling operatives in case of need. The Lower Province has no surplus beyond her daily wants. Indian corn is a grain that does not succeed, from the short summers, and but partially, from the same cause and the want of genial showers—heat and moisture—in the Upper Province to mature this valuable grain. In truth, the Canadas—the Valley of the St. Lawrence—may be called the great *lumber region* of this continent, accessible at cheap rates, for transportation to the Atlantic, to supply the British and American markets.

The true, natural *grain region* of the United States, we repeat, is from lat. 33 N. to 40, and may be said to extend west to the Ozark Hills, also 1,500 feet above tide, and extending to the sources of the Missouri and the Mississippi.

The *cotton region*, influenced by heat and moist climate, is in the southern seaboard States, north of the Gulf Stream, and has a fall of rain on them to the extent of from 50 to 63 inches per annum. This gives a *fiber* to the cotton, owing to climate and soil, that cannot be dispensed with in Manchester, and, so far as we learn, all experiments by the British government and her manufacturers have not produced its equal in any part of the world, even with the aid of our sea island and upland seeds, and with Southern laborers and planters to direct the experiments in Egypt and in India.

Kentucky, Virginia, and Maryland may be named as our *tobacco States*, and Southern Mississippi, Louisiana, and Florida our *sugar States*.

The great *iron region* (and of *copper*, too,) extends from around Lake Superior and by the Ottawa district to Northern New York—Essex and Adirondack—and from thence through Ulster, Northern New Jersey, Pennsylvania—where hard coal, iron, and lime are in juxtaposition—soft coal in Maryland—North Virginia, through Kentucky, to Tennessee, and to the Iron Mountain of Missouri, of all kinds and qualities.

The true and delicate *butter and cheese region* is in the States of New York, Vermont, New Jersey, and Eastern Pennsylvania—on the slopes of the hills falling into the Atlantic from the Alleghany ridge, abounding in trout streams—good water—the natural grasses, with white clover, the favorite grass for cows.

New England may be classed as the great *manufacturing, patent right, and inventing region*, with a good sprinkling of railroads. Boston, with the cities of New York, Philadelphia, and Baltimore, is the *commercial district* of this continent. Its center—the city of New York—is destined hereafter to take from Threadneedle-street, London, the trouble of regulating the price of exchange over the world, as well as the price of grain, as heretofore has been the case. The British bankers did not allow a reciprocal course of exchange or credits—allowed by them to all parts of Europe and Asia—and we are still tabooed in China, by being obliged to draw on them to pay the Chinaman for teas and silks, instead of drawing direct on New York, with one risk of remittance, as should be the case, and will be ere long.

The yearly increase of capital in the city of New York, produced in part by the labor of California on her *gold region*, with the more important one of the labor of the Southern operatives on cotton, tobacco, sugar, and rice, producing, we believe, upwards of \$250,000,000 surplus for exportation, besides the food necessary for the support of the Southern population—this, with the labor of the West on her grain crops, I

repeat, is giving the city of New York capital, independent of Europe. The course of trade will, ere long, make her the commercial center of the world, and the controlling market for exchange, and the price of grain.

The labor of New England on her cotton and woolen manufactures, her boots and shoes, on her hay to feed her beeves and cows, buys her her cotton, with which, when manufactured, with profit on her labor, she exchanges with the Western States for their breadstuffs, beef, and pork, to support and supply her operatives. This is done with profit on Southern capital—her cotton—and also in carrying the same to Europe, so as to leave her whole ice and granite exports clear. Her catch of whales is an item not much if any greater than the produce from the prairie whale—the hog, in oil, lard, candles, and pork—exported yearly from Ohio, Indiana, and Illinois to the New England and Middle States.

The manufacturers and operatives of New England, as well as Old England, it would appear are dependent on the labor to produce king cotton; yet, forsooth, it would appear—"as all the fools are not yet dead"—there are fanatics in both regions disputing about "a moral and a constitutional question," on which few can agree, on what to do with the improved slave, imported by our forefathers from Africa; and they would rend this glorious Union in twain, when all its parts are dependent on each other, from the peculiar formation of the country, as we have endeavored to show, in answering the *Hamilton Spectator*, that the Canadas are not the better grain region as compared with the "prairies of America," while English capitalists and manufacturers show, by their enormous expenditures on the Grand Trunk Railroad to reach our prairies, that they are determined to be independent of Russia and the continent of Europe for grain. The agriculture of Great Britain is gradually undergoing a change—from raising grain to raising mutton for wool—fat beeves, with butter and cheese, for her operatives. They must have "the staff of life" cheap; hence, the cultivation of the most intimate relations with the United States. Our cotton is indispensable; so, ere long, will be our wheat and corn.

The fiber of our cotton is acknowledged indispensable to her manufactures. So will be, ere long, our wheat and corn, for the reason that we can produce and lay down wheat at Mark Lane, for the world, at a price less than it costs to raise it in Great Britain and France. We took this ground October, 1849, (see 9th vol., page 425, "N. Y. State Agricultural Transactions,") and we now take pleasure and pride in referring to "the visionary views" we entertained at that day, and as early as 1838, (see "Reports from the Common Council," July 10, 1840, and from Mr. Scoles to the Assembly the 8th February, 1839,) when we could not persuade New Yorkers that they wanted a railway to connect with Albany and Troy, and thus with the lakes at Oswego and Buffalo, and to be made continuous, finally, to the West. A committee of the Chamber of Commerce, July, 1840, made a written report—a curious document now. They "only wanted the Housatonic for winter travel and the noble Hudson for summer."

OSWEGO, October 31, 1849.

Mr. B. P. JOHNSON, Sec'y of the N. Y. State Agricultural Society:

I have received your circular asking information, etc.

The completion of these two important railroads through this county has given a new impulse to our agriculture. * * * Railways

are not impeded by the droughts of summer, nor are they stopped by the ice and snows of winter. They are overcoming our Alleghany Mountains, where canals cannot be constructed, thus commencing a new era in the transportation of articles that cannot be conveyed on canals. In the winter they will open the way to the granaries of the United States, so desirable to supply the first demand from Great Britain. With railways for winter transit, and the cheap production of wheat on our rich prairies, abounding with the deposit of animal and vegetable manures, we can compete with the continent of Europe in supplying the British market, on a failure of the English crop, ere the ports of the Baltic can be opened. I believe it admits of demonstration, that, with our labor-saving machines, cheap and rich lands almost without taxes, we can compete with the farmers even of Great Britain in the cost of placing a bushel of wheat in Mark Lane, London. We certainly can do it, taking into consideration that the English farmer has to pay, on the average, about \$8 per acre per annum for the rent of his arable land, a larger sum to manure it, with poor rates and church taxes, to an amount that he must receive \$1 50 per bushel in London for his wheat to compensate him for his labor.

One dollar and fifty cents in London per bushel for wheat will pay a profit to the Western farmer, forwarder, and ship-owner, while this sum will scarcely remunerate the producer and shipper from either the Black Sea, the Baltic, or any part of the continent of Europe.

The cheap but inferior wheat of Russia, shipped from the Black Sea, by the long voyage of the Mediterranean, cannot compete in the London market with our wheat, as their vessels have but one freight towards a market, while we have freight both ways. This is an important consideration, when we come to a close competition with Russia, in supplying any deficiency in Great Britain. Then, railways to our prairies cannot be dispensed with. * * * *

The advantages our farmers will possess by railways to the West, and with steam navigation across the Atlantic, will place the regulating market of Europe for grain, (Mark Lane,) within 15 to 20 days of the Valley of the Mississippi. This being so, the moment the British market requires a supply, from failure or injury to the crops by rains, it will be furnished by our enterprise, and, as I contend, on better terms than it can be supplied by serf labor on the worn out lands of northern and southern Europe, or on the expensive and heavily-taxed lands of Great Britain. Time and experience, I think, will prove the correctness of this position, and if so, how important is an unbroken line of railways to St. Louis, to enable the city of New York to have her share of the winter traffic in wheat, now that the completion of the Central Railway of Pennsylvania is secured, and also the Baltimore and Ohio Railroad, and in four years its extension to St. Louis.

* * * * On the north of us we have a railway in the course of construction from Rome to Cape Vincent. On the southwest we have completed the Oswego and Syracuse Railroad. * * * * The competition between railways and canals, and I may add the North River, is sure to introduce accommodation. With it, in due time, will come the ice or refrigerator car, so necessary to carry our fresh butter, provisions, salmon, and other fish from Lake Ontario. When these continuous railways are open to New York, it is hoped our farmers will send

representatives to our Legislature to protect their true interests. They will, I trust, insist upon a repeal of the present tax on private enterprise and capital, when it comes in competition with the State canals.

The Erie Canal, *unique* in its character, uniting inland seas with the ocean, has made the grain-growing districts of New York "to bloom and blossom like the rose." It is safe, however, to predict that the construction of railways through the grass lands of southern and northern New York, particularly the Erie Railroad and its branches, is sure to produce like results in the *dairy region* in the "southern tier of counties."

A level or descending freight railway from Buffalo to Albany, a work easy to be accomplished, over which a single engine can draw, in a single train, 1,000 tons gross, is much wanted to connect us with the States of Ohio, Michigan, Indiana, and Illinois, and finally the Pacific. There is hardly any conceivable limit to the production of grain on our prairies; and with railways, I repeat, at compensating prices, *we can compete in London with the North and South of Europe.* The London market has been the regulator of ours, even for the limited quantity of wheat required, but which has been steadily on the increase for a long period of years, to wit: from the year 1760, when it was 752,715 bushels, to 7,264,844 bushels in 1840.

It is now ten years since we wrote the foregoing—then considered visionary views. There are now six unbroken trunk lines in the United States, completed to opposite St. Louis, and to Chicago, the present grain center of the West. These are independent of the Grand Trunk and Great Western railroads of the Canadas to Windsor, opposite Detroit. We have also, south of Baltimore, five other trunk roads, all nearly finished from ports on the sea board to the Valley of the Ohio, to connect with Chicago, and thus with Edwin F. Johnson's, C. E., "Northern Railroad to the Straits of Fucea," in one continuous, unbroken line from the city of New York.

We have completed our reapers and superior fanning mills, while the greatest boon to the prairie farmer—the steam plow—may be considered a success. We are perfecting our grain cars and elevators. Mr. H. Merrit has put in operation his ventratory grain railway by the side of the Willard Canal, so desirable to turn over Indian corn, and to save time in its transit to Europe.

To perfect the system of railroads, and to tap effectually the lakes and the grain warehouses constructing at Montreal for the benefit of the Grand Trunk Railway, and the consumers of wheat in Great Britain, the stockholders in the Hudson River and Harlem railroads should consolidate these roads—one mainly for freight and the other for passengers. They should encircle the city so as to use the present warehouses on the East and North rivers, and build steam elevators, to discharge cars, weigh wheat, and load vessels to Europe.

J. E. B.

Art. VI.—PINE FORESTS OF GEORGIA.

AMONG the important crops of the southern countries there is one that gives cargoes to more ships from the southern ports than cotton or any other one article of commerce, and which notwithstanding seems to have escaped notice, and that is the crop of timber from the yellow pine forests. The heavy drafts made upon these forests of late years, justly call for some inquiry into the subject, and in looking over the laws of Georgia, it appears that the following resolution was passed by the last Legislature, December 11th, 1858 :—

Resolved, Therefore, by the General Assembly of the State of Georgia, that our Senators and Representatives in Congress be requested to use their influence in having a commission appointed by Congress to inquire into the limits and extent of the Southern Pine Belt ; what will be the probable time of its duration under the present rate of depletion ; the quantity of pine timber annually shipped, and to what countries ; together with any and all matters of interest connected with the subject.

Resolved, That his Excellency the Governor be requested to forward a copy of these resolutions to each of our Senators and Representatives.

Congress has as yet taken no action upon these interesting resolutions ; but they will no doubt receive their proper attention at the next meeting of Congress.

Digressing somewhat from my subject, I cannot refrain from expressing the opinion that while Georgia, for some years past, has had her full share of talent and power in the legislative halls of the nation, yet her local interests have been sadly neglected. Witness the tardy action of government in improving the harbor of Savannah by removing the wrecks sunk there during the revolution for the common defence—our meagre lighted harbors—the exposed condition of our coast, from attack by sea, for the want of proper harbor defence, the establishment of a navy yard at Brunswick, where our national ships could be built of the choicest materials, and cheaper than at any other point, (for the town itself is in the midst of the finest timber region in the world ; live oak and pitch pine being indigenous to the soil.)

Is this apparent neglect owing to a want of knowledge of the importance of these works, on the part of representatives, or is it owing to our being an agricultural people, and so much absorbed in our domestic matters, that we do not press these things upon their consideration ?

A resolution was also passed by the last Legislature, requesting representatives to use their influence in having a naval depot established at Brunswick.

This should rather have been a navy yard where our national ships may be built—a dry dock where they may be repaired. The public will yet recollect the disaster that occurred off the coast during the year 1858 to the United States frigate Sabine, while on her important mission to Paraguay. She was disabled, and the northern gale prevailing, she had to put in for repairs to Bermuda, a *foreign port*. In case of the disabling of our ships upon the West India station in winter, with northern winds prevailing, they could not reach a northern port, and with the Gulf Stream breasting them away, they could not reach the navy yard at Pensacola—thus not only the ships but the lives of the crews would be jeoparded. A navy yard at Brunswick would be very useful, not only

for repairs but for construction of our national ships. Since Georgia supplies all the material, many might be constructed south of the Chesapeake.

The waters of the Altamaha, Oconee, and Ocmulgee rivers abound with the greatest quantities of unsurpassed white oaks, which could be delivered at comparatively small expense; here the rafts of unequaled pitch pine could be received direct from the hands of the timber cutters, and the location is in the midst of the best coast of live oaks. And the grounds for the depot on Blythe Island purchased by the government is in the midst of a live oak grove.

Timber is not, like cotton and rice, an annual growth. It requires centuries for this crop to mature, and when the forest is once culled over, the crop is forever gathered, for we are altogether too fast a people to think of waiting a hundred years for another crop.

It has been estimated by the timber cutters, (by counting the rings or grains of a tree,) that it requires from three to four hundred years for it to attain a size sufficient for a mast or spar for a large sized ship, and perhaps even this may not be a fair criterion, for most of our planters in the pine region know that there are on the lines of their land sapplings now no larger than a man's arm that have the surveyor's mark made forty years since.

Gentlemen that have been engaged for years in getting timber, and who own land within what appears to be the culled districts, foreseeing the future value of their forest, will not suffer a tree to be cut, preferring to purchase the trees from their neighbors.

1st. THE BOUNDS OF THE PINE BELT.—Here, perhaps, it would be well to give its whole extent:—

Upon a map of the United States, let a line be drawn from the Chesapeake Bay, through Raleigh and Fayetteville, in North Carolina; Cheraw and Columbia, in South Carolina, to a point five miles above Augusta, two miles below Milledgeville, through Macon—the old agency on Flint River, to Columbus—thence across the southern part of Alabama, (the points of which I am not familiar,) and we have its northern and western boundary, and stretching from this to the ocean on the east, and the gulf on the south, over level or gently undulating plains, lies the Pine Belt of the South. There are occasionally small bodies of an oak and hickory growth interspersed, and spurs of pine jutting above this line, but so well defined is it that in places one may toss a pebble from a thick pine forest to a dense oak and hickory growth.

In going down the Georgia Railroad we strike into the pine forest, two miles above Camack, and on the Gordon Railroad, five miles below Milledgeville; and in coming down the Macon and Western Railroad, when we see the long blue line of forest stretching across the horizon, we know that Macon is near.

From the seaboard, inland, for a distance of thirty or thirty-five miles, the pines are scattering and of stunted growth, and are worthless for shipping timber. He that has traveled upon the coast, or upon the railroads from Wilmington, north or west, or Charleston to Augusta, or Savannah to Macon, must have observed that the pines are comparatively small.

It is remarkable that this *yellow*, or pitch pine growth, (for we have several species of pine,) is mainly limited between this *base of the mountains* and the sea coast. Whether because it loves the peculiar soil, or

because of its main tap root reaching deep into the earth, sometimes eight or nine feet, that it cannot thrive in the rocky region, does not appear.

Let one chalk out upon the map of the United States the lines indicated above, and he will see that Georgia possesses *more of this pine forest, perhaps, than all the other States put together.*

2d. WHAT PROPORTION OF THE FOREST HAS BEEN CULLED of all the valuable merchantable or shipping timber, say trees that will square fourteen inches or upwards? Commencing on the Savannah, it is asserted that all the forest bordering on that river has been culled over for a distance of *twelve* miles from the river; that it has been culled for a distance of *six* miles on each side of the Ogeechee River and Central Railroad—and for the same distance on each side of the Cannouchee and Ohooppee rivers, and for a distance of *eight to ten* miles on each side of the Altamaha, and for *six* miles each side of the Oconee and Ocmulgee rivers. Obstructions near the mouths of the Santillas have prevented rafts from descending, and have thus protected the forest on these rivers from sharing the same fate as that on all the other streams.

Let lines now be drawn on a map of the State parallel with the rivers at the respective distances above indicated, and the intermediate spaces colored, and we have the plan upon which the timber chart is constructed, and which will show at a glance what portions of the forests have been culled, and what remains to draw our future supplies from.

To the people of Savannah this may be of interest, as the public mind there was somewhat agitated in regard to the proper location of the timber depot for the Savannah and Gulf Railroad. It is known that the fields from which the city has heretofore received her supplies will have been gleaned over in a few years—the sources drained, and the Savannah and Gulf Railroad, the only avenue left over which she is to receive her supplies of this important article of commerce. The following figures, taken from public documents, show that whilst hewn timber has almost ceased to be an article of exportation from the northern ports, the shipments have also fallen off from those of Georgia, a pretty sure indication that the supplies are getting short.

The following shows the exports (foreign) of hewn timber, from each collection district—years ending 6th June:—

	1856.	1857.	1858.
Wilmington, N. C. tons	520	....	....
Charleston	3,197	3,334	1,933
Savannah	26,878	53,611	23,857
Brunswick .....	....	1,518	....
Fernandina .....	....	....	1,400
Apalachicola .....	....	700	....
Mobile	932	2,790	3,498
From all other ports of the United States	2,733	6,312	11,187
Total	34,260	68,265	41,174
Value	\$234,959	\$516,735	\$292,163

3d. WHAT ARE THE YEARLY DRAFTS MADE UPON THE FOREST.—The following table shows the yearly shipments of lumber, in feet, coastwise and foreign, of our principal ports:—

	1853.	1854.	1855.	1856.	1857.	1858.
Charleston....	19,709,798	23,844,650	23,852,417	14,523,581	17,198,771	15,312,128
Savannah*....	49,283,500	23,700,700	34,887,500	44,743,070	27,254,352	37,481,674
Pensacola.....	.....	15,941,632	21,390,513	27,222,937	31,103,074	30,566,298
Mobile†.....	.....	.....	17,680,760	10,482,104	11,232,949	9,359,300

The capacity of the mills tributary to the harbor of Pensacola is sufficient to saw three hundred thousand feet per day, and large bodies of pine lands have been purchased in southern Alabama from the United States Government, for lumber and naval stores.

The above tables show that *the pine forests are being rapidly swept away*. They show that while the shipments are increasing from the ports in the gulf, there is a rapid falling off from the Atlantic ports, and that the *choice hewn* or ton timber has almost ceased to be an article of export from the Northern ports. It shows, too, that they are sweeping down the forest on the gulf side as if it were inexhaustible. Referring now to the forest of Georgia. The collector's reports from Darien show that the shipments of lumber from that port nearly or quite equal those from Savannah; then there are the shipments from Brunswick, from Jeffersonville, and the Santilla, and St. Mary's, which may all reach a like amount, so that it would be a safe calculation to put the shipments of lumber from the Atlantic ports of Georgia to at least *one hundred millions of feet annually*. To this may be added for home consumption, plantation uses, house building, &c., fully a like amount. Estimating the average yield of one thousand feet of lumber per acre, would show a yearly destruction of our forest from this source of *two hundred thousand acres*.

Upon this point the experience of some of our timber cutters, of what would be a fair average for shipping or merchantable timber, and also for the common saw-mill or ranging timber per acre, would be of great interest.

Large as this amount may seem, it is small compared with the yearly amount destroyed by the planter in clearing land. No estimate of this can be made until the census of 1860 is taken.

The tide of emigration is setting so strong upon this pine belt, particularly on its western side, upon the waters of the Chattahoochee and Flint, that commerce must not look there for timber, for in a few years that whole country will be checkered into plantations. So rapid has been the settlements of portions of that country, and so wanton and prodigal have been the planters in regard to the timber, that where, twenty years since, there was an unbroken pine forest, now in places there is a scarcity of timber for fencing.

To some the sight of this wholesale destruction of forests of fine timber is really distressing; not unfrequently will one planter deaden and destroy a thousand acres in one season.

Who are the customers for this vast amount of lumber? Upon the west we have Texas and Mexico; on the south the West Indies; and every government, on the northern and east shores of South America; on the north every State bordering on the coast from Maryland to Maine. The State of Maine, once the largest lumber exporting State of the Union, is now one of our best customers for this timber.

* The Savannah export for the year 1858 is taken to August 5th, 1859.

† Besides the above, there was shipped from Mobile, in 1855, of masts and spars, 2,357; of tons of timber, 2,207, and deck plank, 351,860 feet. In 1857, of masts and spars, 1,263; hewn timber, 547½ tons; of deck plank, 160,245 feet. In 1858, 1,164 masts; of hewn timber, 16,796 tons.

It is entering so largely into the construction of our shipping, that it would be a very expensive, if not a difficult, matter to build a vessel without it. The sharp clipper shape of the vessels built of late years allows this material to be used for planking, where formerly only white oak would answer.

In Europe, we have for our customers Portugal, Spain, France, Ireland, Scotland, England, and every government bordering upon the Atlantic waters; while it is sent up the Mediterranean to its very eastern shores, and camels are no doubt at this time transporting it to the Holy City. Think of that! Georgia pines slung upon camels' backs going to Jerusalem!

The following table from public documents, (commerce and navigation,) shows the values drawn from our pine forest and shipped to foreign ports for the past three years:—

	1856.	1857.	1858.
Value of hewn timber.....	\$234,959	\$516,735	\$292,163
Boards, plank, scantling, and other timber..	729,256	2,001,121	1,158,347
Tar and pitch.....	235,487	208,610	100,679
Rosin and turpentine.....	1,222,066	1,544,572	1,464,210
Spirits turpentine.....	839,048	741,346	1,089,232
Total.....	\$3,260,826	\$5,012,384	\$4,104,681

Here we have the value of four to five million dollars yearly shipped to foreign ports, whilst the amount consumed in the United States must be at least double.

And this is the forest which we have among us, that to some is a bug-bear; whilst it is skinned, bled, cut, and mangled, yielding to us the sum of twelve to fifteen millions of dollars annually, without hardly a thought being bestowed upon the value of the remaining carcass.

What protection do the laws of the State give to the owners of these forest? None. If a man steals a cow worth ten dollars, or a pig worth three, he is provided with accommodations in the penitentiary, but if he steals a pine tree, worth perhaps fifty dollars, as it stands, (and some of these trees bring in market three to four hundred dollars,) nothing can be done with him, unless caught in the act, and then only a civil suit can be instituted, and being tried, may be, by sympathizers or persons engaged in the same business, is easily acquitted. Thus every man that owns this kind of property is completely at the mercy of these highland pirates. There is no security for him unless he employs a special agent to look after it. The want of laws to protect this property is often attended with serious consequences. When the price of timber advances, thousands of irresponsible persons pitch into the business of timber-getting. To hunt up the owners and purchase the lands is often the last thing they think of, for why should they? when they can take what they want without fear of anything but a civil action. Thus all interests are made to suffer—the regular timber-getters and merchants, by glutting the market, and the owner of the land by the depreciation of his property, in the loss of his timber.

In Florida they have the most rigid laws to protect their forest, while the citizens of Georgia are pillaged by the people from that quarter, cutting and rafting the timber off on the streams that flow out of the State.

The government of the United States, doubtless looking to the rapid destruction of the pine forest, and foreseeing a scarcity of this valuable timber for her naval purposes, has withdrawn from sale large quantities of her pine lands lying upon the Suwannee River in Florida, and under date 3d March, 1859, perfected a most stringent law protecting her forest trees.

JOURNAL OF MERCANTILE LAW.

IMITATION OF TRADE MARKS—SIMILAR FIRM NAME—CONTINUANCE OF FIRM NAME
BY STRANGERS—ASSIGNMENT OF RIGHT TO A TRADE MARK.

In the New York Superior Court.—April, 1860. HON. MURRAY HOFFMAN presiding. *J. & P. Coats vs. Platt, et al.*

In January last an injunction was granted to restrain defendants from selling an article of spool cotton, made by the firm of J. & T. COATS, (or rather by their successors,) and so marked, got up in imitation of the plaintiff's spool cotton, and having the plaintiff's emblems or trade marks on the wrappers. A motion was made to dissolve this injunction, upon which, after argument by A. BOARDMAN and J. W. GERARD for the motion, and by CHARLES EDWARDS and W. M. EVARTS contra, the following decision was rendered by—

HON. MURRAY HOFFMAN, J.—The plaintiffs are residents of Paisley, in Scotland, and are partners, trading under the name of "J. & P. COATS." They are manufacturers and sellers of cotton sewing thread on spools.

This firm, under the same name and style, has been in existence and engaged in the same business since the year 1830. It originally consisted of JAMES COATS and PETER COATS. THOMAS COATS subsequently became a partner. JAMES died about the year 1847, and the business was continued by the survivors in the same name. The present plaintiff, JAMES COATS, JR., was brought in about the year 1856.

This continuation of the original firm name, even in the interval between the death of JAMES in 1847, and the introduction of JAMES, JR., in 1856, was legal and common by the law of England, and, I am warranted in saying, by that of Scotland.

As early as 1844, the firm introduced the spool cotton thread into the United States. HUGH AUCHINCLOSS & Sons became agents for its sale, and have continued so until the present time.

When so introduced the present style of the wrappers and labels, as exhibited on this motion, was adopted by the makers and has continued until the present day.

At the time of the introduction of the plaintiffs' spool-cotton thread into the United States, there were known in the market various other specimens of such thread, TAYLOR'S, CLARK'S, &c., but all of them were plainly and essentially distinguished by marks and emblems, &c., from the thread of J. & P. COATS.

The establishment of a reputation in the United States for the thread of the plaintiffs, with a right to the use of distinguishing marks and symbols, devised by and appropriated to themselves, and their own thread, is fully made out.

Before the year 1851, JOHN and THOMAS COATS, of Glasgow, Scotland, were manufacturers of silk thread, and in that year commenced the manufacture of cotton thread at Paisley. The firm was composed of JOHN COATS and THOMAS COATS. In the year 1855 THOMAS died, JOHN COATS was the son of THOMAS, was educated as a surgeon, and has never been engaged in the conduct of any business whatever except that of his profession, and except as sworn to that he and the widow continued the work by their agents or licensees, and received payment therefor in the shape of a percentage. Prior to the death of THOMAS an arrangement had been made with one ANDERSON, a cotton-thread manufacturer of Glasgow, by which they commenced manufacturing cotton thread at Paisley, near the manufactory of J. & P. COATS, with the sign affixed of J. & T. COATS.

After the death of THOMAS the manufacture was continued by ANDERSON and those associated with him, under an agreement made by him with the said JOHN COATS and the executrix of said THOMAS COATS, until the insolvency or bankruptcy of the said ANDERSON, in September, 1859. At some period during this time, one HILL and one MCKENZIE had been introduced into the concern with ANDERSON.

In 1851 the thread of J. & T. COATS began to be introduced into the New York market, through the house of GODFREY, PATTISON & Co., and was so continued down to the bankruptcy of such last-named firm, in 1859. Large quantities of such thread were sold in the city of New York and elsewhere in the United States.

The manufacture thus continued until September, 1859, when ANDERSON and his associates became bankrupt.

In September, 1859, an agreement was entered into between JOHN COATS and the executrix of THOMAS COATS with one JOHN W. DAWSON, relating to the manufacture and sale of cotton-thread, and the use of the name of J. & T. COATS; the executrix and said JOHN COATS were to have the right of inspecting and examining, to receive a percentage upon the amount of sales of such thread and, to institute and carry out legal proceedings to prevent the infringement of their trade marks. Under the arrangement so made, the manufacture and sale of thread, under the old name and style, has been continued to this day.

The boxes, labels, stamps, cuts, &c., used by the parties acting in the name of J. & T. COATS, on the packages, large and small, prior to the fall of 1859, were, in all material respects, so dis-similar to those of the plaintiffs that I do not know how the former could be interfered with, unless upon the ground of the use of the name of J. & T. COATS—a point hereafter examined. Though the wrapper was a similar color, the vignette was totally different. There was really nothing to justify the charge of simulation.

This thread of J. & T. COATS, so put up, it is proven, did not meet with a ready sale in the United States.

During some part of the connection between ANDERSON, MCKENZIE, and HILL, under the permission of the executrix and JOHN COATS, the style of the firm was J. & T. COATS & Co. The word company is omitted, and it is attempted to be explained by PLATT on the ground of a wish to have the full benefit of the old firm name, and the inconvenience of altering plates.

In the fall of 1859 the former vignette or emblem of J. & T. COATS on the wrappers, which was simply the royal arms of Great Britain, was changed for all cotton thread sent to the United States, and the label or vignette now complained of was substituted.

Upon one branch of the case my opinion is clear. I consider it fully made out that J. & P. COATS first designed as an emblem and trade mark a combination of the arms of Great Britain and the United States, signified by a lion and eagle, and the English and American shields and flags; that they were the first to use such an emblem in England and the United States; that they have used such a symbol and trade mark since 1844 in the United States, and without any interruption of their exclusive use of it, until the fall of 1859; that the abandonment of their former symbol by the parties acting under the style of J. & T. COATS, and adoption of the present mark, was a plain and intended violation of the plaintiffs' rights; and that the simulation is too decided, and the differences too unimportant as to the wrappers stamped with these emblems to protect the defendants from an injunction to that extent.

I am far from saying that there are not marked differences in arrangement, and in some variation and additions or omissions. But I consider that the plaintiffs had acquired a right to the great and leading elements of these arms, flags, shields, and mottoes, in combination; and a device which used them all was a violation of the right.

The next question is of more difficulty. The difficulty is increased, from the strong impression which the facts leave upon the mind, that the whole course of manufacturing in the name of J. & T. COATS was a concerted and adroitly contrived scheme to profit by the established repute of J. & P. COATS' thread. But if this impression is warranted I am still compelled to the conclusion that the parties have not gone beyond the confines of the law, though they tread upon its verge.

It cannot but be conceded that THOMAS COATS had, in 1851, the absolute legal right to unite his son JOHN with him, though a minor, and to leave his silk-

thread business for the manufacture of cotton-thread, and to use the name of J. & T. COATS to designate their thread on spools, wrappers, &c. It was not unlawful to give the name of his minor son the preference in the firm style.

On the case made, it cannot be said, that the continuance of the name with the sanction and in connection with the widow and executrix, and of the survivor of the firm, was unlawful in Scotland. Here, the opinion of the lord Advocate MONCRIEF and Mr. BURNS is important. On a case made rather more favorable for the plaintiffs than the present, but on wrappers and labels the same as those now used by both parties, one question was whether the plaintiff could interdict MCKENZIE and HILL from carrying on the manufacture and sale of thread under the name of J. & T. COATS. The answer is, "This query is attended with difficulty. If MCKENZIE and HILL made use of tickets and wrappers clearly distinguishable from those of the memorialists, we think it would be very difficult for the memorialists to interdict them from making use of the firm name of J. & T. COATS, under which a business has been carried on since 1852, and we could not advise them to take any proceedings with this view."

The opinion was decided as to the imitation of the trade marks being the subject of interdict. It appears, also, that counsel had advised that DAWSON could only be interdicted when he sold the thread with the new emblems, in Great Britain.

In the case of *Howe vs. Searing*, (10 Abbott P. R.) referred to, the court held that the sale of the good-will of a business did not carry with it the right to use the name of the vendor by the purchaser and his assigns, and the statute making it a misdemeanor to transact business under fictitious names was referred to, as indicating the policy of the State against the use of any but names of persons actually performing the business.

But I cannot see that if all these transactions had taken place in New York, the use of the name of J. & T. COATS could have been brought within the principle of this decision.

The interesting case in the First Chamber of the Imperial Court of Paris respecting the BAJOU glove, corresponds with the case of *Clinton vs. Douglass*, cited in *Howe vs. Searing*; and probably shows the extent to which the law ought to go in protecting the continuation of an individual or firm name, where the persons who gave the business repute are no longer conducting it.

In the French case, BAJOU, the famed maker of gloves, assigned his business to MOREL, who afterwards assigned to CAMPERE, the plaintiff, the same rights. BAJOU had reserved the right to deal in gloves at Grenoble, marked with the stamp of that town. He began to manufacture gloves there, and stamped them with his old mark, and sent them to New York for sale. The tribunal below prohibited BAJOU from employing in future his name as manufacturer's mark of his gloves, which interdict was affirmed on appeal. The court below say, "In assigning, for a certain sum, his good-will to MOREL, BAJOU really assigned all his right to the manufacturer's mark, in which the true value of the business consisted, since it is upon this mark that the custom depended."

In the English case, where the stock, &c., and the good-will of a firm, had been the subject of a sale, the purchasers carried on the business under their own name, adding, "Late JOHN DOUGLASS & Co.

I accede to the proposition, that if a firm composed of persons of the same name with those of another firm had been dealing in the same business, and had become wholly extinct, strangers could not revive it, and stamp their own manufactures with a name which as to them had perished. It is clear, on the other side, that the same article may be manufactured and sold by one of the same name, under the same name, and thus a long reputation may indirectly be infringed upon. BURGESS' case is an example of this, (17 England Eq. R. 257.) and where one member of a former firm and the personal representative of the deceased member are alone, and agree to the use of the firm name, to be stamped upon the article manufactured by others of the same description as were manufactured by themselves during the lifetime of both partners, I am not prepared to say that such a contract and action under it are illegal.

The injunction to be issued must be modified according to these views.

UNPAID PURCHASE MONEY DUE ON ARTICLES OF AGREEMENT.

In the Supreme Court of Pennsylvania.—January, 1860. Before Judge THOMPSON. *Springer vs. Walters*. Error to the Common Pleas of Fayette County.

Unpaid purchase money due on articles of agreement, or to become due within seven years, is not such a *reprise* as an inquest should consider, in determining whether the estate of the vendee will rent for the debt, interest, and costs of the execution beyond all reprises in seven years.

CALVIN SPRINGER, plaintiff in error and below, had judgment against JONAH WALTERS for \$321 49, the only judgment against defendant. A *fi. fa.* issued thereon was levied on the defendant's equitable estate under articles of agreement, in a tract of 109 acres of land. On inquisition and condemnation, and approval thereof, *sec. reg. a vend. ex.* issued.

Defendant filed exceptions to the inquisition, because the jury took into consideration, as a lien, an alleged balance of purchase money, due under articles of agreement between defendant and one JOHN M. MOORE for the purchase of said tract of land. It appeared that the land would have extended had not this balance been considered a reprise.

The opinion of the court was delivered at Philadelphia.

THOMPSON, J.—The learned judge of the Common Pleas was of opinion, that unpaid purchase money, due on articles between vendor and vendee, due under articles such a lien as is proper to be laid before a sheriff's inquest, to determine whether the rental of the debtor's estate levied on, *wil.* in seven years, be sufficient, beyond all reprises, to pay the debt, interest, and costs sought to be collected by the execution. We think in that opinion he was right.

From the passage of the act of 1705, which introduced our present system of extent of lands for debt, up to 1836, is embraced a period of 133 years, and from that time to the present, a period of twenty-three years more. During all that time the books contain no trace of such practice.

It seems to me, that our present system necessarily excludes, by a fair interpretation of its terms, such a practice. The 4th sec. of the act of 1840 provides, "that on application of any creditor, the court may make an order, in case of an extent, describing the manner in which the money arising from the half yearly instalments shall be distributed among the different lien creditors, according to the priority of their liens, in the same manner and with like effect as in case of distribution of money arising from sheriff's sales.

The liens here referred to are generally record liens, and certainly everybody knows, that when the vendee's interest alone is sold on execution, that the purchase money due the vendor is not paid out of the proceeds. The court never directs his lien for the purchase money to be paid, because it is not a lien on the equitable estate but on the legal, by virtue of the title. When the vendor sells upon a judgment for purchase money, then he is paid according to his priority of lien on the land, both the legal and equitable estates being sold. It is only in this case he becomes a distributee, and this is by reason of his judgment on the entire estate.

The principle of distribution of the proceeds of the equitable estate is the same, whether in sales, or by extent of the land and order of court, by the act cited. In neither case can the vendee's lien be affected, or be entitled to any money in the distribution on account of the legal title. How, then, is his claim to be considered a reprise? Practice, I think, shows that it is not, and the principle of the thing is as stated, that it is not a reprise against the equitable estate, because not a lien against it. The vendor having the security of the legal title in his own hands, the law allows him to use it in accordance with its terms, when he pleases. It does not force him to take satisfaction out of the equitable estate, and compel him to convey the legal. The interest of the vendor, under articles, is a distinct interest from the legal title; it can be bound as such and sold as such, without interfering with the legal estate. This is the constant practice. Inasmuch, therefore, as the vendor's claim cannot come in on the purchase money, I cannot see why it should be made the means of sending to sale property, the proceeds of which could not be applied to its extinguishment.

It would operate hardly, too, other considerations out of the case, on the vendee, to allow a small judgment to draw its aid, the purchase money due or payable within seven years, and condemn the land. It would change the entire system of land sales, by articles of agreement, at once, for a poor man, if there were debts against him, would be almost sure to be sold out, by introducing the purchase money due the vendor as a means of preventing an extent, although neither vendor nor vendee would be benefited, but more likely injured by it; and hence a different system would most likely be resorted to. Again as purchase money due on articles does not stand on the same footing, as to conclusiveness, as debts of record, the amount due would necessarily become a subject of inquiry before the jury. So, too, equities are sometimes required to be adjusted before the exact amount to become due could be ascertained. Such matters would be wholly foreign to the duties of the sheriff's jury, and totally unmanageable by them. These considerations serve to demonstrate the impracticability and impropriety of considering such claims in such a place. Debts in such form are not reprises within the meaning of the statute. They are mostly record liens of some kind or other, and annuities, rent charges, and the like. *Miller vs. Campbell*, 1 J. 417, and *Near vs. Watts*, 8 W. 319, seem to treat them as such. For these reasons, the decision of the court in setting aside the inquest, is affirmed.

COMMERCIAL CHRONICLE AND REVIEW.

GREAT PROSPECTS—MARKETS ABROAD—CROPS—NO EAGERNESS TO PURCHASE—EXPORTS MORE FREE—EXPORT OF SURPLUS GIVES BETTER PRICE FOR HOME SALES—ABILITY OF THE WEST TO PAY—GOOD CROPS AND SALES ARE MONEY—BANK SOPHISTRIES—THE STATE OF THE WEST—FREIGHTS—TONNAGE—RAILROADS—GRAIN—THE SOUTH—COTTON—CORN—NEW YORK AND NEW ORLEANS—VALUE OF COTTON CROP—THE MARKETS OF EUROPE—FREE CORN AND FREE SHIPS IN FRANCE—RISE IN FREIGHTS TO LIVERPOOL—RISE IN STOCKS—HIGHER VALUE FOR SHIPS—SECURITIES—AGRICULTURE—MONEY RATES OF—DECLINE—NEW LOANS—STERLING BILLS—SMALL DEMAND—EXPORT OF SPECIE—GOLD DOLLARS—ASSAY OFFICE—UNITED STATES MINT—NEW ORLEANS MINT—GOLD FOR EUROPE.

THE crop year opens with the highest promise of abundance in quantity, of all food and raw materials, and of fair prices for them at home and abroad. The aspects of the markets in Europe now for breadstuffs is such as to induce the belief of much higher prices than have ruled in the past year. The quantity of the crops, on the other hand, is reported so large that a very great demand would be required to make much impression upon it. The circumstances are, therefore, not such as to induce the investment of much capital in produce for a rise. This is a fortunate circumstance, since the export of the surplus will not be delayed by any attempt at holding, or a fictitious rise in the prices. The surplus moves freely to market at current prices, and thus pours out of the country to the relief of that which remains. The freights on the lakes and Western waters have risen rapidly under the influx of grain, and the rise in freight has come off the price of wheat at the other end of the route. Under these circumstances the great demand for money that usually takes place when there is prospect of a rapid rise in prices under an export demand is not experienced; but, on the other hand, the regular flow of produce eastward, in payment of bills and discharge of debts, causes a great abundance of money. The produce of the West is money in fact. It is the medium in which her debts are discharged. The shipment of grain to the eastward forms the basis of the bills that are in demand for remittance in discharge for debts and the payment of goods, and those

bills are money. Many of the theorist on banking are profound upon the ratio of specie to liabilities, the proportion of specie on hand, and the amount of discounts ; but all these are solved in the one important question :—has the debtor section got the means of paying? When the crops have failed, all the theories that can be formed, and all the legal provisions that can be entered on the statute books, will not help the creditor or reduce the balance on the wrong side of the ledger. The bank that holds a long line of paper made by persons whose means depended upon a crop that never ripened, cannot be helped by theorizing on the proportion of specie it ought to have held to its liabilities ; on the other hand, if the crop matures well and sells satisfactory, the line of discounts will be met whether there is specie or not on hand. The demand for loans at such times will by no means equal the means of the institution. This is the case this year. The West, which in 1857, was suddenly by panic deprived of the means that for so many years had been liberally poured into it for railroads and land speculations, and lost its crops at the same time, struggled hard to pay in the two years that followed. The effort was to get capital back from the West at all hazards. Neither land nor railroads, in which so much money had been placed, could be exported East, and the crops were small, while no export demand existed to make the surplus available. The railroads had no freights, and the tonnage of the lakes being almost idle, a good deal left for the ocean service, and all the interests were much depressed. The recovery has now come. The utmost wishes of the agriculturists are met in the abundant crops, and the tonnage of the lakes was never more profitably employed than now, while every railroad shows growing recovery under the volume of grain that passes eastward. The receipts of grain at Chicago and Milwaukee are as follows from January to September :—

	1859.	1860.
Chicago	8,111,237	20,428,298
Milwaukee.....	2,011,000	3,101,000
	<hr/>	<hr/>
Total.....	10,122,237	23,529,298

This gives a value of nearly \$15,000,000, or about \$10,000,000 in excess over last year, from the extreme end of the lakes, at points where it has been gathered by the railroads from the large circle of country which concentrates at those points. The busy railroads have shown a considerable increase in revenues consequent upon the flow of grain. The Illinois Central has increased its freight receipts 50 per cent over last year, and it has become the great motor for corn, as well from the interior to Chicago as from the Upper Mississippi to the Southern waters, where a large business is to be done in supplying the South with corn, for which, unhappily, this year she must depend upon the West to a considerable extent. This Southern demand is an opportune opening for the Western supplies. They are a corn-consuming people, and the quantities they must require will far exceed that of any foreign demand, and will equalize a little of the wealth which the South has accumulated in the last few years. The trade at New Orleans, as seen on another page, gives a most satisfactory result, as does that at all the Southern ports, Mobile and Charleston particularly. The exports from New Orleans and New York compare as follows :—

IMPORTS.			
	1858.	1859.	1860.
New Orleans.....	\$19,586,013	\$17,106,201	\$20,634,993
New York.....	171,473,336	220,247,307	233,718,718
Total.....	\$191,059,349	\$237,353,508	\$254,353,111
EXPORTS.			
	1858.	1859.	1860.
New Orleans.....	\$88,382,438	\$101,634,952	\$108,393,567
New York.....	100,667,890	106,443,541	138,036,550
Total.....	\$189,050,328	\$208,078,493	\$246,430,127

The figures run very high from these two ports, exceeding by \$34,000,000 those of the same period last year, while the imports are not in so large a proportion. The exports from New Orleans have been mostly increased by the large cotton crop, which has also swollen the exports of the other Southern ports. The value of the whole cotton crop of the country, 4,675,770 bales, at the New Orleans average per bale, will be \$230,000,000, of which \$191,806,555 will have been exported. On another page will be found the annual cotton statement of the New York *Shipping List* in full.

The French imperial government last year reimposed the duties on corn, which had for some years been suspended, to take date from the 1st September. This year the *Moniteur*, of August 23d, contained a decree removing the duty, by which this sliding scale has been altogether suspended. The decree enacts that grain imported by land or by sea, in French or foreign vessels, shall, wherever they may come from, only pay, up to the 30th of September, 1861, the minimum of duties fixed by the law of the 15th April, 1832; also, that vessels laden with grain and flour shall be exempt from tonnage dues; and, finally, that vessels so laden leaving any foreign port at any date previous to the said 30th September, 1861, shall only pay the said minimum, and shall be free from tonnage dues. The minimum referred to, is 25 cents the hectolitre, (about 2½ bushels.) Consequently, while France in the years 1858 and 1859 sent more wheat—2,014,923 quarters—and more flour—4,316,435 cwt.—to England than any other country, it will now seriously compete with England in the purchase of grain in the foreign markets—the provisional suspension of the French sliding scale affording the wanted facilities for such competition. The two main markets of supply which both England and France find themselves limited to are the United States and Southern Russia. In regard to the latter country, the news as to the state of the harvest is of the most contradictory character. On the one hand, it is asserted that the harvest is most plentiful; on the other, that heavy rains and high floods having damaged the crops in all parts of the Empire, the roads and corn-fields of the southern provinces had been greatly devastated by locusts, a scourge which made its first appearance in Bessarabia.

The prospect of a large demand for grain in free ships thus opens the door to a large employment of vessels, and such an employment will come very opportunely for an interest which has been so depressed as that of shipping in the last two years. The lake tonnage and the Western grain interest already feel the demand, and Atlantic freights have risen 40 per cent in sixty days; that is to say, flour to Liverpool was 2s. 6d. in July, and 4s. first week in September. All

that class of property has become active. The frontier of the West, and the restored facility of the railroads to procure good freights, has had an important influence upon the stock market. Most descriptions have undergone an important advance. The values of the leading stocks on the New York market were as follows:—

	July 6.	Sept. 8.	Gain.		July 6.	Sept. 8.	Gain.
Illinois Central....	63½	87	23½	Chicago and Rock Is.	71½	80	8½
N. Y. ".....	82	85	3	Michigan Southern.	30	50	20
Erie.....	19	30	11	Hudson River.....	48	58	10
Galena and Chicago	64	80	16	Reading.....	41	48	7

These stocks represent nearly \$150,000,000. and they indicate the advance in money value which has taken place in the whole. The effect of this is to make available an immense amount of property which has been comparatively dead during the past two or three years. The revival of value in these large interests causes a greater circulation of capital and promotes the apparent abundance of money. This subsides from the temporary rise that manifested itself in August :

	On call.		60 days.		4 a 6 mos.		Single names.	Other good.	Not well known.
	Stocks.	Other.	4 a 5	5 a 6	4 a 5	5 a 6			
Jan. 1st, 1859.	4 a 4½	4 a 5	4 a 5	5 a 6	6 a 7	7 a 8	7 a 8	8 a 10	8 a 10
Feb. 1st.....	5 a 6	6 a 7	5 a 6	6 a 7	7 a 7½	8 a 9	8 a 9	9 a 10	9 a 10
Mar. 1st.....	4 a 5	4½ a 6	4½ a 5½	5½ a 6½	6 a 7	7 a 8	7 a 8	8 a 9	9 a 10
Apr. 1st.....	4 a 5	5 a 6	5 a 5½	6 a 6½	6½ a 7	7 a 8	8 a 9	9 a 10	9 a 10
May 1st.....	5 a 6	6 a 7	6 a 6½	7 a 7½	7 a 8	8 a 9	9 a 10	10 a 12	10 a 12
Jun. 1st.....	6 a 7	7 a 8	6½ a 7	7 a 8	8 a 9	9 a 10	10 a 12	12 a 15	12 a 15
July 1st.....	5 a 6	6 a 7	6½ a 7	7 a 7½	8 a 9	9 a 10	10 a 12	12 a 15	12 a 15
Aug. 1st.....	6 a 7	7 a 8	6½ a 7½	7 a 8	8 a 9	9 a 10	10 a 12	12 a 15	12 a 15
Sept. 1st.....	5½ a 6	7 a 8	6 a 7	7 a 7½	8 a 8½	9 a 10	11 a 14	12 a 16	12 a 16
Oct. 1st.....	5½ a 7	6 a 7	6½ a 7	7 a 8	8 a 9	9 a 10	10 a 12	12 a 18	12 a 18
Nov. 1st.....	5 a 5½	6 a 7	6½ a 7½	7½ a 8	8½ a 9½	12 a 15	12 a 15	12 a 18	12 a 18
Dec. 1st.....	5 a 5½	6 a 7	6 a 7	7 a 8	8 a 9	9 a 10	10 a 12	12 a 18	12 a 18
Dec. 17th.....	5½ a 6	6 a 7	7 a 7½	7½ a 8½	8 a 9	9 a 10	10 a 12	12 a 18	12 a 18
Jan. 1st, 1860.	6 a 6½	6½ a 7	7 a 7½	7½ a 8½	8 a 9	9 a 10	10 a 12	12 a 18	12 a 18
Jan. 15th.....	7 a 7½	7 a 7½	8½ a 9	9 a 9½	9 a 10	10 a 11	15 a 20	15 a 20	15 a 20
Feb. 1st.....	6 a 6½	7 a 7½	8½ a 9	9 a 9½	9 a 10	11 a 12	15 a 20	15 a 20	15 a 20
Feb. 15th.....	5 a 6	6 a 7	7 a 7½	7½ a 8	8½ a 9½	10 a 12	15 a 18	15 a 18	15 a 18
Mar. 1st.....	5½ a 6	6 a 7	7 a 7½	7½ a 8	8½ a 9½	10 a 12	15 a 18	15 a 18	15 a 18
Mar. 15th.....	5 a 5½	5½ a 6	6 a 7	7½ a 8	8½ a 9½	10 a 12	15 a 18	15 a 18	15 a 18
Apr 1st.....	5 a 5½	6 a 6½	5½ a 6	6 a 6½	6½ a 7½	9 a 10	11 a 13	11 a 13	11 a 13
Apr. 15th.....	5 a 5½	6 a 6½	5½ a 6	6 a 6½	6½ a 7½	9 a 10	11 a 13	11 a 13	11 a 13
May 1st.....	5 a 5½	6 a 6½	5 a 6	6 a 6½	6½ a 7½	9 a 10	11 a 12	11 a 12	11 a 12
May 15th.....	5 a 6	6 a 6½	5 a 6	6 a 7	6½ a 7½	9 a 10	10 a 12	10 a 12	10 a 12
June 1st.....	4½ a 5	6 a 6½	5 a 6	6 a 7	6½ a 7½	8 a 9	9 a 10	9 a 10	9 a 10
June 15th.....	4½ a 5	5 a 6	4½ a 5	5 a 5½	5½ a 6	6 a 7½	8 a 9	8 a 9	8 a 9
July 1st.....	5 a 5½	5½ a 6	.. a 5	5 a 6	5½ a 6	7 a 7½	8 a 9	8 a 9	8 a 9
July 15th.....	5 a 5½	5½ a 6	.. a 5	5 a 6	5½ a 6	7 a 7½	8 a 9	8 a 9	8 a 9
Aug. 1st.....	5 a 6	6 a 7	5 a 6	6 a 6½	6½ a 7	7½ a 8½	9 a 10	9 a 10	9 a 10
Aug. 15th.....	5½ a 6	6 a 7	6 a 6½	6 a 7	6½ a 7	8 a 9	9 a 10	9 a 10	9 a 10
Sept. 1st.....	6 a 7	7 a 9	6½ a 7	7 a 9	8 a 9	9 a 12	12 a 24	12 a 24	12 a 24
Sept. 15th.....	6 a 7	6½ a 7	7 a 7½	7½ a 8	6½ a 7½	9 a 9½	10 a 10½	10 a 10½	10 a 10½

The improved operations in the stock market caused some demand for money for the moment, but there was no permanent effect. There was nothing then to cause any demand for money or capital. A New York Central Park loan for \$250,000, 6 per cent, redeemable in 1876, was taken at 3.14 per cent premium. The State of Ohio offers for a loan of \$6,000,000, to meet a loan falling due, and the Secretary of the Treasury has issued proposals for \$10,000,000 in a 5 per cent stock, payable in ten years, according to the act of Congress of June 23d, authorizing a loan for the redemption of the treasury notes outstanding.

No offer below par will be accepted, and the bids will be opened October 22. The present quotation for a United States 5 per cent stock is 103½.

The advance of the season showed a growing ease in the market. Notwithstanding the prospect of a large export of cotton and corn, there is nothing in the immediate state of those markets to attract investments for speculation. The ease in the markets that has prevailed so long has kept the importations well paid up, and the rates of bills are getting lower:—

RATES OF BILLS IN NEW YORK.

	London.	Paris.	Amsterdam.	Frankfort.	Hamburg.	Berlin.
Jan. 1..	9 a 9½	5.18½ a 5.17½	41½ a 41½	41½ a 41½	36½ a 36½	73 a 73½
15..	8½ a 9	5.21½ a 5.18½	41½ a 41½	41½ a 41½	36½ a 36½	73½ a 73½
Feb. 1..	8½ a 9	5.18½ a 5.17½	41½ a 41½	41½ a 41½	36½ a 36½	73½ a 73½
15..	8½ a 9	5.18½ a 5.17½	41½ a 41½	41½ a 41½	36½ a 36½	73½ a 73½
Mar. 1..	8½ a 9	5.17½ a 5.15	41½ a 41½	41½ a 41½	36½ a 36½	73½ a 73½
15..	8½ a 8¾	5.17½ a 5.15½	41½ a 41½	41½ a 41½	36½ a 36½	73½ a 73½
Apr. 1..	8½ a 8¾	5.18½ a 5.16½	41½ a 41½	41½ a 41½	36½ a 36½	73½ a 73½
15..	8½ a 8¾	5.16½ a 5.17½	41½ a 41½	41½ a 41½	36½ a 36½	73½ a 73½
May 1..	9½ a 9½	5.13½ a 5.12½	41½ a 41½	41½ a 42	36½ a 36½	73½ a 73½
15..	9½ a 9½	5.13½ a 5.13½	41½ a 41½	41½ a 42	36½ a 37	73½ a 73½
Jun. 1..	9½ a 9½	5.13½ a 5.12½	41½ a 41½	41½ a 42	37 a 37½	73½ a 73½
15..	9½ a 9½	5.13½ a 5.12½	41½ a 41½	41½ a 42	36½ a 37½	73½ a 73½
July 1..	9½ a 9½	5.13½ a 5.13½	41½ a 41½	41½ a 42	36½ a 37	73½ a 73½
15..	9½ a 9¾	5.13½ a 5.13½	41½ a 41½	41½ a 41½	36½ a 37	73½ a 73½
Aug. 1..	9½ a 9¾	5.13½ a 5.13½	41½ a 41½	41½ a 42	36½ a 37	73½ a 73½
15..	9½ a 10	5.13½ a 5.13½	41½ a 41½	41½ a 42	36½ a 37½	73½ a 73½
Sep. 1..	9½ a 10	5.14½ a 5.13½	41½ a 41½	41½ a 42	36½ a 37	73½ a 73½
15..	9½ a 9¾	5.14½ a 5.13½	41½ a 41½	41½ a 42	36½ a 36½	73½ a 73½

The export of specie continues well sustained, and already there is some uneasiness abroad at the prospect of a drain upon England and France for specie to meet the corn importation. The drains for this purpose in 1853-4 was large, but at that time it was ascribed to the Russian war. It is to be borne in mind, however, that the drain upon America must cease at a certain point, since after debts are paid it can be kept up only upon the operation of credits. The specie exports have been comparatively as follows:—

GOLD RECEIVED FROM CALIFORNIA AND EXPORTED FROM NEW YORK WEEKLY, WITH THE AMOUNT OF SPECIE IN SUB-TREASURY, AND THE TOTAL IN THE CITY.

	1859.		1860.			
	Received.	Exported.	Received.	Exported.	Specie in sub-treasury.	Total in the city.
Jan. 7.....		\$1,052,558		\$85,080	\$7,737,965	\$25,600,699
14.....	\$1,376,300	218,049	1,788,666	88,482	7,729,646	26,470,512
21.....		567,398		259,400	8,352,485	27,585,970
28.....	1,210,713	467,694	1,760,582	81,800	8,957,123	29,020,862
Feb. 4.....		606,969	94,569	427,457	9,010,569	28,934,870
11.....	1,319,923	361,550	1,476,621	92,350	9,676,732	29,464,239
18.....		1,013,780		592,997	10,012,572	30,603,762
26.....	1,287,967	358,354	1,393,179	202,000	8,955,203	29,729,199
Mar. 3.....		1,427,556	382,503	667,282	8,734,028	31,820,840
10.....	933,130	307,106	1,198,711	115,473	8,237,909	30,139,089
17.....		870,578	152,000	429,260	8,099,409	31,271,247
24.....		208,955	895,336	465,115	8,122,672	31,408,876
31.....	1,032,314	1,343,059	155,110	706,006	8,026,492	31,447,251
Apr. 7.....		576,107		310,038	7,562,885	30,162,017
14.....	1,404,210	1,637,104	1,146,211	630,010	7,714,000	31,640,982
21.....		1,496,889		241,503	7,531,483	30,764,897
28.....	1,723,352	1,680,743	1,455,337	1,774,767	7,668,723	30,848,532
May 5.....		2,169,197		2,355,117	7,041,143	30,856,889
12.....	1,480,115	1,926,491	1,382,753	333,881	6,539,414	29,319,801
19.....		2,223,578		1,251,177	6,864,148	30,599,341

	1859.		1860.		Specie in sub-treasury.	Total in the city.
	Received.	Exported.	Received.	Exported.		
26.....	1,938,669	5,126,643	1,519,703	1,317,773	6,982,660	30,414,433
June 2.....	.....	2,325,972	.....	1,719,138	6,621,100	31,196,557
9.....	1,513,978	1,877,294	.....	1,542,466	6,620,622	30,406,203
15.....	.....	1,669,263	1,385,652	2,526,478	6,426,755	30,537,000
22.....	.....	1,620,731	.....	1,417,757	6,326,894	29,677,815
29.....	2,041,237	1,861,163	1,541,580	1,962,776	6,253,357	28,717,607
July 9.....	.....	1,398,885	.....	1,166,773	5,187,468	27,939,162
14.....	1,736,861	2,495,127	1,514,884	1,283,135	5,404,367	28,156,061
21.....	.....	2,030,220	673,290	1,624,280	5,432,789	28,876,433
28.....	2,145,000	2,344,040	.....	1,880,497	5,112,942	28,212,668
Aug 4.....	.....	1,284,855	988,676	1,739,259	5,559,922	27,688,011
11.....	1,860,274	1,505,389	1,006,283	1,357,198	5,732,534	27,312,274
18.....	.....	1,594,933	.....	2,183,281	5,902,350	26,911,000
25.....	2,126,332	1,584,879	798,832	1,730,696	5,985,545	26,105,279
Sept. 1.....	*962,030	509,649	950,000	1,302,266	5,607,627	24,642,700
8.....	2,046,006	2,363,385	.....	1,198,893	5,333,650	.....
Total.....	28,138,281	52,195,712	23,640,799	36,439,427	.....	.....

Although the aggregate was not as large as last year, yet the export for the four weeks ending September 8 were much larger. The exports from Boston for the month of August amounted to \$271,000, making an aggregate since January of \$1,497,956, against \$4,953,625 same period of 1859. The Sub-treasurer sent, September 10, \$1,250,000 gold dollars from New York to Philadelphia to have them coined into double-eagles for export. Those coins were never popular, and the multiplication of silver change causes them to be less wanted. The New York assay-office, for the month, has operated as follows:—

NEW YORK ASSAY-OFFICE.

	Foreign.		United States.			Payments in		
	Gold.	Silver.	Gold.	Silver.	Silver.	Bars.	Coin.	
Jan. 14,000	18,000	11,200	14,000	2,478,000	1,800	20,000	647,000	1,910,000
Feb. 5,000	28,000	6,500	24,000	951,000	.....	7,500	932,000	90,000
Mar. 8,000	15,000	23,400	5,500	267,000	1,100	2,500	180,000	142,500
Apr. 8,000	32,000	14,500	10,000	183,000	3,700	3,800	187,000	70,000
May 11,200	20,800	25,500	18,000	176,000	7,000	16,500	230,000	45,000
June 12,000	19,000	10,000	4,000	147,000	1,750	2,750	158,000	38,500
July 9,500	18,000	12,800	8,000	159,500	1,200	3,000	140,000	72,000
Aug. 12,000	14,000	16,000	14,100	208,000	1,000	3,900	190,000	79,000
Tot. 79,700	168,800	119,900	97,600	4,569,500	17,550	61,950	2,664,000	3,747,000
'59 79,000	82,000	314,780	61,900	2,398,600	12,900	33,920	2,344,000	955,100

The operations for the month did not vary much, although the United States mint at Philadelphia was closed for repairs during the month. The deposits there were about the same as usual, as follows:—

UNITED STATES MINT, PHILADELPHIA.

	Deposits.		Coinage.			Total
	Gold.	Silver.	Gold.	Silver.	Cents.	
January.....	\$200,000	\$41,000	\$1,024,563	\$41,000	\$24,000	\$1,090,568
February.....	1,838,578	35,573	1,632,160	21,600	24,000	1,677,760
March.....	144,478	82,255	317,451	132,989	29,000	479,440
April.....	281,891	49,764	252,756	38,431	30,000	321,188
May.....	90,828	72,468	133,004	81,100	35,000	249,104
June.....	54,893	54,676	63,718	97,160	24,000	184,878
July.....	97,041	14,181	101,975	87,000	16,660	205,635
August.....	132,133	22,741	No coinage.			
Total, 1860.	\$3,659,839	\$332,638	\$3,425,627	\$499,186	\$182,660	\$4,820,573
Total, 1859.	942,230	610,550	836,876	710,987	224,000	3,324,243

* From New Orleans.

The operations at the mint at New Orleans, for the year ending July 31, were as follows:—

	Deposits.	Coinage.			Total.
		Gold.	Coin.	Silver. Bars.	
1859.....	\$3,145,880	.....	.....	.....	\$3,578,996
1860.....	1,472,446	\$154,000	\$1,438,000	\$29,209	1,621,200

This shows a decline of \$1,957,787 in the coinage of the year. The supply of the metals now in the country is considerable, and probably ample for the wants of business. The state of affairs in Europe is such that, with the apprehensions of war and the uncertainty that attends the settlement of Italy, gold may be the last article, next to food, to export. The means of paying for coin, corn, and cotton must be large, however, to meet the exigencies of the case.

The Custom-house returns for the month of August show a larger import than for the corresponding month of either of the previous four years, and notwithstanding this large increase, there has been no accumulation in bond:—

FOREIGN IMPORTS AT NEW YORK IN AUGUST.

	1857.	1858.	1859.	1860.
Entered for consumption.....	\$14,401,018	\$15,067,732	\$18,416,207	\$19,564,675
Entered for warehousing.....	4,516,039	2,146,021	2,964,044	4,182,764
Free goods.....	2,052,122	2,342,741	2,920,921	2,050,665
Specie and bullion.....	17,319	67,682	348,419	140,750
Total entered at the port.....	\$19,986,493	\$19,624,176	\$24,649,591	\$25,938,854
Withdrawn from warehouse....	5,624,147	3,116,013	3,296,084	3,325,105

The total imports at the port of New York, since January 1, are less than for the corresponding total of last year, but \$68,000,000 more than for the total of the first eight months of 1858. The warehouse operation shows an increase of \$8,000,000 in bond:—

FOREIGN IMPORTS AT NEW YORK FOR EIGHT MONTHS, FROM JANUARY 1ST.

	1857.	1858.	1859.	1860.
Entered for consumption.....	105,681,632	\$65,401,911	131,927,230	118,270,269
Entered for warehousing.....	51,427,670	17,331,440	26,173,802	29,560,141
Free goods.....	13,732,200	15,298,266	21,350,052	19,816,231
Specie and bullion.....	5,874,629	1,882,940	1,649,501	891,938
Total entered at the port.....	176,716,131	\$99,914,557	181,100,585	168,538,579
Withdrawn from warehouse.....	29,240,228	28,102,515	17,406,868	21,254,755

The proportion of the whole imports which is embraced under the head of dry goods, shows for the month of August a decline, being the reverse of last year's business. The aggregate for the month has been larger than for any year to 1859, but the quantity put upon the market does not show the same results:—

IMPORTS OF FOREIGN DRY GOODS AT NEW YORK FOR THE MONTH OF AUGUST.

ENTERED FOR CONSUMPTION.

	1857.	1858.	1859.	1860.
Manufactures of wool.....	\$3,243,227	\$4,312,916	\$5,250,619	\$4,289,201
Manufactures of cotton.....	1,334,473	1,789,745	2,154,979	1,292,409
Manufactures of silk.....	2,758,097	3,526,725	4,864,855	4,497,283
Manufactures of flax.....	564,507	839,927	997,540	594,933
Miscellaneous dry goods.....	631,816	613,326	932,431	874,167
Total.....	\$8,532,120	\$11,083,139	\$14,200,354	\$11,547,993

WITHDRAWN FROM WAREHOUSE.

	1857.	1858.	1859.	1860.
Manufactures of wool	\$796,631	\$911,951	\$989,517	\$540,025
Manufactures of cotton.....	229,041	204,568	188,039	214,926
Manufactures of silk	511,045	305,353	142,475	171,271
Manufactures of flax.....	188,023	202,568	113,755	89,245
Miscellaneous dry goods.....	45,656	84,643	42,720	47,056
Total.....	\$1,770,396	\$1,709,083	\$1,476,506	\$1,062,523
Add entered for consumption....	8,532,120	11,083,139	14,200,354	11,547,993
Total thrown upon market..	\$10,302,516	\$12,792,222	\$15,676,860	\$12,610,516

ENTERED FOR WAREHOUSING.

	1857.	1858.	1859.	1860.
Manufactures of wool....	\$880,041	\$239,236	\$880,120	\$339,783
Manufactures of cotton.....	120,505	105,683	236,627	269,711
Manufactures of silk.....	218,164	73,243	141,549	111,155
Manufactures of flax.....	78,096	54,270	121,655	60,540
Miscellaneous dry goods.....	136,799	18,969	66,602	32,303
Total.....	\$933,605	\$491,401	\$946,553	\$813,492
Add entered for consumption....	8,532,120	11,083,139	14,200,354	11,547,993
Total entered at the port...	\$9,465,725	\$11,574,540	\$15,146,907	\$12,361,485

The total imports of foreign dry goods at the port of New York, since January 1st, are \$10,000,000 less than for the corresponding eight months of last year, but larger than for the previous years. The quantity put upon the market shows the same results:—

IMPORTS OF FOREIGN DRY GOODS AT THE PORT OF NEW YORK, FOR EIGHT MONTHS, FROM JANUARY 1ST.

ENTERED FOR CONSUMPTION.

	1857.	1858.	1859.	1860.
Manufactures of wool.....	\$17,648,469	\$11,980,604	\$26,369,976	\$23,948,703
Manufactures of cotton.....	12,927,582	6,676,304	18,004,221	11,906,656
Manufactures of silk.....	20,563,139	12,381,859	25,478,077	26,491,407
Manufactures of flax.....	4,669,025	2,955,195	7,474,910	4,884,292
Miscellaneous dry goods.....	5,052,091	2,396,258	4,185,036	4,302,359
Total.....	\$60,860,306	\$36,390,220	\$81,512,220	\$71,533,417

WITHDRAWN FROM WAREHOUSE.

	1857.	1858.	1859.	1860.
Manufactures of wool.....	\$4,484,294	\$3,518,346	\$2,260,921	\$2,444,682
Manufactures of cotton.....	2,631,053	3,151,898	1,308,321	2,087,538
Manufactures of silk	2,755,533	2,887,009	719,331	1,299,176
Manufactures of flax	1,316,035	1,746,616	770,699	652,371
Miscellaneous dry goods	637,637	1,028,634	313,870	439,782
Total.....	\$12,825,552	\$12,332,503	\$5,378,142	\$6,923,549
Add entered for consumption....	60,860,306	36,390,220	81,512,220	71,533,417
Total thrown on market....	\$73,685,858	\$48,722,723	\$86,885,362	\$78,456,956

ENTERED FOR WAREHOUSING.

	1857.	1858.	1859.	1860.
Manufactures of wool.....	\$5,729,871	\$1,731,492	\$2,700,241	\$2,762,060
Manufactures of cotton.....	2,623,091	1,547,538	1,148,549	1,962,608
Manufactures of silk.....	4,207,627	988,141	667,047	1,266,116
Manufactures of flax.....	1,536,725	649,280	559,242	362,053
Miscellaneous dry goods.....	1,224,398	437,277	342,592	465,574
Total.....	\$15,321,712	\$5,353,678	\$5,417,671	\$6,818,411
Add entered for consumption...	60,860,306	36,390,220	81,512,220	71,456,966
Total entered at the port...	\$76,182,018	\$41,743,898	\$86,929,891	\$78,275,377

The exports from New York to foreign ports show an increase in specie, which has even exceeded the exports of 1859 or of 1857; while the exports of domestic produce exceed those of any previous year in the history of the port:—

EXPORTS FROM NEW YORK TO FOREIGN PORTS FOR THE MONTH OF AUGUST.

	1857.	1858.	1859.	1860.
Domestic produce.....	\$4,289,479	\$4,660,272	\$5,150,710	\$8,012,814
Foreign merchandise (free).....	393,882	102,674	374,707	76,083
Foreign merchandise (dutiable)...	654,088	224,438	790,646	191,270
Specie and bullion.....	6,271,717	2,201,802	6,409,783	7,454,813
Total exports.....	\$11,609,166	\$7,189,186	\$12,725,846	\$15,934,900
Total, exclusive of specie....	5,337,449	4,987,334	6,316,063	8,480,087

This leaves the exports from New York to foreign ports, exclusive of specie, for the first eight months of the current year, \$16,271,527 above the corresponding total of last year. The exports of specie show a decrease of \$14,000 000 upon the total of the year 1859, and \$2,300,000 higher than even in 1857. The total exports have reached a very high figure; of these domestic produce never before was so large:—

EXPORTS FROM NEW YORK TO FOREIGN PORTS FOR EIGHT MONTHS, FROM JANUARY 1.

	1857.	1858.	1859.	1860.
Domestic produce.....	\$43,014,815	\$38,012,626	\$38,524,357	\$54,294,389
Foreign merchandise (free).....	2,709,756	955,698	2,139,807	1,936,567
Foreign merchandise (dutiable)...	3,538,044	2,782,282	3,812,536	3,516,331
Specie and bullion.....	32,298,156	17,363,257	49,658,774	35,598,550
Total exports.....	\$81,560,771	\$59,113,863	\$93,135,474	\$95,345,777
Total, exclusive of specie....	49,262,615	41,750,606	43,476,700	59,747,227

The cash revenue for August shows a large increase compared with last year, but the total is less as compared with 1857:—

CASH DUTIES RECEIVED AT NEW YORK.

	1858.	1859.	1860.
First six months.....	\$11,089,112 57	\$19,912,181 99	\$18,389,679 00
In July.....	3,337,305 33	4,851,246 89	4,504,066 00
In August.....	3,545,119 01	4,243,010 43	4,496,243 00
Total since Jan. 1st....	\$18,021,536 91	\$28,606,439 31	\$27,389,988 00

JOURNAL OF BANKING, CURRENCY, AND FINANCE.

BOSTON VALUATION.

The taxable valuation of the twelve wards of the city of Boston for the two last years present results as follows:—

Wards.	1859.			1860.		
	Real estate.	Personal estate.	Polls.	Real estate.	Personal estate.	Polls.
1.....	8,168,400	2,834,000	3,548	7,673,300	2,850,200	3,554
2.....	5,463,500	532,500	3,530	5,381,300	696,300	3,510
3.....	6,806,500	2,938,800	2,121	6,905,700	3,220,200	2,220
4.....	37,340,500	36,624,700	3,159	38,319,300	36,758,500	3,179
5.....	5,823,300	2,300,000	2,247	5,582,700	2,288,700	2,200
6.....	26,202,800	20,871,500	1,999	27,453,800	23,299,800	2,245
7.....	16,426,300	21,318,700	2,316	16,573,700	23,733,800	2,561
8.....	11,228,000	4,583,600	2,121	11,696,700	4,937,900	2,170
9.....	8,569,700	3,069,200	2,086	8,760,200	3,182,000	1,993
10.....	7,838,500	2,592,700	2,612	7,467,600	2,689,700	2,189
11.....	16,312,500	5,040,500	3,840	19,403,100	6,318,400	4,158
12.....	8,224,900	2,310,900	3,877	8,640,200	2,507,900	4,200
Total	158,410,900	105,018,100	33,456	163,856,700	112,483,200	34,179

	1859.	1860.
Total valuation	\$263,429,900 00	\$276,339,900 00
Tax raised	2,500,000 00	2,530,000 00
Tax rate per \$1,000.	9 70	9 30

From this table it will be seen that in only one ward (fifth) is there a decrease of both personal and real estate. In wards 1, 2, and 10 there is a decrease in real estate, but an increase of personal. The largest decrease in any ward is in ward 1, \$480,100. The largest increase is in ward 11, \$4,368,500. Ward 6 comes next, with \$3,679,100. In ward 8 the increase is a little over \$900,000; in ward 12, \$612,300; in ward 10 the decrease of real overcomes the increase of personal by \$281,400. Ward 9 makes a gratifying increase of \$303,306.

A part of this increase is in buildings upon the new made land of the Back Bay. Ward 7 shows as yet but a small increase of real but adds to her personal the sum of \$2,415,100. On the whole the aspect of affairs is gratifying—a marked increase of property, and though many improvements have been carried forward, a decrease in the rate of taxation.

The comparative relation in Boston and New York for some years has been as follows:—

	1844.	1856.	1858.	1860.
Boston	\$110,046,000	\$249,162,500	\$254,714,100	\$276,339,900
New York.....	236,727,143	511,740,491	531,222,642	552,008,742

BANK OF THE STATE OF INDIANA.

The returns of the Bank of the State of Indiana has been as follows:—

	Discounts.	Specie.	Circulation.	Deposits.
January, 1860.....	\$6,213,659	\$1,411,500	\$4,386,913	\$834,189
March, "	6,742,270	1,652,323	5,011,769	1,200,856
July, "	6,281,415	1,667,263	4,586,053	942,503

Of the discounts three-fourths were bills of exchange.

BANKS OF WISCONSIN.

The official returns of the Wisconsin banks are as follows at certain dates :—

	No. of banks.	Securities.	Circulation.
January, 1858.....	66	\$3,626,468	\$2,913,071
“ 1859.....	98	5,114,415	4,695,170
“ 1860.....	105	5,031,504	4,429,855
July, 1860.....	105	4,636,367	4,135,218

Twenty-three banks are winding up ; their outstanding circulation is \$53,418, for the redemption of which specie is held in trust to the amount of \$53,421. The statement is brought down to July 1st.

The securities held for account of these institutions were as follows :—

Wisconsin 6 per cent bonds..	\$100,000	Illinois 6's.....	515,000
Racine and Mississippi Rail- road, 8's.....	27,000	Iowa 7's.....	10,000
Milwaukee and Watertown Railroad, 8's.....	30,000	Indiana 5's.....	70,000
Minnesota 8's.....	56,000	Kentucky 6's.....	23,000
N. Carolina 6's.....	456,000	Louisiana 5's.....	10,000
Ohio 6's.....	231,000	“ 6's.....	140,000
Tennessee 6's.....	691,000	Missouri 6's.....	1,503,000
Virginia 6's.....	179,000	Michigan 6's.....	205,000
“ 5's.....	9,000	Total.....	\$4,546,200
California 7's.....	213,000	Specie.....	90,167
Georgia 6's.....	25,000		
“ 7's.....	20,000		

Missouri 6's are one-third of the whole amount.

THE CLEARING-HOUSE.

The largest amount of exchanges at the New York Clearing-house in any one day, was March 19, 1857, \$40,515,703 ; for any one week, was the week ending May 4, 1857, \$186,484,776. The heaviest year was that ending October 1st, 1857, \$8,333,226,718. The *Bankers' Magazine* remarks :—

The smallest amount of exchanges in any one day was October 30th, 1857, \$7,867,674 ; for any one week, the week ending November 2, 1857, \$57,663,026.

In London the Clearing-house, in 1839, had already attained such efficiency, that for the annual liquidation of £950,000,000 sterling, or £3,000,000 daily, it only required on an average each day, £200,000 in sovereigns, or rather in bank notes. At present, with a mass of transactions amounting to £1,500,000,000, or £4,500,000 sterling daily, instead of a proportionate addition to the £200,000 required for the daily balance being necessary, *not a shilling is wanted* ; the Clearing-house now dispenses completely with the use of bank notes ; all is settled by the transfer of sums from one account to another in the books of the Bank of England.

This plan might be successfully adopted here. Instead of sending \$1,200,000 in cash and certificates daily to the Clearing-house, as at present, to discharge balances, specie checks on the deposit bank would obviate all the risk and labor of counting this money every day. The London bankers have the advantage of us in this instance, and perform their exchanges of six millions sterling per day without the intervention of bank notes or coin, thus avoiding unnecessary labor, loss of time, and all risk of transmission to and from the place of payment.

CITY WEEKLY BANK RETURNS.

NEW YORK BANK RETURNS.—(CAPITAL, JAN., 1860, \$69,833,632; 1859, \$68,050,755.)

	Loans.	Specie.	Circulation.	Deposits.	Average clearings.	Actual deposits.
Jan. 7	124,597,663	17,863,734	8,539,063	97,493,709	22,684,854	74,808,855
14	123,582,414	18,740,866	8,090,548	99,247,743	23,363,980	75,883,763
21	123,845,931	19,233,494	7,880,865	99,644,128	22,813,547	76,830,581
28	123,088,626	20,063,739	7,760,761	98,520,793	21,640,967	76,879,826
Feb. 4	124,091,982	19,924,301	8,174,450	99,476,430	21,898,736	77,577,694
11	123,336,629	19,787,567	8,185,109	98,146,463	21,674,908	76,471,055
18	124,206,031	20,591,189	8,050,001	100,387,051	22,061,811	78,325,240
25	124,398,239	20,773,896	7,928,595	100,622,481	22,151,504	78,470,977
Mar. 3	125,012,700	23,086,812	8,165,026	103,663,462	22,787,290	80,876,172
10	127,302,778	21,861,180	8,419,633	104,813,906	23,791,958	81,021,948
17	127,562,848	23,171,833	8,380,999	108,560,981	25,562,858	82,998,123
24	127,613,507	23,286,204	8,335,266	107,505,395	25,397,976	82,107,419
31	128,388,223	23,420,759	8,444,327	106,311,554	22,839,523	83,422,031
Apr. 7	130,606,731	22,599,132	8,929,228	109,193,464	25,656,629	83,536,835
14	129,919,015	23,626,982	8,775,297	109,153,863	24,256,270	84,897,593
21	128,448,868	23,233,314	8,790,459	108,145,233	25,758,735	83,325,490
28	127,085,667	23,279,809	8,749,048	103,206,723	21,391,290	81,815,433
May 5	127,479,520	23,815,746	9,391,861	108,505,388	26,546,063	81,959,325
12	126,184,532	22,780,387	9,153,811	103,038,848	22,802,174	80,236,674
19	124,938,389	23,735,193	9,035,522	106,229,724	25,339,444	80,890,280
26	125,110,700	23,431,773	8,826,473	104,433,136	24,309,496	80,123,640
June 2	124,792,271	24,535,457	8,774,063	104,268,785	22,888,107	81,380,678
9	125,431,963	23,785,581	8,999,948	103,386,091	22,776,108	80,609,983
16	125,399,997	24,110,553	8,828,786	104,031,268	22,492,614	81,533,654
23	125,886,565	23,350,921	8,779,115	102,737,055	22,116,242	80,620,813
30	127,208,201	22,464,250	8,745,132	102,496,762	21,309,053	81,187,709
July 7	127,244,241	22,751,694	9,343,727	103,450,426	22,119,106	81,331,320
14	127,123,166	23,641,357	8,075,528	106,399,678	23,456,447	82,943,231
21	128,427,489	23,443,644	8,333,619	107,717,216	23,457,781	84,259,435
28	129,074,293	23,099,726	8,760,252	105,524,100	21,239,450	84,234,650
Aug. 4	130,118,247	22,128,189	9,176,386	107,264,777	23,417,789	83,846,988
11	129,855,179	21,579,740	9,129,835	105,505,399	22,626,292	82,879,107
18	129,950,346	21,008,701	9,088,648	105,690,481	22,934,365	82,756,116
25	130,578,997	20,119,779	9,142,006	104,423,122	22,433,949	81,939,173
Sept. 1	129,029,175	19,035,029	9,253,682	102,229,586	22,561,086	79,663,998
8	127,999,839	19,187,713	9,538,824	101,185,086	24,072,405	77,112,681
15	127,002,728	18,960,749	9,494,332	101,117,627	24,257,872	76,859,755

BOSTON BANKS.—(CAPITAL, JAN., 1859, \$35,125,433; 1860, \$37,258,600.)

	Loans.	Specie.	Circulation.	Deposits.	Due to banks.	Due from banks.
Jan. 2	59,807,566	4,674,271	6,479,483	18,449,305	7,545,222	6,848,374
16	60,068,941	4,478,841	6,770,624	17,753,070	7,867,400	6,735,283
23	59,917,170	4,182,114	6,486,139	17,378,002	7,784,169	6,516,532
30	59,491,387	4,172,325	6,199,485	17,483,054	7,383,370	6,517,541
Feb. 6	50,705,422	4,249,594	6,307,922	17,900,002	7,259,703	6,656,640
13	59,993,784	4,462,698	6,364,320	17,271,596	7,426,539	6,593,762
20	60,113,836	4,577,334	6,305,537	17,597,881	7,430,060	6,549,382
27	59,927,917	4,714,034	6,411,573	18,020,239	7,700,530	7,480,954
March 5	59,993,784	5,034,787	6,396,656	18,645,621	7,736,290	7,768,074
12	59,885,196	5,328,610	6,430,643	18,393,293	7,715,663	7,390,935
19	60,258,208	5,446,840	6,405,084	18,660,205	.....	.....
26	60,180,209	5,627,961	6,328,273	18,742,817	8,351,016	7,804,222
Apr. 2	60,050,953	6,045,703	6,340,268	19,262,894	8,473,775	8,080,218
9	60,668,559	6,320,551	7,753,491	20,469,893	9,206,161	9,788,121
16	61,189,629	6,289,719	7,267,165	20,291,620	9,160,868	8,314,312
23	61,035,965	6,315,952	7,152,766	20,266,917	9,055,077	8,138,121
30	61,259,552	6,317,999	6,992,903	20,195,951	9,273,558	7,948,086
May 7	61,614,199	6,311,714	7,322,813	20,810,086	9,116,514	8,324,391
14	61,744,290	6,263,535	7,076,071	20,758,862	9,210,132	8,209,699

	Loans.	Specie.	Circulation.	Deposits.	Due to banks.	Due from banks.
21 ..	61,724,621	6,268,919	7,081,306	20,726,996	9,197,894	8,241,899
28 ..	61,258,986	6,201,113	6,660,595	20,320,518	9,057,822	8,272,557
June 4 ..	61,585,669	6,192,455	6,800,711	20,656,295	9,172,878	8,366,511
11 ..	62,846,519	6,300,700	7,090,282	20,228,677	9,629,488	7,857,439
18 ..	63,085,953	6,322,698	7,165,453	20,677,536	9,988,840	7,991,098
25 ..	63,557,155	6,262,930	7,188,326	20,750,673	10,307,194	8,188,802
July 2 ..	64,172,028	6,059,370	6,925,022	20,828,714	10,300,178	7,527,888
9 ..	65,039,459	6,087,718	7,932,653	21,133,175	11,304,893	9,105,876
16 ..	65,153,413	5,685,920	7,560,636	20,312,421	11,098,306	7,995,222
23 ..	64,852,961	5,335,523	7,523,745	19,751,313	11,093,127	8,158,425
30 ..	64,460,289	5,212,470	6,848,834	19,296,454	10,353,708	6,961,414
Aug. 6 ..	64,777,963	5,164,006	7,127,254	19,610,274	9,923,931	7,378,456
13 ..	64,840,527	5,128,628	7,075,440	19,157,661	9,851,112	6,816,650
20 ..	64,650,278	5,063,925	7,107,097	18,700,624	9,772,783	6,761,286
27 ..	64,216,345	4,966,105	6,790,847	18,965,057	9,656,546	6,956,287

PHILADELPHIA BANKS.—(CAPITAL, JAN., 1860, \$11,783,190.)

Date.	Loans.	Specie.	Circulation.	Deposits.	Due banks
Jan. 2....	25,386,387	4,450,261	2,856,601	14,982,919	2,619,192
9....	25,248,051	4,453,252	2,673,623	14,161,437	2,596,212
16....	25,275,219	4,561,998	2,672,730	14,934,517	2,563,449
23....	25,445,737	4,514,579	2,644,191	15,064,970	2,601,271
30....	25,526,198	4,535,321	2,601,750	15,401,915	2,619,573
Feb. 6....	25,493,975	4,669,929	2,656,310	15,409,241	2,574,015
13....	25,493,975	4,669,929	2,656,310	15,409,241	2,574,015
20....	25,458,354	4,531,356	2,663,695	14,864,302	2,782,306
27....	25,553,918	4,706,108	2,653,192	14,690,092	3,115,010
Mar. 5....	25,742,447	4,816,052	2,697,108	15,192,971	3,133,312
12....	25,742,447	4,816,052	2,697,108	15,192,971	3,133,312
19....	25,832,077	4,873,419	2,783,345	15,205,432	3,209,553
26....	26,043,772	4,992,542	2,784,773	15,693,622	3,198,530
April 2....	26,405,229	5,060,274	2,858,812	15,553,269	3,652,757
9....	27,214,254	5,209,576	3,528,762	15,528,762	4,085,695
16....	27,444,580	5,415,711	3,252,186	16,012,140	4,164,678
23....	27,545,351	5,464,280	3,154,285	16,613,616	3,985,110
30....	27,571,002	5,453,470	3,037,846	16,529,891	3,902,514
May 7....	27,590,212	5,477,019	2,968,444	16,763,609	3,731,987
14....	27,463,831	5,537,360	2,944,245	16,489,872	4,209,845
21....	27,401,926	5,367,416	2,870,617	16,422,835	4,085,882
28....	27,288,932	4,886,579	2,818,719	15,884,903	3,974,369
June 4....	27,171,002	4,532,610	2,824,471	15,620,293	3,744,431
11....	27,046,016	4,183,667	2,810,552	15,698,909	3,128,287
18....	26,882,709	4,222,644	2,725,269	15,642,639	3,109,639
25....	26,780,533	4,329,638	2,654,503	15,643,433	3,060,615
July 2....	26,835,868	4,305,866	2,960,381	15,824,391	3,159,819
9....	26,835,868	4,305,866	2,960,381	15,824,391	3,159,819
16....	26,878,435	4,403,157	2,859,852	15,796,205	3,313,195
23....	26,842,743	4,553,641	2,821,082	15,966,734	3,099,567
30....	26,851,776	4,249,304	2,785,718	16,085,967	3,211,855
Aug. 6....	26,936,227	4,800,443	2,837,207	16,369,525	3,097,889
13....	26,830,307	4,768,405	2,849,340	15,671,260	3,261,584
20....	26,835,337	4,771,772	2,854,653	15,588,318	3,275,683
27....	27,095,028	4,757,917	2,835,524	15,923,769	3,185,826

NEW ORLEANS BANKS.—(CAPITAL, JAN., 1860, \$18,917,600.)

	Short loans.	Specie.	Circulation.	Deposits.	Exchange.	Distant balances.
Jan. 7 ..	25,022,456	12,234,448	12,038,494	18,563,804	7,323,530	1,557,174
14 ..	24,928,909	12,336,735	12,417,847	18,678,233	7,410,360	1,387,704
21 ..	24,699,024	12,821,411	12,809,512	18,664,355	7,423,629	1,377,796
28 ..	24,916,431	12,818,159	12,882,184	19,677,121	8,144,681	1,603,763
Feb. 4 ..	25,145,274	12,750,642	13,215,494	19,565,305	8,003,380	1,613,036
11 ..	25,197,351	12,741,881	13,243,924	19,244,847	7,349,365	1,396,150

	Short loans.	Specie.	Circulation.	Deposits.	Exchange.	Distant balances.
18 ..	25,005,952	12,894,521	13,458,989	19,903,519	7,886,609	1,470,787
25 ..	24,397,286	12,945,204	13,600,419	19,218,590	8,083,929	1,635,526
Mar. 3 ..	24,946,210	12,952,002	13,860,399	20,116,272	8,027,049	1,092,475
10 ..	24,088,800	13,039,092	13,726,554	19,711,423	8,582,012	1,601,149
17 ..	24,054,845	12,729,356	13,797,154	19,304,618	8,498,790	1,718,310
24 ..	23,832,766	12,610,790	13,835,755	19,102,068	8,342,599	1,738,246
31 ..	23,674,714	12,437,195	13,975,624	18,681,020	8,149,061	1,610,499
Apr. 7 ..	23,107,740	12,368,071	14,100,890	18,070,209	8,560,117	1,942,056
14 ..	22,422,203	12,290,539	13,638,089	17,849,018	8,179,441	1,608,463
21 ..	22,380,033	12,100,687	12,999,204	18,380,033	7,649,069	1,649,069
28 ..	21,437,974	11,910,361	12,783,749	17,699,538	7,686,634	1,877,017
May 5 ..	21,437,974	11,910,361	12,783,749	17,699,538	7,686,634	1,877,017
12 ..	20,545,529	11,672,364	12,258,444	17,442,974	7,213,833	1,763,871
19 ..	19,385,119	11,706,007	12,163,609	17,260,226	6,909,386	1,680,480
26 ..	18,588,492	11,593,719	11,900,864	17,938,774	6,599,676	1,596,210
June 2 ..	18,282,807	11,191,024	11,791,799	16,985,565	6,173,783	1,459,051
9 ..	17,423,118	11,072,236	11,572,259	16,989,587	5,958,996	1,442,041
16 ..	16,864,692	10,693,389	11,889,389	16,105,566	5,533,830	1,665,076
23 ..	16,821,969	10,223,276	11,138,434	15,319,947	5,067,682	1,739,481
July 7 ..	16,627,125	9,883,812	10,921,057	14,671,491	4,548,395	1,601,540
14 ..	16,795,836	9,693,954	10,695,884	14,557,417	4,123,242	1,401,804
21 ..	16,945,426	9,544,793	10,310,824	14,326,547	3,706,020	1,512,608
28 ..	17,802,024	9,607,448	10,071,333	14,358,384	3,219,947	1,163,961
Aug. 4 ..	19,006,951	9,780,130	9,786,684	14,264,107	2,900,039	1,138,398
11 ..	19,383,879	9,846,131	9,526,934	14,368,664	2,565,150	1,182,331
18 ..	20,313,484	9,801,183	9,357,964	14,107,235	2,119,789	1,299,462
25 ..	21,332,318	9,900,424	9,263,874	13,614,301	1,756,034	1,346,814

PITTSBURG BANKS.—(CAPITAL, \$4,160,200.)

	Loans.	Specie.	Circulation.	Deposits.	Due banks.
Jan. 16	7,202,367	980,530	2,080,548	1,527,548	304,552
23	7,060,471	1,022,273	2,012,478	1,545,103	255,076
30	6,989,320	1,003,037	1,896,363	1,555,686	265,804
Feb. 6	6,984,209	997,589	1,907,323	1,609,692	230,426
13	6,939,052	951,638	1,883,093	1,602,311	191,222
20	6,957,621	988,306	1,868,598	1,643,703	175,051
27	7,022,230	991,377	1,821,283	1,760,957	224,434
Mar. 5	7,101,459	1,018,255	1,871,873	1,768,879	273,343
12	7,035,624	999,093	1,901,543	1,651,216	197,007
19	7,066,774	1,004,750	1,945,328	1,636,887	198,556
26	7,038,891	981,560	1,980,732	1,572,130	192,411
Apr. 2	7,166,377	1,005,415	2,085,583	1,601,167	191,101
9	7,206,737	990,962	2,072,373	1,693,230	171,100
16	7,159,568	1,018,445	2,071,878	1,651,362	187,255
23	7,278,279	1,156,278	2,024,138	1,897,498	240,143
30	7,234,761	1,141,373	1,995,053	1,913,537	175,671
May 5	7,234,761	1,141,373	1,995,053	1,913,537	175,671
14	7,263,197	1,088,851	2,011,258	1,890,810	215,765
19	7,196,493	1,133,719	2,022,988	1,906,773	213,944
27	7,190,192	1,122,057	1,952,683	1,918,321	206,316
June 4	7,282,963	1,089,751	1,907,248	1,919,903	277,978
11	7,214,889	1,126,308	1,919,688	1,892,300	240,728
18	7,247,541	1,102,446	2,029,558	1,743,915	271,062
25	7,291,888	1,150,248	2,043,358	1,779,752	315,858
July 14	7,310,663	1,068,974	2,071,443	1,818,515	239,832
21	7,294,391	1,083,220	2,073,593	1,846,879	205,011
28	7,215,944	1,098,084	2,069,803	1,861,817	167,671
Aug. 6	7,203,057	1,130,002	2,018,628	1,860,348	234,346
13	7,138,260	1,123,027	1,990,498	1,853,759	175,924
20	7,093,091	1,152,198	2,007,653	1,859,418	239,790
27	7,047,761	1,167,384	2,084,758	1,843,750	232,181

ST. LOUIS BANKS.

		Exchange.	Circulation.	Specie.
Jan.	7	4,373,543	538,555	662,755
	14	4,467,513	520,305	642,497
	21	4,352,699	502,175	580,754
	28	4,290,563	495,380	563,385
Feb.	4	4,149,236	457,095	590,502
	11	4,048,593	424,605	625,043
	18	3,906,896	391,605	639,450
	25	3,951,433	399,085	680,877
March	3	3,891,263	395,905	689,301
	10	3,998,827	377,935	651,302
	17	3,963,924	377,355	641,252
	24	3,880,915	356,245	664,179
	31	3,790,291	340,095	685,984
April	7	3,862,454	344,630	657,321
	14	3,868,345	325,950	676,858
	21	3,852,614	314,360	601,014
	28	3,694,877	306,750	678,234
May	5	3,609,648	301,300	746,176
	12	3,683,644	294,115	808,918
	19	3,695,707	285,140	826,793
	26	3,767,986	273,540	671,669
June	2	3,879,617	255,210	627,942
	9	3,823,735	253,780	656,358
	16	3,888,763	244,850	682,917
	23	3,967,032	235,935	705,764
	30	3,825,423	206,749	804,983
July	7	3,736,695	199,385	791,729
	14	3,392,096	152,025	684,358
	21	3,679,192	191,375	752,397
	28	3,623,333	177,620	658,852
Aug.	4	3,526,098	173,310	633,795
	11	3,540,196	176,115	637,310
	18	3,560,267	188,375	714,046
	25	3,599,470	220,605	728,545

PROVIDENCE BANKS.—(CAPITAL, \$14,903,000.)

	Loans.	Specie.	Circulation.	Deposits.	Due banks.
Jan. 2	19,144,354	315,917	2,011,336	2,635,486	938,508
Feb. 6	19,144,846	326,297	1,958,540	2,566,168	921,779
Mar. 3	19,009,255	342,965	1,917,593	2,598,169	970,971
Apr. 1	18,686,210	343,992	1,952,022	2,640,170	1,040,260
May 7	18,893,653	448,413	2,045,590	2,773,248	1,356,071
June 4	18,891,907	422,726	1,938,254	2,844,012	1,210,104
July 2	19,243,061	430,123	2,158,904	2,790,587	1,115,951
Aug. 6	19,530,296	397,286	2,218,347	2,748,678	1,169,800
Sept. 3	19,566,718	357,138	2,128,957	2,526,943	1,082,109

THE FAILURES IN THE LEATHER TRADE.

The recent and heavy failures in the London leather trade have created much surprise among the merchants and bankers there. That of Messrs. STREATFIELD & Co. shows an aggregate liability of £744,000, and the gross assets only £214,000—a resulting loss of at least £530,000. Of this and other equally unfavorable exhibits, the *Banking Atlas*, of London, says:—

The facts which have already been made known under this failure are full of commercial interest. It appears from an inspection of the accounts that at so short a period back as January, 1857, this firm was solvent; and that £365,000, owing to them by customers as good, are now considered as bad debts, and that

this amount has gone on increasing up to the time of their failure, until their liabilities have reached the enormous amount above stated. The partners—like many others who have trusted to the same broken reed—appear to have anticipated a recovery of their position from the future profits of their business, and from some other property. These, however, having failed, a suspension took place as the natural consequence of accumulated difficulties. When, however, we hear of firms of such magnitude being crushed under the weight of their own transactions, such examples are of little value, except a commercial lesson can be extracted from them. Here we have an old firm, carrying on an immense business in a particular branch of trade; standing like a sun in the midst of lesser luminaries, through whose borrowed light they shine in their respective orbits; yet in less than three years this firm falls into bankruptcy, dragging down other houses that involve from two to three millions of liabilities.

Now, there is a certain class of writers, as well as traders, that are always prophesying "smooth things." They glance at our export tables and find that our foreign and colonial trade have increased; and, therefore, they come at once to the conclusion that prosperity must form the basis of this augmented commerce. Suddenly there is a flaw discovered somewhere. Some "great house" is whispered about; then it is openly talked of; at last, it "falls like Lucifer." It then creates a temporary wonderment, and the event is passed. "Overtrading," "speculation," and "accommodation bills," and other reasons are assigned as the cause of such commercial disasters; while lawyers and accountants proceed to divide the assets.

If we look a little deeper into the subject we shall discover that these failures are generated by other causes than those we have named. They have their pro-creating power in that system of money and credit which has long been the hidden curse of our national industry. We are told by the accountant that from January, 1857, "to the time of their failure, there was a gradual increase in the amount of bad debts." Yet were Messrs. STREATFIELD & Co. careful traders. During the past three years the profits of their business amounted in gross to £133,000; out of which they had set for bad debts £108,503; but this was a drop of water in the ocean to stem the torrent against them. There is a hiatus in the accountant's statement which, if filled up, would afford a valuable lesson to the commercial community. How did such a firm as this pass through the crisis of 1857, when the ordinary rate of discount was 10 per cent? And at what cost were those firms sustained in their position who depended upon Messrs. STREATFIELD for assistance? It may be a matter of surprise to find so large an amount of paper under discount; but this is no more than the natural result of a system of credit, which gives to money an unnatural value, until trade and commerce are drawn into the vortex of inextricable debt. We do not say that Messrs. STREATFIELD & Co. may not have been chargeable with imprudence in their business; we are now referring to the credit system under our present money laws, a system that is rapidly tending to centralize the entire power of money dealing in London at any cost.

Our merchants and traders are as yet mere children in monetary science. They speak of the "supply" and the "demand" of money, as if it grew up like a garden of cabbages or a field of wheat, instead of making themselves acquainted with the causes which are continually operating to make a given quantity more scarce or more accessible. When merchants and traders shall become as well acquainted with the science of money as the sailor is of navigation, they will understand what it is that causes them to be so frequently shipwrecked in the midst of their fancied prosperity.

Other failures in the English leather trade show the following disastrous results:—

	Liabilities.	Assets.
Thomas Randall	£40,600	£19,700
W. G. Gibson	150,000	40,000
W. J. Armstrong	6,500	3,600
Hooper & Parkinson	43,700	10,700

FINANCES OF THE SANDWICH ISLANDS.

By command of the king and in conformity with the requirements of the constitution, the following report on the finances of the Kingdom for the biennial period ending with March 31, 1860, is respectfully submitted to the Legislature :

The balance in the treasury, April 1, 1858, was.....		\$349 24
The receipts during the two years ending March 31st, 1860, have been as follows:—		
From bureau of foreign imposts.....	\$213,209 68	
“ “ internal commerce.....	62,528 26	
“ “ “ taxes.....	108,841 85	
“ “ government press.....	7,873 41	
“ “ fines and penalties.....	50,564 34	
“ “ fees and perquisites.....	25,389 31	
“ “ government realizations	100,831 49	
“ miscellaneous receipts.....	86,628 94	
		<u>655,866 68</u>
		\$656,215 92

The expenditures during the same period have been as follows:—

For civil list.....	\$52,326 21	
“ department of the interior.....	107,821 43	
“ government press.....	20,000 00	
“ department of foreign relations.....	16,065 78	
“ “ finance.....	52,706 34	
“ “ public instruction.....	23,742 83	
“ “ war.....	45,494 64	
“ “ law	90,928 27	
“ bureau of public improvements.....	131,821 85	
“ miscellaneous expenditure.....	101,985 40	
Loss on depreciated coin.....	196 15	
		<u>643,088 40</u>
Balance on hand March 31st, 1860.....		13,127 52
		<u>\$656,215 92</u>

The debt of the government April 1, 1860, was \$108,777 33. Of this, \$100,075 22 bears interest at 12 per cent per annum. On the balance, consisting mainly of outstanding appropriations, no interest is payable.

To the amount thus specified should perhaps be added the sum of \$20,000, borrowed by the Minister of the Interior, under the provisions of the act approved April 21, 1859, in regard to water works, for which, however, the general treasury is not immediately responsible, as the receipts from water rents are set apart and pledged for the payment of such loan. These receipts now constitute a special fund to be applied solely to that object.

BANKING IN NEW SOUTH WALES.

An official return illustrative of the position of the joint-stock banks of New South Wales in the quarter ending the 31st of March last, exhibits the following results:—Notes in circulation, \$896,619; bills in circulation, £28,678; balances due to other banks, £491,561; deposits, £5,354,606; total liabilities, £6,771,464; coin held, £1,409,106; bullion, £35,791; landed property, £229,328; notes and bills of other banks, £67,304; balances due from other banks, £1,309,434; notes and bills discounted and other debts due, £6,253,345; total assets, £9,304,307. The paid up capital amounted to £5,708,012; the

last dividends absorbed £357,875, and the amount of reserved profits after the declaration of the dividends was £1,316,240. The rate of dividend varied from 7 to 20 per cent.

BANK OF FRANCE.

The returns of the Bank of France for the months of June and July of the present year show a commendable increase of circulation as compared with the cash on hand:—

	DEBTOR.		June.	
	July.		F.	C.
	F.	C.	F.	C.
Capital of the Bank	91,250,000	00	91,250,000	00
“ New.....	91,250,000	00	91,250,000	00
Profits in addition to capital, (Art. 8, Law of June 9, 1857).....	1,510,527	65	1,510,527	65
Reserve of the bank.....	12,980,750	14	12,980,750	14
New reserve.....	9,125,000	00	9,125,000	00
“ “ in landed property.....	4,000,000	00	4,000,000	00
Notes in circulation.....	787,406,325	00	743,938,925	00
Bank-notes to order.....	7,262,436	56	7,156,389	20
Receipts payable at sight.....	11,311,458	00	11,167,805	00
Treasury account current creditor.....	127,564,406	90	126,274,331	18
Sundry accounts current.....	197,641,945	68	209,651,926	63
“ “ “ with branch banks.....	32,620,057	00	39,380,995	00
Dividends payable.....	5,446,766	75	564,624	75
Discounts sundry interests.....	5,852,723	54	1,964,555	21
Commission on deposits.....	1,574,190	40	10,123,345	13
Rediscouted the last six months.....	1,216,446	20	1,326,692	17
Surplus on bills overdue.....	625	73	29,571	93
Sundries.....	3,948,779	47	3,654,796	84
Total.....	1,391,982,438	97	1,365,350,135	23
	CREDITOR.			
Cash in hand.....	141,350,634	45	173,282,807	83
Cash in branch banks.....	372,958,946	00	378,150,114	00
Commercial bills overdue.....	459,617	09	217,284	63
“ “ discounted not yet due....	221,783,352	16	200,293,618	88
“ “ in the branch banks.....	270,057,075	00	237,470,680	00
Advanced on deposit of bullion.....	2,564,700	00	1,949,100	00
“ by the branch banks.....	2,538,300	00	1,313,700	00
“ on French public securities.....	25,503,300	00	25,897,600	00
“ by the branch banks.....	14,872,000	00	14,436,400	00
“ on railway securities.....	93,182,400	00	79,062,200	00
“ by the branch banks.....	28,884,450	00	29,138,550	00
“ on Credit Foncier scrip.....	630,400	00	593,300	00
“ on branch banks scrip.....	433,100	00	294,300	00
“ to the State on agreement of June	35,000,000	00*	40,000,000	00
Government stock reserved.....	12,980,750	14	12,980,750	14
“ “ disposable.....	53,708,840	38	53,708,840	38
Hotel and furniture of bank.....	4,000,000	00	4,000,000	00
Landed property of branch banks.....	6,388,548	00	6,394,172	00
Expenses of management.....	171,352	47	1,924,407	22
Sundries.....	4,414,673	28	4,192,610	15
Rentes Immobilisees (law of 9th June, 1857)	100,000,000	00	100,000,000	00
Total.....	1,391,982,438	97	1,365,350,135	23

Certified by the governor of the Bank of France,

Count CH. DE GERMINY.

* Difference from last statement, five millions.

PORTSMOUTH.

The Portsmouth *Journal* remarks:—Although our city does not appear to have increased in population these last ten years, it is found by reference to the city books that the taxable property has increased from \$4,500,000 in 1850, to \$5,720,000 in 1860; being an increase of 30 per cent in ten years, notwithstanding the reduced valuation of ships.

The deposits in the Savings Bank have increased in the same time from \$422,000 to \$1,034,000, being an increase of 150 per cent. These deposits are mostly made either by the citizens of Portsmouth or by those of the towns in the immediate vicinity, which come to our market and trade with us.

Lots for building are held from ten to twenty cents per foot, the latter price being over \$8,000 per acre.

Taking these facts into consideration, we do not think there is any reason to complain of the last ten years' business. If our population has not increased, there are fewer to divide our wealth among.

	1850.	1860.	Increase.
Valuation of real estate.....	\$2,363,327	\$2,800,570	\$437,243
Valuation of personal estate.....	2,142,276	2,920,908	778,632
Polls	1,600	1,992	392

It is a rather remarkable fact that while our census returns indicate our population without an advance since 1850, that the town books show the aggregate polls of that year to be exactly 1,600, while in 1860, they number 1,992. A portion of this increase may be attributed to the naturalization of foreigners who were residents but not voters previous to 1850. Not much of the increase of personal property arises from the Savings Bank deposits—more than half of which has been made by females and other individuals whose property has not been taken into account in the valuation.

NEW YORK ASSAY-OFFICE.

The operations of the New York Assay-office have been, to the close of December, 1859, as follows:—

DEPOSITS, ETC., AT THE UNITED STATES ASSAY-OFFICE, NEW YORK, TO DECEMBER 31, 1859.

Gold bullion deposits		\$99,256,633 42
Silver bullion deposits	\$5,046,601 21	
Silver parted from gold	787,901 98	
		5,834,503 19
Total bullion deposits.....		\$105,091,136 61
Fine gold bars returned for coins		\$727,595 10
Fine gold bars paid to depositors.....		68,702,835 48
Fine bars made by melter and refiner, viz.:—		
Gold	\$88,123,248 14	
Silver.....	1,277,018 56	
		89,400,266 70
Bullion sent to the United States mint for coinage, viz.:—		
Gold.....	\$31,670,049 11	
Silver.....	5,025,483 69	
		\$36,695,532 80
Total amount transported to and from Philadelphia		\$73,391,065 60
Cost of transportation.....		46,746 50

FINANCES OF EUROPE AND AMERICA,

The *International Annual of Public Credits*, published at Paris, contains the following table by J. E. HORN, a noted economist, showing the population, debt, and finances of the leading countries of Europe and America, or those which have a population of more than 1,000,000 :—

States.	Population.	Annual revenue.	Expenses.	Annual interest on debt.
North America	23,283,488	285,231,133	389,545,549	51,715,332
Austria	37,339,912	649,843,662	733,751,943	249,504,625
Baden	1,335,952	70,535,111	69,790,587	7,227,000
Bavaria	4,616,750	93,134,512	93,033,592	28,003,320
Belgium.....	4,623,089	149,188,790	138,710,436	38,483,224
Brazil.....	7,778,000	140,291,000	120,291,000	21,471,000
Denmark.....	3,437,576	74,465,011	70,884,122	18,035,511
Spain	15,518,500	492,009,440	490,716,154	168,867,293
France	36,205,792	1,825,854,379	1,824,957,778	316,020,808
Great Britain.....	27,621,860	1,665,636,066	1,632,568,035	719,985,398
Greece	1,045,232	19,602,000	19,238,918	1,154,291
Hanover.....	1,844,000	72,152,962	71,369,285	7,925,255
Italy.....	25,600,090	510,000,000	510,000,000	125,000,000
Netherlands.....	3,543,775	194,057,808	165,204,664	70,466,732
Portugal.....	3,568,895	50,334,359	61,033,721	16,010,937
Prussia	17,740,000	485,266,935	485,266,935	49,889,297
Russia.....	60,000,000	1,101,888,000	1,101,888,000	240,000,000
Saxony.....	2,039,075	41,565,133	41,565,133	9,594,014
Sweden and Norway ..	5,072,820	176,049,772	170,581,080	27,310,509
Switzerland.....	2,392,740	17,216,270	16,087,706	317,500
Turkey.....	16,440,000	230,000,000	230,000,000	53,100,000
Wurtemberg.....	1,690,898	30,207,388	30,297,388	5,724,000
Total.....	282,727,354	8,386,229,961	8,476,783,156	2,234,814,318

The whole are reduced to francs.

SAVINGS BANKS OF NEW HAMPSHIRE.

The Bank Commissioners' report states the number of savings institutions per last year's report, at 23; increase during the year, 3; present number, 26.

Whole amount due depositors.....	\$4,860,024 86
Amount due depositors, per last year's report.....	4,138,822 40
Making an increase during the year of.....	\$721,202 46
Whole amount of apparent surplus.....	207,491 40
Amount of bad and doubtful assets.....	25,904 75
Leaving a net surplus of.....	\$181,586 65
Whole amount loaned and invested out of the State.....	1,661,791 98
Whole amount loaned and invested out of the State, as per last year's report.....	1,188,957 15
Making an increase during the year of.....	\$472,834 83

There are three banks in the State with a capital of \$200,000; six, \$150,000; one, \$141,000; two, \$125,000; one, \$120,000; seventeen, \$100,000; three, \$80,000; two, \$75,000; four, \$60,000, and twelve, \$50,000. The whole amount of specie on hand is \$253,496 35.

AUSTRIAN FINANCES.

A German journal in a recent issue presents a statement of the Austrian government debt, and of its increase from time to time. It reckons that the State has at present:—

A consolidated debt of.....	guilders	1,922,857,375
A floating debt of.....		345,214,156
Making a total of.....		2,268,071,532

—as the amount of Austrian indebtedness at the beginning of the year 1860, bearing an annual interest of 99,465,947 G.

And this estimation of the public is even 63,000,000 below the estimate of the minister of finance.

The annexed table shows the amount of annual deficits:—

	Official deficit.	Deficit according to private calculation.		Official deficit.	Deficit according to private calculation.
1848.... flor.	45,110,646	58,879,661	1855.....	138,899,297	186,135,017
1849.....	121,905,805	139,936,224	1856.....	62,353,667	111,180,771
1850.....	54,864,862	90,589,725	1857.....	42,533,868	101,663,650
1851.....	62,223,630	104,899,971	1858.....	36,481,861	44,205,054
1852.....	53,447,331	79,624,518			
1853.....	56,253,635	86,515,965	Total....	815,357,524	1,181,303,496
1854.....	140,712,922	178,163,940			

Meanwhile government had parted with many valuable properties. It sold in 1855, the Hungarian and Bohemian State Railroads, together with lands and mines, to a French company for the sum of 80,000,000 C. M.; 1856, the Lombardo-Venetian road, with the exception of a portion from Verona to Southern Tyrol, to the Vienna Creditanstalt for 100,000,000 lire—33½ millions; 1858, the last Southern State road to the same company for Fl. 100,000,000, the last 30,000,000 of which amount, however, are only to be paid when a revenue of 7 per cent on the capital shall have been earned. Add to these the sale of the Siebenburgen Aerarial Iron Mines, etc.; the contributions levied upon the Italians, and the indemnity of war which Sardinia had to pay after 1849, with 75,000,000 liras—28,571,000 florins—all of which has been used. The deficit of 1859 ought not to be estimated at less than 200,000,000 or 300,000,000.

CHILIAN MINT—NEW MINES.

Recent advices from Chili report that, by direction of the executive, the mint hereafter will coin one dollar gold pieces, and, as soon as practicable, 500,000 of silver coin of twenty, ten, and five cents value; the twenty cent pieces to weigh four grains, sixty centigrams; the ten cent pieces, two grains, thirty centigrams, and the five cent pieces, one grain, fifteen centigrams. A Valparaiso paper states that a month ago there were only three mines whose ores showed silver visibly; now there are no less than ten in that condition. The shares that formerly sold for \$2,500 are now valued at \$3,500, and some cannot be obtained for \$5,000. Fresh discoveries are made every day both of silver and copper mines. At the very foot of the Andes a silver mine has been discovered rivaling in richness the very richest of Copiapo.

OHIO VALUATION.

The State valuation of real property in Ohio shows an increase of seventy-five millions in six years, viz. :—

Total valuation 1853.....	\$558,725,000
Total valuation 1859.....	633,246,000

Hamilton County, in which Cincinnati is located, represents one-eighth of the whole property of the State. The counties having over ten millions are as follows :—

	1853.	1859.
Butler.....	\$12,287,000	\$13,824,000
Cuyahoga.....	25,426,000	23,818,000
Franklin.....	18,652,000	19,534,000
Greene.....	8,410,000	10,770,000
Hamilton.....	78,636,000	81,620,000
Licking.....	11,164,000	12,529,000
Montgomery.....	15,683,000	18,281,000
Muskingum.....	12,207,000	12,380,000
Pickaway.....	9,092,000	10,840,000
Ross.....	11,004,000	12,077,000
Stark.....	10,264,000	11,363,000
77 other counties.....	335,900,000	406,110,000
Total.....	\$558,725,000	\$633,246,000

BANKS OF ILLINOIS.

The official returns give the following figures for the amounts of securities held for the circulation of the 81 banks of that State :—

	No. of banks.	Securities.	Circulation.
January, 1853.....	45	\$6,164,017	\$5,283,930
" 1859.....	48	6,486,652	5,707,048
" 1860.....	74	9,826,691	8,981,723
July, 1860.....	81	10,678,999	9,610,084

This indicates a pretty rapid expansion at a time when crops were short.

BANKS OF MISSOURI.

The following is a comparative official return of the banks of Missouri :—

	January 1.	July 1.	January 1.	July 1.	
Capital, State....	\$1,000,000	\$1,036,300	Discounts.....	\$4,992,245	\$5,476,261
" individual	8,082,951	9,592,743	Exchange.....	9,759,021	9,545,779
Deposits.....	3,348,347	3,011,294	Bank notes.....	1,046,915	1,534,099
Banks.....	1,200,011	979,463	Specie.....	4,160,912	4,708,087
Circulation.....	7,884,885	7,820,760			

BROOKLYN FINANCES.

The Auditor and Controller reported that they had examined the accounts of the city treasurer, pursuant to the provisions of the charter. It appears by the statement submitted, that for the year ending June 30, 1860, the receipts of the general fund were \$3,801,138 60, and of the special fund, \$295,409 65. During the same period, the disbursements were, out of the general fund, \$2,686,747 38 ; and out of the special fund, \$142,882 84. The balances in the treasury July 1, 1860, were :—General fund, \$1,114,391 22 ; special fund, \$152,526 81.

STATISTICS OF TRADE AND COMMERCE.

TRADE OF THE NORTHWEST.

The following from the Wisconsin *Republican* gives the—

EXPORTS OF MINNESOTA, NORTHERN IOWA, AND WESTERN WISCONSIN, CAREFULLY DERIVED FROM ACTUAL SHIPMENTS, AT ALL THE UPPER MISSISSIPPI PORTS ABOVE DUNLEITH, ILL., FROM 20TH AUGUST, 1859, TO JULY 15TH, 1860.

MINNESOTA.

Towns.	Wheat.	Oats.	Other grain.	Total.
Stillwater.....bushels	4,600	10,000	....	14,600
Point Douglass.....	12,000	14,000	2,000	28,000
St. Paul.....	71,490	53,700	9,500	134,690
Pine Bend.....	8,000	5,000	3,900	16,900
Nininger.....	5,320	3,500	1,500	10,320
Hastings.....	165,000	110,000	5,000	280,000
Red Wing.....	103,000	19,300	2,200	125,000
Waucota.....	1,000	500	300	1,800
Lake City.....	57,425	22,000	7,500	80,925
Reed's Landing.....	3,550	3,500	380	7,400
Wabashaw.....	42,800	15,000	3,500	61,300
Minneiska.....	13,000	5,000	200	18,200
Mt. Vernon.....	8,000	3,000	150	11,150
Winona.....	441,000	219,000	18,000	678,000
Brownsville.....	120,000	55,000	3,000	178,000
Total.....	1,050,685	538,500	57,100	1,646,285

WISCONSIN.

Hudson.....	57,040	40,100	9,000	105,140
Prescott.....	85,000	77,500	7,763	170,263
Alma.....	20,800	10,100	1,500	32,400
North Pepin.....	5,480	3,590	1,350	10,420
Fountain City.....	23,800	12,100	2,500	38,400
Trempelau.....	24,000	15,000	4,500	43,500
La Crosse.....	230,500	175,000	....	405,500
Bad Axe.....	3,500	1,500	....	5,000
Victory.....	4,000	2,000	....	6,000
Desota.....	13,600	9,500	1,500	24,000
Wapeton.....	19,000	8,000	....	27,000
Total.....	486,720	354,390	27,113	886,225

IOWA.

Lansing.....	255,500	73,770	8,450	337,320
McGregor.....	951,000	177,000	13,700	1,141,700
Clayton.....	21,000	22,000	1,500	44,500
Guttenburg.....	19,340	22,250	2,320	43,910
Buena Vista.....	8,000	2,500	....	10,500
Total.....	1,254,840	297,120	25,970	1,577,930

In addition to the above, there has been flour shipped as follows:—From Winona, 5,400 bbls.; La Crosse, 6,500; McGregor, 7,000; Clayton, 17,000; Guttenburg, 10,000.

It is estimated that there has been shipped, in addition to the above report, from various small places on the Mississippi river.....bush.

From Wisconsin out of the Chippewa.....	200,000
From Minnesota out of the Minnesota.....	70,000
Total.....	320,000

RECAPITULATION.

Minnesota, total, including flour.....	1,673,285
Wisconsin, " " "	900,725
Iowa " " "	1,747,930
Other estimates.....	320,000
Grand total.....	4,641,940

LAKE VESSELS ON THE OCEAN.

To see a vessel hailing from Detroit and other ports on the lakes is becoming a frequent occurrence. Within three years past ten barks, five brigs, forty-one schooners, one propeller, and eight tug boats have left the lake waters and are now employed in salt water service. These vessels, with the exception of the tugs, represent 18,035 tons. Two of the barks and one schooner are Canadian vessels. These lake vessels are readily distinguished by any one conversant with ships, by having a very short bowsprit, straight stem, and appliances for "tricing up" the jibboom and head gear so that they may be enabled to pass through the locks on the canals. Only three of this fleet have been lost. The first was the Colonel Cook, which was lost in the Gulf of St. Lawrence in 1858. The Republican, of Huron, Ohio, was lost off the Coast of Florida last spring, and the last was the bark Magenta, of Green Bay, Michigan, which left Boston for London, July 7. She was abandoned at sea July 22d, and her crew arrived at Liverpool early this month. The trade between Liverpool and the lake ports is not unfrequently made direct. The J. F. Warner cleared from Liverpool, July 29, for Cleveland, Ohio, and the Canada bark F. F. Park sailed from the same port direct for Montreal and Detroit. As the times on the lakes seem to have a better look for the fall trade, several of these vessels are ordered back. The Sophia Smith, J. W. Holt, and Fashion have already received their orders to return. Had this state of things been predicted six years ago, the most far-sighted of the lakemen would not have believed it. But a variety of circumstances have tended to bring the lake vessels into our coasting trade, as well as to induce them to go across the Atlantic. From their flat build they make excellent cotton traders, and large numbers of them are engaged in that branch of our coasting trade. The schooner G. D. Dorisman was reported Aug. 1st hauling out of Royal Albert dry dock, at Passage West, Cork, after undergoing repairs. The schooner Forest City, Capt. Lovell, cleared from Boston, a few days ago for Albany and Troy.

COMMERCE OF NEW ORLEANS.

In its very valuable annual tables, the New Orleans *Prices Current* remarks:—

In our last annual review, we had occasion to notice the disturbing influence upon commerce and finance of the war in Italy, and its depressing effect on cotton, notwithstanding which the season's operations in that great staple had appeared very satisfactory to the planting interest, having embraced the disposition of the largest crop thus far ever produced, while prices had been maintained above the average of the smaller crop of the previous year. The production of cotton for the year now under review has shown a further large increase in amount and value, and with the return of peace in Europe, and prosperous manufacturing interests at home and abroad, the crop has been disposed of at an average range of remunerative prices. The increase of the crop for the year

just closed, over that of the year immediately preceding, amounts to fully 800,000 bales, and exceeds that of the previous year over 1,500,000 bales, and the increase in value for the total crop, delivered at all the ports, compared with last year, amounts to fully \$20,000,000, and over \$50,000,000 compared with the year before.

The value of our products received from the interior during the past season, according to our annual valuation table, amounts to the large total of \$185,211,254, against \$172,952,664, showing an increase over last year of \$12,258,590, and over 1857-58 of \$18,055,708. To refer back ten years, we find an increase over 1849-50 of \$88,313,381, equal to fully 90 per cent. This is certainly a very fair exhibit of the progress of trade in our city, and a corresponding advance is promised for the future in the internal improvements which have been carried forward during the year in our own and adjoining States. The New Orleans, Jackson, and Great Northern Railroad has established connections with other great thoroughfares which place us in direct communication with the richest portions of our Southern interior, and with nearly all parts of the country—West, North, and East; and the New Orleans, Opelousas, and Great Western Road begins to open to our commerce the richest producing regions of the South and West, heretofore so difficult of access, and promises at no distant day to bring us a largely increased share of the productions of Texas.

According to the Custom-house records the total value of exports to foreign countries, of produce and merchandise of the growth and manufacture of the United States, and of foreign merchandise, for the fiscal year ending June 30, 1860, was \$108,393,567, against \$101,634,952 last year; showing an increase of \$6,758,615. Of the value of exports coastwise the Custom-house has kept no record since 1857, but an estimate which we have made from our own tables enables us to state that the amount is about \$30,000,000; thus making the total value of our exports foreign and coastwise \$138,393,567. The value of foreign merchandise and specie imported in the same period was \$22,920,849, against \$18,349,516 last year; showing an increase of \$4,571,333. There is no record of the value of the numerous cargoes of domestic and foreign merchandise and produce received coastwise, but its amount would count by *tens of millions*.

TABLE SHOWING THE RECEIPTS OF THE PRINCIPAL ARTICLES FROM THE INTERIOR DURING THE YEARS ENDING 31ST AUGUST 1859 AND 1860, WITH THEIR ESTIMATED AVERAGE AND TOTAL VALUE.

Articles.	1859.			1860.		
	Amount.	Av. price.	Value.	Amount.	Av. price.	Value.
Apples bbls.	43,320	\$8 00	\$346,560	67,416	\$5 00	\$337,080
Bacon . . hds. & cks.	35,491	90 00	3,194,190	45,015	90 00	4,051,350
Bacon bxs.	3,815	40 00	152,600	5,987	15 00	89,805
Bacon hams, hds. & c.	37,829	70 00	2,648,030	37,814	55 00	2,079,770
Bacon in bulk . . lbs.	10,000	8	800	39,000	8	3,120
Bagging pieces	34,706	14 00	485,884	21,427	15 00	321,405
Bale rope coils	127,321	9 00	1,145,889	125,429	9 00	1,128,861
Beans bbls.	7,771	5 00	38,855	8,889	4 50	40,000
Butter . . kegs & firks.	25,113	10 00	251,130	38,345	10 00	383,450
Butter bbls.	547	35 00	19,145	1,506	35 00	52,710
Beeswax	9	50 00	450	.....	.....	.....
Bran sacks	.....	.....	.....	216,677	1 25	270,846
Beef bbls.	50,671	13 00	658,723	35,318	12 00	423,816
Beef tics.	3,883	20 00	77,660	9,616	18 00	173,088
Beef, dried lbs.	27,700	10	2,770	93,726	10	9,372
Cotton bales	1,774,298	53 00	92,037,794	2,255,448	48 50	109,389,228
Corn meal bbls.	72	5 00	360	538	3 00	1,614
Corn in ear	5,000	1 00	5,000	36,092	1 00	36,092
Corn, shelled . . . sacks	759,438	2 00	1,518,876	1,722,039	1 75	3,013,568
Cheese boxes	60,533	3 50	211,865	35,596	3 50	124,536
Candles	86,434	8 00	691,472	110,405	7 00	772,835
Cider bbls.	21	8 00	168	.....	.....	.....
Coal, western	2,145,000	45	965,250	2,900,000	40	1,160,000
Dried apples & p'ch's	468	12 00	5,616	1,121	12 00	13,452

Articles.	1859.			1860.		
	Amount.	Av. price.	Value.	Amount.	Av. price.	Value.
Feathers.....bags	1,373	50 00	68,650	936	22 00	20,592
Flaxseed.....trcs.	292	12 00	3,504	375	12 00	4,500
Flour.....bbls.	1,084,978	6 00	6,509,868	965,860	6 25	6,036,625
Furs hhds., bbls., &c.	229	....	85,000	151	15 00	2,265
Glassware.....pkgs.	61,029	5 00	305,145	68,879	5 00	344,395
Hemp.....bales	11,220	20 00	224,400	4,883	21 00	102,543
Hides.....No.	109,232	3 00	327,696	163,568	3 00	490,704
Hay.....bales	107,141	3 75	401,778	152,659	4 70	717,497
Iron, pig.....tons	488	30 00	14,640	643	30 00	19,290
Lard.....bbls. & trcs.	78,564	30 00	2,356,920	65,784	30 00	1,973,520
Lard.....kegs	63,592	6 00	381,552	90,699	6 00	544,194
Leather.....bbls.	6,985	30 00	209,550	6,115	30 00	183,450
Lime, western .bbls.	27,182	1 10	29,900	33,143	1 65	54,685
Lead.....pigs	75,023	6 00	450,138	80,964	5 00	404,820
Lead, bar, kegs & bxs.	410	22 00	9,020	1,658	17 50	29,015
Lead, white....kegs	978	2 00	1,956	1,842	3 00	5,526
Molasses,(crop),gals.	24,887,760	26	6,470,817	17,858,100	35	6,250,335
Oats...bbls. & sacks	249,736	1 50	374,604	659,550	2 00	1,319,100
Onions.....bbls.	22,196	5 00	110,980	26,401	6 00	158,406
Oil, linseed.....	598	20 00	17,940	1,020	30 00	30,600
Oil, castor.....	1,213	50 00	60,650	571	44 00	25,124
Oil, lard.....	20,377	36 00	733,572	9,333	34 00	317,322
Potatoes.....	123,502	4 00	494,008	207,698	2 75	571,169
Pork...trcs. & bbls.	266,580	17 00	4,531,860	216,523	17 00	3,680,891
Pork.....boxes	175	40 00	7,000	71	40 00	2,840
Pork.....hhds.	2,828	70 00	197,960	1,874	70 00	131,180
Pork in bulk...lbs.	1,969,550	7	417,868	3,803,500	7	266,245
Porter & ale...bbls.	11,466	10 00	114,660	20,940	10 00	209,400
Packing yarn...reels	1,673	5 00	8,365	3,748	6 00	22,488
Rum.....bbls	61	20 00	1,220	475	20 00	9,500
Skins, deer...packs	2,184	20 00	43,680	1,542	20 00	30,840
Shingles.....M.	6,000	3 50	21,000	7,000	4 00	28,000
Shot.....kegs	2,375	20 40	48,450	4,001	20 40	31,620
Soap.....boxes	13,983	4 00	55,932	12,202	7 00	85,414
Staves.....M.	13,706	70 00	959,420	10,178	50 00	508,900
Sugar, (crop)...hhds.	362,296	69 00	24,998,424	221,840	82 00	18,190,880
Spanish moss..bales	4,307	16 00	68,912	8,604	14 00	120,456
Tallow.....bbls.	855	30 00	25,650	1,025	30 00	30,750
Tobacco, leaf..hhds.	62,925	110 00	6,921,750	67,883	95 00	6,448,885
Tobacco, strips.....	11,000	200 00	2,200,000	10,908	185 00	2,017,980
Tobacco, stems.....	2,000	20 00	40,000	2,164	15 00	32,460
Tobacco, chew'g.bxs.	9,208	22 00	202,576	14,544	15 00	218,160
Twine .bbls. & bxs.	4,233	9 00	38,097	3,508	9 00	31,572
Vinegar.....bbls.	1,416	4 00	5,664	1,206	4 00	4,824
Wool.....bags	....	....	....	3,753	35 00	131,355
Whisky.....bbls.	152,915	9 00	1,376,235	185,042	9 00	1,665,378
Wheat.bbls. & sacks	29,585	2 25	66,566	13,116	2 25	29,511
Other various articles, estimated at.....	....	....	6,500,000	....	....	7,750,000
Total value .....	....	....	\$172,952,664	....	....	\$185,211,254

COMPARATIVE STATEMENT OF VALUE OF IMPORTS THROUGH THE CUSTOM-HOUSE, NEW ORLEANS, FOR THE FISCAL YEARS ENDING ON THE 30TH OF JUNE, FOR SIX YEARS.

	1855.	1856.	1857.	1858.	1859.	1860.
Dutiable..	6,939,002	8,990,583	16,417,035	10,247,093	9,952,646	15,196,518
Free.....	4,297,170	6,417,596	6,687,076	4,818,069	6,725,446	5,437,875
Specie....	4,687,436	1,775,148	1,927,039	4,520,851	1,671,424	2,286,456
Total	12,923,608	17,183,327	24,981,150	19,586,013	18,349,516	22,920,840
Exports..	55,688,552	80,547,963	91,514,186	88,382,438	101,634,952	108,393,567

COMMERCE OF MOBILE.

The imports and exports of the port of Mobile have been for the past eighteen months as follows:—

	Imports.	Exports.		Imports.	Exports.
1859.....	\$982,140	\$30,079,711	1860, 6 mos..	\$617,280	\$25,908,820
1858.....	634,626	28,553,736	1859, 6 mos..	549,110	17,287,103

The exports for the first six months of 1860 have exceeded those of the previous year \$8,681,717. The exports of cotton for the year ending August 31, were as follows:—

EXPORTS OF COTTON FROM THE PORT OF MOBILE TO FOREIGN PORTS, WITH THE WEIGHT AND VALUE ATTACHED, FOR THE YEAR ENDING AUGUST 31st, 1860.

	Bales.	Pounds.	Value.
Great Britain, in American vessels....	239,566	154,718,053	\$16,921,794
“ “ British “	146,097	75,760,927	9,021,438
Total to Great Britain.....	445,663	230,478,980	\$25,943,232
France, in American vessels.....	146,106	75,790,048	\$8,392,574
“ foreign “	2,812	1,467,542	167,100
Total to France.....	148,918	77,257,590	\$8,559,674
Spain.....	24,359	12,622,316	1,501,936
Austria.....	9,021	4,769,490	524,799
Sardinia.....	5,292	2,709,678	271,699
Bremen.....	9,977	5,249,102	583,452
Sweden.....	4,835	2,493,840	288,277
Russia.....	1,533	803,772	94,218
Belgium.....	3,980	2,074,092	219,563
Holland.....	1,481	775,000	89,916
Hamburg.....	4,422	2,325,072	256,810
Total to other foreign ports.....	64,900	33,822,362	\$3,830,670
Total foreign.....	659,481	341,558,932	\$8,333,576

TRADE OF THE SANDWICH ISLANDS.

The official report gives the following biennial returns of the trade of the Islands:—

IMPORTS FOR THE TWO YEARS ENDING DEC. 31st, 1859.

In 1858.....	\$1,089,660 60
In 1859.....	1,555,558 74
	<u>\$2,645,219 34</u>

EXPORTS FOR THE SAME PERIOD.

In 1858, foreign goods.....	\$257,115 97	
Domestic produce.....	\$306,716 11	
“ “ furnished as supplies.....	223,250 00	
	<u>529,966 11</u>	787,082 08
In 1859, foreign goods.....	302,754 06	
Domestic produce.....	436,775 21	
“ “ furnished as supplies.....	191,800 00	
	<u>628,575 21</u>	931,329 27
		<u>1,718,411 35</u>
Showing excess of imports for this biennial term to be.....		\$926,807 99

From 1853 the imports and exports were as follows:—

Year.	Imports.	Exports.			Excess of imports.
		Foreign.	Domestic.	Total.	
1853..	\$1,281,951 18	\$191,597 66	\$281,599 17	\$472,996 83	\$808,954 35
1854..	1,396,786 24	311,092 97	274,029 70	585,122 67	811,663 57
1855..	1,306,355 89	297,859 82	274,792 67	572,652 49	733,703 40
1856..	1,152,412 99	204,545 88	378,998 34	583,554 22	568,868 77
1857..	1,130,165 41	222,222 19	422,303 91	645,526 10	484,639 31
1858..	1,089,660 60	257,115 97	529,966 11	787,082 08	302,578 52
1859..	1,555,558 74	302,754 06	628,575 21	931,329 27	624,229 47

This statement shows a gratifying increase in our domestic exports, and a gradual decrease in the excess of imports until the last year, when the excess suddenly run up from \$302,578 32 to \$624,229 47. This is doubtless to be attributed to the caution of those engaged in commerce, in laying in large stocks of merchandise in anticipation of the change in the tariff, now near at hand.

Since the last report from this department, another market has been opened near us, which promises to be a large consumer of our domestic productions, without calling on us to take anything of foreign manufacture in exchange. I allude to British Columbia, which, from the discovery of gold within its borders, began at once to afford a market for our cattle and the products of our soil.

It is to the agricultural and planting interests that we must chiefly look for getting rid of this excess of imports. No policy should therefore be adopted to fetter them; on the contrary, they should receive every encouragement within the limits of legislative discretion.

The new tariff established by the civil code will go fully into effect on the 25th of June next. But little addition will for some time be made to the revenue from the increased rate of duties which it provides, owing to the large importations which have lately been made, doubtless, as already intimated, with reference to the change. The last quarters of the fiscal year will however be likely to demonstrate its probable bearings upon the trade of the country.

SPAIN—ITS TRADE AND AGRICULTURE.

According to the official returns of Spain for the year 1857, the percentage of uncultivated land was 45.8; land under tillage, 26.6; grass lands, 14.0; woods, copse, garden, etc., 9.0; vinyards, 2.8; olive-grounds, 1.8. The total superficies of ground cultivated as vinyards in 1857 was 3,500,524 English acres; the corresponding acreage under vine cultivation in France was in the same year 5,387,230 acres. The value of wine exported from Spain in 1857 was about \$23,000,000; that of wine exported from France in the same year about \$30,000,000.

The total imports in 1850 were \$33,600,000; in 1857, \$77,770,000; being an increase in seven years of 131 per cent. The total exports in 1850 were \$24,435,000; in 1857, \$58,430,000; increase in seven years 139 per cent. Of the imports for 1857 Europe supplied \$54,904,000; Asia, \$1,250,000; Africa, \$1,210,000; America, \$20,402,000, including \$7,857,000 from the United States. Of the exports for 1857 Europe received \$38,015,000; Asia, \$565,000; Africa, \$1,210,000; America, \$18,660,000, including \$3,396,500 sent to the United States.

Our Spanish cousins in 1858 possessed 13,749,959 sheep, 2,733,966 goats, 1,380,861 cattle, 1,018,388 swine, 491,690 asses, 415,978 mules, and 268,248 horses.

The number of schools of first instruction in Spain in 1855 was 20,753, affording instruction to 684,657 boys and 320,317 girls. Of these schools 16,709 were public, 3,624 private, and 420 under the care of religious congregations

and communities. Taking the whole population of Spain, the average proportion of schools to inhabitants was 1 in 745, and the average proportion of scholars to inhabitants, 1 in 15. The total expense of the public schools amounted to \$1,615,000.

The number of persons actively employed in ecclesiastical functions, including monks and nuns, in 1768, was 209,988, or about 1 in 43 of the whole estimated population. The number similarly employed in 1857 was 56,254, or in the proportion of 1 to 275 of the whole population. It may also be stated, in connection with this subject, that, a few years ago, the Spanish government deprived the ecclesiastical bodies of almost all the land they possessed. The sale of these lands to the laity has already realized to the government nearly \$100,000,000. In compensation for the lands taken from ecclesiastics, the government pays to each of those who had any interest in them a certain annuity, which amounts, on the average, to about \$90.

There are in Spain 431 English miles of navigable canals; 524 miles of railroads finished and at work, 510 miles in progress—portion at work; 983 completed but not at work; and 1,580 miles more authorized—total, 3,938 miles. There are also 3,933 miles of telegraph lines in operation.

The total revenue of Spain for 1859 was estimated at \$122,000,000; the total expenditure \$123,000,000.

EXPORT OF BREADSTUFFS FROM THE UNITED STATES,

TO GREAT BRITAIN AND IRELAND, FROM SEPT. 1, 1858, TO SEPT. 1, 1859.

From—	Flour, bbls.	Meal, bbls.	Wheat, bush.	Corn, bush.
New York.....	626,283	826	4,759,246	1,772,728
New Orleans.....	6,333	...	.....	140,069
Philadelphia.....	64,861	6	244,953	242,111
Baltimore.....	905	112	41,823	130,602
Boston.....	26,829	...	.....	1,050
Other ports.....	50	...	8,922	.....
Total, 1859-60.....	725,261	944	5,054,944	2,286,555
“ 1858-59.....	102,032	23	468,788	320,681
Increase.....	623,229	921	4,586,156	1,965,874
Total, year ending Sept. 1, 1860	725,261	944	5,054,944	2,286,555
“ “ “ 1859	102,032	23	468,788	320,681
“ “ “ 1858	1,300,906	607	6,858,639	3,372,444
“ “ “ 1857	863,179	686	7,567,001	4,793,134
“ “ “ 1856	1,665,552	8,721	7,939,955	7,063,821
“ “ “ 1855	170,329	5,536	317,713	6,843,242
“ “ “ 1854	1,824,920	40,660	5,918,317	6,215,936
“ “ “ 1853	1,618,060	683	5,543,460	1,517,087
“ “ “ 1852	1,444,640	1,810	2,712,120	1,576,749
“ “ “ 1851	1,581,702	5,553	1,523,908	2,368,860
“ “ “ 1850	463,460	6,086	463,015	4,873,446
“ “ “ 1849	1,118,316	86,058	1,091,335	12,729,626
“ “ “ 1848	183,533	105,350	251,622	4,581,367
“ “ “ 1847	3,150,689	847,280	4,015,134	17,298,744

TO THE CONTINENT.

New York.....	42,081	178,031	17,286	.....
Other ports to latest dates....	7,162	.....	2,072	.....
Total, 1859-60.....	49,243	178,031	19,358	.....
“ 1858-59.....	51,388	57,845	25,519	.....
“ 1857-58.....	303,100	390,428	16,848	13,100
“ 1856-57.....	483,344	2,875,653	543,590	216,162
“ 1855-56.....	748,408	2,610,079	282,083	1,975,178
“ 1854-55.....	7,763	4,972	308,428	35,569

JOURNAL OF INSURANCE.

CONNECTICUT INSURANCE LAW.

AN ACT IN ADDITION TO "AN ACT CONCERNING FOREIGN INSURANCE COMPANIES."

SECTION 1. *Be it enacted by the Senate and House of Representatives in General Assembly convened.* Every person who shall act as agent, in any city or town in this State where a fire department exists, for or on behalf of any corporation organized under the laws of the State of New York, to effect insurance in this State against loss or injury by fire, shall, in the month of January in each and every year, render an account, verified under oath to be a just, true, and complete account, to the treasurer of the city in which such agent shall act as aforesaid, or, in case such agent shall so act without the limits of any city, to the treasurer of the town in which such agent shall so act, of all the premiums which, during the year ending on the next preceding 31st day of December, shall have been received by such agent or person, or by any other person for him, or shall have been agreed to be paid, for any insurance against loss or injury by fire in this State, effected or agreed to be effected by him as such agent; and such agent shall, in the month of January in each and every year, pay to the treasurer to whom the said account is hereby required to be rendered, the sum of two dollars on the hundred dollars, and at that rate upon the amount of all premiums received by him, or by any other person for him, or agreed to be paid, for any insurance effected or agreed to be effected by him as such agent as aforesaid. And all sums paid to said treasurers under the provision of this act shall be applied, under the direction of the common council of the city, or the selectmen of the town, (as the case may be,) to defray the expenses of the fire department in such city or town.

SEC. 2. No person shall act as agent for or on behalf of any corporation organized under the laws of the State of New York, to effect insurances in this State, as aforesaid, until he shall have executed and delivered to the treasurer, to whom, by the provisions of the preceding section of this act, said account is to be rendered and said sum paid, a bond in the penal sum of five hundred dollars, with such sureties as said treasurer shall approve, with a condition that he will comply with the provisions of this act; and every person who shall effect, agree to effect, promise, or procure any insurance specified in the preceding section of this act, from and after the first day of August next, without having executed and delivered the bond hereby required, shall forfeit and pay the sum of two hundred dollars for each offence, to be sued for and collected by said treasurer in his own name, in an action on this statute; and such penalty when collected shall be applied to the same purposes, and in the manner therein provided, as the sum required to be paid by said agent in the preceding section of this act.

SEC. 3. Every person who shall act as agent for or on behalf of any corporation organized under the laws of the State of Rhode Island, to effect insurances in this State, shall, on the first Monday in October in each year, during the continuance of his agency, make a return to the Controller of Public Accounts, verified under oath to be a just, true, and complete account of the amount insured by him as such agent in this State, and of the amount of premiums and assessments received by him as such agent during the year next preceding said first Monday in October; and shall, at the same time, pay to the Treasurer of the State, for the use of the State, a tax of 2 per cent on the gross amount of said premiums and assessments. And if any such agent shall neglect to make such returns and payments as are hereby required in this section, he shall forfeit to the State, for the use of the State, five hundred dollars, to be recovered in the name of the treasurer by action on this statute.

SEC. 4. If any person acting as agent, as designated in the first or third sec-

tions of this act, shall neglect or refuse to comply with any of the provisions of this act, the treasurer, to whom said account is to be rendered and said sum paid by the provisions of this act, may apply to any judge of the Superior Court to enjoin such person against effecting insurances as such agent; and it shall be the duty of the judge to whom such application is made, upon finding that such agent has neglected or refused to comply with the provisions of this act, to grant said injunction, and said judge, or, in case of his inability to act, any other judge of the Superior Court, may dissolve said injunction, whenever said agent shall comply with the provisions of this act. The fact of such agency shall be deemed to be sufficiently proved in any case that may arise under the provisions of this act, by any person having acted as such agent, or held himself out or advertised as such agent.

SEC. 5. The tax hereby imposed upon such agent shall be in lieu of all other taxes now required to be paid by them as such agents; and all acts and parts of acts, so far as they are inconsistent herewith, are, to that extent, repealed.

Approved, June 23d, 1860.

FIRE INSURANCE DIVIDENDS.

The aggregate dividends of eighteen fire insurance companies for the month of August amounted to \$226,000, or about seven per cent on the total capital of \$3,260,000; or over eight per cent upon the capital declared upon.

For September, the dividends are nearly nine per cent on the average.

DIVIDENDS IN AUGUST, 1860.

	Receipts. 1859.	Losses. 1859.	Shares Sept., 1860.	Capital.	Rate per ct.	Amount dividend.
Astor	\$68,000	\$63,000	124 a 128	\$150,000	8	\$12,000
Beekman	49,000	58,000	85 a ...	200,000	5	10,000
Broadway	58,000	54,000	120 a 127	200,000	8	16,000
City	74,000	78,000	145 a ...	210,000	10	21,000
Exchange	65,000	61,000	100 a 103	150,000	6	9,000
Greenwich	46,000	49,000	110 a 115	200,000	5	10,000
Indemnity	44,000	43,000	80 a ...	150,000	5	7,500
Irving	97,000	104,000	100 a 105	200,000	5	10,000
Lenox	44,000	50,000	85 a 92	150,000	..	.....
Lorillard*	88,000	88,000	102½ a 106	200,000	19½	39,000
N. Y. Fire & Marine .	80,000	94,000	135 a ...	200,000	10	20,000
Niagara	95,000	105,000	135 a 145	200,000	10	20,000
Peter Cooper	37,000	32,000	97 a 102	150,000	6	9,000
Rutgers	77,000	73,000	115 a 120	200,000	7	14,000
Security	130,000	128,000	106 a 112	200,000	4½	9,000
St. Mark's	56,000	61,000	... a 104	150,000	5	7,500
St. Nicholas	57,000	58,000	... a 83	150,000	..	.....
Stuyvesant	65,000	48,000	105 a 110	200,000	6	12,000
Total				\$3,260,000		\$226,000

DIVIDENDS IN SEPTEMBER, 1860.

Atlantic	\$112,000	\$107,000	150 a 165	\$150,000	10	\$15,000
Corn exchange	112,000	109,000	136 a 145	200,000	10	20,000
Grocers'	44,000	43,000	105 a 110	200,000	6	12,000
Jefferson	82,000	88,000	... a 160	200,000	10	20,000
Phenix	159,000	166,000	132½ a ...	200,000	10	20,000
Germany	30,000	18,000	100 a ...	200,000	6	12,000
Total	\$1,770,000	\$1,778,000		\$1,150,000		\$99,000

* The dividend of the Lorillard was a surplus dividend of 19½ per cent, being the total accumulations; that of the Security was in addition to a scrip dividend of 27 per cent.

NAUTICAL INTELLIGENCE.

MINOT'S LEDGE, ENTRANCE TO BOSTON BAY.

Information has been received at this office, from Capt. B. S. ALEXANDER, Corps of Engineers, of the completion of the lighthouse on the outer Minot's Ledge, one of the Cohasset Rocks. The tower is of a dark gray granite, 30 feet in diameter at the base, 89 feet 7 inches high above mean low water. It is surmounted by a bronze lantern 22 feet 7 inches high, making the total height of the structure above mean low water 112 feet 2 inches. The illuminating apparatus is catadioptric of the second order of the system of Fresnel, and will show a fixed white light. The focal plane is 84 feet above the mean high water, and the light should be visible at high water, from a point 15 feet above the surface of the sea, at a distance of 15 nautical miles. The light will be exhibited for the first time from sunset to sunrise on the 15th day of November, 1860, and every night thereafter. By authority of the act of Congress approved September 28, 1850, the light at Scituate will be extinguished on the exhibition of the Minot's Ledge light, and the light-vessel now stationed off Minot's Ledge will be withdrawn and discontinued at the same time. The new light bears from Boston lighthouse E. S. E. $\frac{1}{4}$ S., distant about 9 miles. It is in latitude $42^{\circ} 16' 9''$ north; longitude $70^{\circ} 45' 14''$ east from Greenwich. By order of the Lighthouse Board,

WASHINGTON, August 23, 1860.

WM. F. SMITH, Engineer, Secretary.

THE ANVIL ROCK, CAPE POINT.

The following important hydrographical notice by Lieutenant SKEAD, the Admiralty Surveyor, appeared in the Cape of Good Hope *Government Gazette*, of the 20th April. Addressing Admiral GREY, he says:—

I have fixed two shoal rocky patches (which break in rough weather) in the vicinity of the Anvil Rock, the positions of which are as follows:—North Patch, Bellows Rock, S. 48° , W. 1' 7.10; Cape Point light, N. 54° , W. 1' 5.10; West Patch Bellows, S. 59° , W. 1' 6.10; Cape Point light, N. 48° , W. 1', 8.10. These patches, with the Anvil Rock, together cover an area of 67 acres. The known existence of these rocky patches renders caution more than ever necessary to vessels passing between Cape Point and the Anvil, as they have only 1' 1.10 mile between them and the Dias Rock. Coming from the westward outside the Anvil Rocks, a ship will be clear of them to the eastward, when Vasco de Gama Peak (Pt. C.) a peak one mile N. W. by W. from the Cape Point light, opens to the eastward of the peak on which the light-tower stands.

DISCONTINUANCE OF A LIGHTHOUSE.

The third section of the act of Congress, approved March 3, 1859, making appropriations "for lighthouses, lightboats, &c., authorized the Secretary of the Treasury, in his discretion, on the recommendation of the Lighthouse Board, to discontinue, from time to time, such lights as might become useless by reason of the mutations of commerce and changes of channels of harbors, and other causes; and the Lighthouse Board, at its meeting held on the 2d instant, having ordered the following named light to be discontinued, viz., the beacon light at Set-Off-Point, Newark Bay, it is ordered and directed that said light be discontinued on and after the 1st day of August next. By order,

WASHINGTON, July 7, 1860.

R. SEMMES, Secretary.

MARINE LOSSES.

RECAPITULATION OF LOSSES IN JULY, 1860.

	Vessel & freight.	Cargoes.	Total.
11 ships	\$225,000	\$241,000	\$466,000
6 steamers	306,000	1,012,000	1,319,000
12 barks	129,200	292,000	421,200
10 brigs	38,100	105,600	143,100
15 schooners.....	50,900	11,000	61,900
Total	\$749,200	\$1,662,000	\$2,411,200

RECAPITULATION OF LOSSES SINCE JANUARY, 1859.

	Vessel & freight.	Cargoes.	Total.
January.....	\$1,362,700	\$1,419,400	\$2,782,100
February.....	1,230,600	1,246,700	2,477,300
March.....	699,400	1,159,000	1,858,400
April	642,400	599,560	1,241,960
May.....	1,165,300	1,393,900	2,559,200
June.....	1,413,400	1,042,500	2,455,900
July	1,975,100	2,252,600	2,327,700
August.....	2,170,150	1,944,150	3,214,300
September.....	1,023,400	1,242,900	2,266,300
October	1,791,700	2,059,600	3,851,300
November.....	3,203,100	5,368,160	8,571,260
December.....	1,223,900	749,950	1,973,850
Total 1859.....	\$17,901,150	\$19,578,420	\$37,479,570
January	\$1,223,900	\$749,950	\$1,973,850
February.....	1,295,000	1,114,000	2,409,000
March	1,337,450	1,894,500	3,231,950
April.....	783,100	1,480,700	2,263,800
May	946,300	1,243,500	2,189,800
June	613,300	859,000	1,472,300
July.....	749,200	1,662,000	2,411,200
Seven months, 1860.....	\$7,088,250	\$9,003,650	\$16,151,900
Same time; 1859	8,488,900	9,113,660	17,602,560

LOSS ON WESTERN WATERS.

For the six months of the present year just closed, the following are the statistics of losses carefully prepared by the editor of the *Louisville Journal*:—

Steamboats sunk and damaged by fire.....	5
Steamboats snagged and sunk.....	47
Steamboats run into bank.....	6
Steamboat collisions.....	7
Steamboats burned.....	20
Steamboats sunk on falls.....	2
Steamboats sunk by storms.....	20
Steamboat explosions.....	6
Machinery broken.....	10
Collision with bridges.....	2
Total steamboats.....	125
Coal-boats lost.....	127
Flat-boats and barges.....	23
Number of lives lost.....	136
Estimated aggregate loss.....	\$1,732,500

COMMERCIAL REGULATIONS.

RATES OF STORAGE AND LABOR.

UNITED STATES PRIVATE BONDED WAREHOUSES, RATES OF STORAGE AND LABOR CHARGE-
 ABLE ON UNCLAIMED GOODS. APPROVED BY THE CHAMBER OF COMMERCE.

	Store.	Labor.	Store.	Labor.
Absinthe.....cents				
Ale or porter, in hhds.....	20	20	..	..
Ale, (bottles,) in bbls.....	8	8	..	..
Ale, (bottles,) in casks.....	15	15 to	20	20
Alcohol, in puncheons.....	30	30	40	40
Anvils, loose.....	4	4	..	..
Anvils, in casks.....	30	30	40	40
Antimony, in casks.....	20	20	30	30
Almonds, in frails.....	4	4	6	6
Almonds, in bales.....	10	10	20	20
Almonds, in casks.....	10	10	15	15
Almonds, in bags.....	4	4	..	..
Argols, in casks.....	20	20	30	30
Arrowroot, in kegs, Ber.....	5	5	8	8
Balsam capivi, in tin cans.....	6	6	..	..
Balsam capivi, in bbls.....	15	15	25	25
Balsam capivi, in hhds.....	30	30	40	40
Bark, (Peruvian,) in bags.....	4	4	..	..
Bark, (Peruvian,) in ceroon.....	5	5	10	10
Beads, (Trieste,) in cases.....	10	10	20	20
Beer, in bbls.....	10	10	..	..
Beer, in hhds.....	20	20	..	..
Beeswax, in bales.....	10	10	20	20
Blankets, in bales.....	30	30	..	..
Blankets, in trusses, two bales each.....	30	30	40	40
Boots and shoes, in cases.....	10	10	15	15
Bottles, in hampers.....	25	25	..	..
Bottles, in crates.....	20	25	..	..
Borax, in casks.....	10	10	20	20
Borax, in cases.....	5	5	..	..
Brandy, in pipes.....	35	35	..	..
Brandy, in hf. pipes.....	25	25	..	..
Brandy, in qr. casks.....	12½	12½	..	..
Brandy, in eighth casks.....	6¼	6¼	..	..
Burlaps, in bales.....	30	30	50	50
Butter, in kegs.....	3	3	5	5
Cassia, in mats, (for 100 mats).....	25	25	..	..
Cassia, in chests.....	5	5	8	8
Cassia, in rolls or bales.....	8	8	10	10
Camphor, in cases.....	5	5	8	8
Capers, in boxes.....	1½	1½	3	3
Carboys, (vitriol, &c.).....	20	20	50	50
Canvas, in bolts.....	3	3	..	..
Cantharides, in cases.....	10	10	20	20
Candles, in boxes.....	2	2	6	6
Cham. flowers, in bales.....	10	10	20	20
Carpets, in rolls, (single).....	8	8	10	10
Carpets, in cases, (single).....	25	25	30	30
Carpets, in bales.....	30	30	40	40
Cheese, in bxs., (Dutch).....	8	8	10	10
Cheese, in casks.....	15	15	25	25
Chicory, in casks.....	15	15	20	20
Champagne, in baskets.....	3	3	..	..
Champagne, in cases.....	3	3	..	..
Chocolate, in casks.....	15	15	..	..

	Store.	Labor.	Store.	Labor.
Chocolate, in cases.....	2	2 to 3	3	3
Chain cables, per ton.....	37½	75	..	..
Citron, in cases.....	10	10	20	20
Cloves, in bags.....	4	4	8	8
Cloths, in bales.....	20	20	30	30
Cloths, in cases, (English).....	20	20	30	30
Cocoa, in bags.....	4	4	8	8
Cochineal, in ceroons.....	6	6	10	10
Codfish, (dry,) per quintal.....	4	5	..	..
Coffee, in bags.....	3	3	4	4
Crockery, in crates.....	30	30	40	40
Crockery, in casks.....	30	30	40	40
Crockery, in cases.....	20	20	30	30
Cordials, in cases of 1 doz.....	2½	2½	3	3
Cordials, in hhds.....	15	15	20	20
Cordials, in puncheons.....	30	30	40	40
Corks, in bales.....	10	10	20	20
Corkwood, bdls. or bales.....	5	5	15	15
Copper, in pigs, per two hundred lbs.....	25	40	..	..
Copper, in sheets, per ton.....	35	35	..	..
Copperas, in casks.....	20	20	40	40
Cubebs, in bales.....	10	10	20	20
Currants, in bbls.....	5	5	6	6
Currants, in caroteels.....	20	20	..	..
Cream tartar, in casks.....	20	20	40	40
Cinnamon, rolls or bales.....	8	8	15	15
Dates, in frails.....	10	10	..	..
Demijohns, (empty,) 5 gal.....	1½	1½	..	..
Demijohns, (empty,) 3 gal.....	1	1	..	..
Demijohns, (empty,) under 3 gal.....	¾	1	..	..
Dry goods—				
Cottons, in cases.....	15	20	25	30
Linens, in cases.....				
Hosiery, in cases.....				
Handkerchiefs, in cases.....				
Gloves, in cases.....				
Woolen hosiery, casks.....	20	20	30	30
Dundee linens, in bales, all sizes, average.....	30	30	40	40
Dunnage mats, each.....	½	½	..	..
Earthenware.....	See crockery.			
Emery, in kegs.....	4	4	..	..
Figs, in drums.....	½	½	..	..
Figs, in frails.....	5	5	..	..
Filberts, in bags.....	5	5	10	10
Flour, in bbls.....	4	4	..	..
Flour, (Sago,) in bags.....	3	3	..	..
Fish, (cod,) per quintal.....	4	5	..	..
Fish, (herrings,) in kegs.....	2	2	5	5
Fish, (mackerel,) in bbls.....	8	8	..	..
Fish, (mackerel,) in ½ bbls.....	4	4	..	..
Furs, in casks.....	20	20	35	35
Furs, in cases.....	20	20	25	25
Furs, in bales.....	15	15	30	30
Flocks, woolen, in bales.....	20	20	25	25
Flax, in bales.....	20	20	..	..
Felt, in bales.....	20	20	25	25
Fustic, per ton.....	25	30	..	..
Gomboge, in cases.....	8	8	10	10
Gin, in pipes.....	35	35	..	..
Gin, in ¼ pipes.....	30	30	..	..
Ginger, in bags.....	4	4	..	..
Ginger, (E. I.) in cases.....	4	4	10	10
Gum Arabic, in cases.....	10	10	15	15

	Store.	Labor.	Store.	Labor.
Gums, in casks	20	20 to 25	25	25
Guns, in cases.....	15	20	20	25
Gunny bags—				
In bales, (2 bush. bags).....	10	10	..	..
In bales, (3 bush. bags).....	15	15	..	..
In bales, (4 bush. bags).....	20	20	..	..
Glue, in casks	20	20	30	30
Gutta percha, loose, per one hundred pcs. average.....	30	30	50	50
Glass, (window,) in bxs	2	2	4	4
Glass, (plate,) in cases.....	20	20	50	50
Hardware, in casks.....	30	30	50	50
Hats—				
Maracaibo, in ceroons.....	12½	12½	20	20
Maracaibo, in cases.....	12½	12½	20	20
Panama, in cases.....	12½	12½	20	20
Panama, in ceroons.....	12½	12½	20	20
Hides, (Ox,) loose, each.....	1	1	..	..
Hides, (Deer,) in bales.....	15	15	25	25
Hides, (Deer,) in bundles.....	15	15	25	25
Hemp, (Manilla,) in bales.....	5	5	..	..
Hemp, (Italian,) in bales.....	10	10	20	20
Hemp, loose, per ton.....	100	75	..	..
Hops, in bales.....	15	15	20	20
Hops, do compressed.....	8	8	10	10
Hosiery, (woolen,) casks.....	20	40	30	40
Indigo, in ceroons.....	5	5	10	10
Indigo, in cases.....	10	10	15	15
Iron, in bars, per ton.....	25	37½	..	..
Iron, in rods, per ton.....	25	37	..	..
Iron, in sheets, per ton.....	25	37½	..	..
Iron, hoop, in bundles of 56 lbs.....	1	1	..	..
“ “ “ 112 lbs.....	2	2	..	..
Iron, in pigs, per ton.....	25	37½	..	..
Ipecac, in ceroons.....	5	5	10	10
Iron, railroad.....	10	15	..	..
Iron, boiler plates, per ton.....	25	40	..	..
Iron rods, in coils, each.....	6	6	10	10
Iron wire, in mats.....	4	4	8	8
Jalap, in bales.....	8	8	15	15
Jewsharps, in casks or cases.....	20	20	30	30
Kirschenwasser, in cases, 1 dozen.....	2½	2½	3	3
“ “ “ in hhds.....	20	20	..	..
Laces, in cases.....	15	15	20	20
Lard, in kegs.....	3	3	5	5
Lead, in pigs, per ton of 2,000 lbs.....	20	30	..	..
Lead, in sheets, or in rolls, per ton.....	50	75	..	..
Lead pipe, in cases.....	30	30	..	..
Lithograph stones, in cases.....	25	25	50	50
Licorice paste, in cases.....	8	8	10	10
Licorice sticks, in cases.....	8	8	..	..
Licorice roots, in bundles.....	5	5	..	..
Licorice root, in bales, each.....	8	8	..	..
Linens, (Dundee,) in bales, average.....	30	30	40	40
Linens, in cases.....	15	15	30	30
Looking-glass plates, cases.....	20	20	50	50
Logwood, per ton.....	25	30	..	..
Lignumvitæ, per 2,000 lbs.....	20	30	..	..
Macaroni, (Italian,) in cases.....	4	4	6	6
Macaroni, (French,) in cases.....	3	3	4	4
Madder, (French,) casks.....	50	50	75	75
Madder, (German,) in casks.....	35	35	40	40
Magnesia, in cases.....	10	10	20	20
Manna, in cases.....	10	10	20	20

	Store.	Labor.	Store.	Labor.
Marbles, in casks.....	25	25 to 30	30	30
Matting, East India, in rolls, $\frac{3}{4}$ yard.....	3	3	..	..
" " " 4-4ths.....	4	4	..	..
" " " 5-4ths.....	5	5	..	..
Mustard, in cases.....	3	3	5	5
Musical instruments, in cases.....	30	30	50	50
Nails, in kegs.....	2	2	..	..
Nails, in bags.....	2	2	..	..
Nutgalls, in bags.....	3	3	4	4
Nutmegs, in cases.....	8	8	10	10
Nutmegs, in barrels.....	10	10	..	..
Nutmegs, in casks.....	20	20	25	25
Ochre, in casks.....	15	15	25	25
Oil, (olive,) in cases.....	2	2	3	3
Oil, (olive,) in baskets.....	$1\frac{1}{2}$	2	2	3
Oil, (olive and other,) casks.....	15	15	30	30
Oil, (essence,) in cases.....	6	6	10	10
Oil vitriol.....	See carboys.			
Olives, in cases.....	2	2	..	..
Olives, in jars.....	1	1	..	..
Olives, in kegs.....	2	2	..	..
Opium, in cases.....	10	10	20	20
Paints, in barrels.....	10	10	15	15
Paints, in kegs.....	5	5	..	..
Paper, in bales.....	8	8	20	20
Paper, in cases.....	8	8	20	20
Paper cigars.....	See segars.			
Peas, (preserved,) in cases.....	5	5	..	..
Palm leaf, (Esteras,).....	4	4	..	..
Palm leaf, per bundle.....	1	1	..	..
Pencils, (lead,) in cases.....	10	10	20	20
Pepper, in bags.....	3	3	4	4
Peruvian bark, in bags.....	4	4	..	..
Peruvian bark, ceroons.....	5	5	10	10
Pipes, in boxes.....	1	1	..	..
Potash, (hydrate of,) in cases.....	15	15	20	20
Prunes, in casks.....	15	15	20	20
Prunes, in bbls.....	6	6	..	..
Prunes, in $\frac{1}{2}$ bbls.....	} 2	2	3	3
Prunes, in $\frac{1}{4}$ bbls.....				
Prunes, (in paper,) cases.....	5	5	10	10
Prunes, (in glass,) cases.....	8	8	10	10
Pimento, in bags.....	3	3	4	4
Pianos.....	100	200	..	..
Quinine, (bottle,) cases.....	6	6	12	12
Quicksilver, in flasks.....	5	5	..	..
Raisins, in boxes.....	$\frac{3}{4}$	1	..	..
Raisins, in $\frac{1}{2}$ and $\frac{1}{4}$ boxes.....	$\frac{1}{2}$	$\frac{1}{2}$	..	..
Raisins, in kegs.....	3	3	..	..
Raisins, in $\frac{1}{2}$ kegs.....	2	2	..	..
Rhubarb, in cases.....	6	6	20	20
Rum (Jamaica,) in puncheons.....	35	35	..	..
" (St. Croix,) ".....	35	35	..	..
" (Bay,) ".....	35	35	..	..
Sardines, (Guilloux,) in cases.....	5	5	..	..
Sardines, (A. Camus,) in cases.....	4	4	..	..
Sago, in cases.....	8	8	10	10
Sarsaparilla, (Honduras,) in bales.....	8	8	10	10
Sago flour, in bags.....	3	3	4	4
Segars, in cases.....	20	20	50	50
Segars, loose, per box, all sizes.....	$\frac{1}{2}$	$\frac{1}{2}$	..	..
Segars, in bbls. and paper ".....	8	8	10	10
Shot, in frails of 8 bags.....	10	10	..	..

	Store.	Labor.	Store.	Labor.
Silks, (India,) in cases.....	8	10 to	..	..
Silks, (English,) in cases.....	20	20	..	..
Silks, (French,) in cases.....	20	20	..	..
Silks, (Italian,) in cases.....	20	20	..	..
Silks, (raw,) in ceroons.....	8	8	10	10
Soap, in boxes.....	2	2	3	8
Straw goods, in cases.....	10	10	30	30
Steel, (Milan,) in boxes.....	4	4	..	..
Steel, (English,) in cases.....	20	25	25	30
Steel, in bundles, per bdle.....	3	3	4	4
Skins, (deer,) in bales.....	15	15	20	20
Spelter, in plates, 2,000 lbs.....	20	37½	..	..
Sugar, (Manilla,) in bags.....	2½	2½	3	3
Sugar, (Brazil,) in bags.....	3	3	4	4
Sugar, (Dutch,) in tcs.....	15	20	25	30
Sugar, (raw,) in hhds.....	30	30	35	35
Sugar, in boxes.....	8	10	10	10
Suspenders, in cases.....	10	10	20	20
Tea, in chests.....	4	4	..	..
Tin plates, in boxes.....	1½	2	2	2
Tin, (Banca,) per 2,000 lbs.....	20	37½	..	..
Tonqua beans, in casks.....	10	10	20	20
Toys, in cases.....	} average	25	25	30
Toys, in casks.....				
Twine, in bales.....	10	10	30	30
Tobacco, in cases.....	10	10	20	20
Tobacco, in ceroons or bales.....	4	4	6	6
Valerian, in bales.....	10	10	25	25
Vermicelli, (French,) in cases.....	3	3	4	4
Vermicelli, (Italian,) in cases.....	4	4	6	6
Vinegar, in hhds.....	20	20	..	..
Vinegar, in bbls.....	10	10	..	..
Watches and Jewelry, per case.....	75	50	..	..
White lead, in kegs.....	2	2	..	..
Whisky, in puncheons.....	40	40	..	..
Wine, in butts.....	40	40	..	..
Wine, in pipes.....	35	35	..	..
Wine, in ½ pipes.....	15	15	..	..
Wine, in ¼ pipes.....	7	7	..	..
Wine, in ⅓ pipes.....	5	5	..	..
Wine, claret, in cases, 1 doz.....	2½	2½	..	..
Wine, hock, in cases, 1 doz.....	3	3	..	..
Wine, " " " 2 ".....	5	5	..	..
Wine, claret and Sauterne, in hhds.....	20	20	..	..
Woolens, in casks.....	20	20	40	40
Woolens, in bales.....	20	20	40	40
Wool, in bales.....	15	15	30	30
Zinc, in pigs or plates, per ton 2,000 lbs.....	25	37½	..	..
Zinc, in casks.....	20	20	30	30

Articles not enumerated, at rate to correspond with those allowed for packages of similar size, or property of like general description. Such as are of unusual weight or size, as compared with enumerated articles, to be charged a reasonable compensation for labor and for storage according to space occupied, as compared with rates allowed for other storage.

All packages of ordinary and usual size to be charged at rates not exceeding those specified in the first column of prices, to wit, the lowest rates.

The higher rates indicated in the second columns are intended to apply only to packages of more than ordinary size or weight.

The rates for labor include both receipt and delivery of goods. The rates for storage are per month. If goods are taken from store at any time during the first of the month, one month storage chargeable; after the first, to be computed by the half month.

POSTAL DEPARTMENT.

PROGRESS OF THE ELECTRIC TELEGRAPH.

PRESCOTT'S *Electric Telegraph* gives the following sketch:—

At the commencement of 1848, it was stated that the length in operation in this country was about 3,000 miles. At the end of 1850, the lines in operation, or in progress, in the United States, amounted to 22,000 miles. In 1853, the total number of miles of wire in America amounted to 26,375.

It was but fifteen years since the first line of electric telegraph was constructed in this country; and at the present time there are not less than 50,000 miles in successful operation on this continent, having over 1,400 stations, and employing upwards of 10,000 operators and clerks. The number of messages passing over all the lines in this country annually is estimated at upwards of 5,000,000, producing a revenue of \$2,000,000; in addition to which, the press pays \$200,000 for public dispatches.

In Europe there are lines rivaling those in America. The electric wire extends under the English Channel, the German Ocean, the Black and Red seas, and the Mediterranean; it passes from crag to crag on the Alps, and runs through Italy, Switzerland, France, Germany, and Russia. India, Australia, Cuba, Mexico, and several of the South American States, have also their lines; and the wires uniting the Pacific and Atlantic States will shortly meet at the passes of the Rocky Mountains.

In Europe, Great Britain and Ireland have the greatest number of miles of electric telegraph—namely, 40,000. France has 26,000; Belgium, 1,600; Germany, 35,000; Switzerland, 2,000; Spain and Portugal, 1,200; Italy, 6,600; Turkey and Greece, 500; Russia, 12,000; Denmark and Sweden, 2,000. In Italy, Sardinia has the largest share of lines, having about 1,200 miles; and in Germany, after Austria and Prussia, the largest share belongs to Bavaria, which has 1,050. Saxony has 400 miles; Wurtemberg, 195. The distance between stations on lines of continental telegraph is from ten to twelve miles on the average, and the number of them is about 3,800.

In France the use of the electric telegraph has rapidly increased within the last few years. In 1851, the number of dispatches transmitted was 9,014, which produced 76,723 francs. In 1858, there were 463,973 dispatches transmitted, producing 3,516,634 francs. During the last four years, that is to say, since all the chief towns in France have been in electric communication with Paris, and consequently with each other, there have been sent, by private individuals, 1,492,420 dispatches, which have produced 12,528,591 francs. Out of the 97,728 dispatches exchanged during the last three months of 1858, 23,728 were with Paris, 15,409 with the thirty most important towns of France. These 15,409 dispatches are divided, as to their object or nature, as follows:—Private and family affairs, 3,102; journals, 523; commerce and manufactures, 6,132; Bourse affairs, 5,253; sundry affairs, 399.

In Great Britain, the rate of charges upon the telegraph lines was formerly very exorbitant, but within a few years a great improvement has taken place. According to the tariff, as last arranged by the Electric Telegraph Company, all messages, consisting of not more than twenty words, are transmitted to distances not exceeding 50 miles for 25 cents; to distances not exceeding 100 miles, for 62 cents; and to all greater distances, for \$1 25. For each additional ten words, or fraction of ten words, proportionate charges are made. In certain exceptional cases the 25 cent charge is extended to much greater distances than 50 miles; and the 62 cent charge to much greater distances than 100 miles. These exceptions include towns of the highest commercial and manufacturing importance, with which a large telegraphic business must always be transacted. Thus, between London and Birmingham, (112 miles,) the charge is only 25 cents; and between London and Liverpool (210 miles,) London and Manchester (180 miles,) and London and Carlisle (309 miles,) the charge is only 62 cents.

Among the more recent improvements in the transaction of telegraphic business which have been made in England, the following may be mentioned:—

Franked message papers, prepaid, are now issued, procurable at any stations. These, with the message filled in, can be dispatched to the office when and how the sender likes; and the company intend very quickly to sell electric stamps, similar to our postage stamps, which may be stuck on to any piece of paper, and frank its contents without any further trouble. Another very important arrangement, for mercantile men, is the sending of remittance messages, by means of which, money can be paid in at the central office in London, and, within a few minutes, paid out at Liverpool or Manchester, or by the same means sent up to town with the like dispatch from Liverpool, Manchester, Bristol, Birmingham, Leeds, Glasgow, Edinburg, Newcastle-on-Tyne, Hull, York, Plymouth, and Exeter. There is a money order office in the Lothbury establishment to manage this department, which will, no doubt, in all emergencies, speedily supersede the money order office, which works through the slower medium of the Post-office.

The actual celerity with which correspondence is transmitted, between London and parts of Europe more or less remote, may be judged from the fact that the Queen's speech, delivered at the opening of the recent Parliamentary session, was delivered verbatim, and circulated in Paris and in Berlin, before Her Majesty had left the House of Lords. Messages have been sent from the office in London to Hamburg, Vienna, and, on certain occasions, to Lemberg, in Galicia, being a distance of 1,800 miles, and their reception acknowledged by an instantaneous reply.

No limit has yet been found to aerial telegraphing; for, by inserting transferers into the more extended circuits, renewed energy can be attained, and lines of several thousands of miles in length can be worked, if properly insulated, as surely as those of a hundred. The lines between New York and New Orleans are frequently connected together by means of transferers, and direct communication is had over a distance of more than two thousand miles. Quite recently direct communication was had between Halifax, Nova Scotia, and Beloit, Wisconsin, a distance of over three thousand miles. The operators, situated at this enormous distance from each other, were able to converse as freely and rapidly as if they had been separated but a few rods. No perceptible retardation of the current takes place; on the contrary, the lines so connected work as successfully as when divided into shorter circuits.

This is not the case with subaqueous lines. The employment of submarine, as well as of subterranean conductors, occasions a small retardation in the velocity of the transmitted electricity. This retardation is not due to the length of the path which the electric current has to traverse, since it does not take place with a conductor equally long, insulated in the air. It arises, as FARADAY has demonstrated, from a static reaction, which is determined by the introduction of a current into a conductor well insulated, but surrounded outside its insulating coating by a conducting body, such as sea-water or moist ground, or even simply by the metallic envelop of iron wires placed in communication with the ground. When this conductor is presented to one of the poles of a battery, the other pole of which communicates with the ground, it becomes charged with static electricity, like the coating of a Leyden jar—electricity which is capable of giving rise to a discharge current, even after the voltaic current has ceased to be transmitted.

ATMOSPHERIC TELEGRAPH.

The Electric Telegraph Company in London have an air-tight tube laid between their central station and other stations at Cornhill and the Stock Exchange, from which the air is exhausted by a pump, and documents sent through the tube by atmospheric pressure, upon the same principle as RICHARDSON'S telegraph. This system has been in operation, privately, in London, for several years, and it is now proposed to lay down a complete and extended series of public lines in London, on a scale which will receive not merely papers and packages, but parcels of considerable bulk, including the mail bags of the Post-office between the railroads and the district offices; and a company is now in course of formation to carry out the object.

JOURNAL OF MINING, MANUFACTURES, AND ART.

BRITISH FACTORY OPERATIVES.

A London correspondent of a New York paper writes as below, regarding the operatives in the factories of Great Britain. The reports of the inspectors of factories, which have just been issued, comprise three reports only: the district lately vacated by Mr. LEONARD HORNER having been annexed partly to Sir JOHN KINCAIRD'S district, (Scotland,) and partly to Mr. REDGRAVE'S district, now comprising 3,075 factories and print works; while Mr. ROBERT BAKER'S district, (Ireland and some parts of England,) remains within its old boundaries. The following is a general abstract, showing the total number of accidents reported to the three inspectors during the six months ending 30th April, 1860:—

ACCIDENTS ARISING FROM MACHINERY.

Nature of injury.	Adults.		Young persons.		Children.		Total.		Total.
	M.	F.	M.	F.	M.	F.	M.	F.	
Causing death.....	14	3	7	2	2	2	23	7	30
Amputat'n of right hand or arm	5	6	3	1	1	.	9	7	16
“ of left hand or arm.	4	1	7	3	1	.	12	4	16
“ of part of right hand	23	24	29	22	15	7	67	53	120
“ of part of left hand	16	17	21	18	8	7	45	42	87
“ of any part of leg or foot.....	5	..	1	..	..	..	6	..	6
Fracture of limbs and bones of trunk.....	30	11	43	11	11	4	84	26	110
Fracture of hand or foot.....	59	43	30	37	20	15	89	95	184
Injuries to head and face.....	20	17	23	29	11	4	54	40	94
Lac'tus, contusions, and other	268	255	315	352	128	66	711	673	1,384
Total	424	377	479	465	197	105	1,100	947	2,047

ACCIDENTS NOT ARISING FROM MACHINERY.

Total.....	83	30	59	26	21	10	168	66	229
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In the infancy of the factory system, when manufacturers were in want of labor, it was obtained directly by application to the overseers of some distant parish, who forwarded a certain number of apprentices, children of tender age, who were bound to the manufacturers for a term of years. The children being once apprenticed, the poor-law officers congratulated their respective parishes on their deliverance from idle mouths, while the manufacturer proceeded to make the best of his bargain by keeping them at the most economical rate, by screwing from them all the labor of which they were capable. Hence the first of the series of factory acts passed in 1802, 42 Geo. III., cap. 73, has for its title, “An act for the preservation of the health and morals of apprentices and others employed in cotton and other mills, and cotton and other factories,” and was merely intended to mitigate the evils of the apprenticeship system. But as improvements were made in machinery, a different kind of labor was wanted, when trade became brisk and the population of the neighborhood failed to supply the mills with their full complement of hands. These manufacturers sent to Ireland, and brought over Irish families; but Ireland has ceased to be the market from which a supply of labor can be procured on English demand, and manufacturers have now to look to the Southern and Western counties of England and Wales for

families which can be tempted by the present rate of wages in the Northern counties to commence a new career of industry. Agents have been sent throughout the country, to set forth the advantages offered to families by removing to the manufacturing districts, and they are empowered to make arrangements for the emigration to the North. Many families are said to have been forwarded by these agents. Still, the importation into a manufacturing town of a man with his wife and family has this peculiar advantage, that while the younger members of the family, who can soon be taught, and whose services become valuable in a comparatively short period, are most in request, there is no ready demand for the labor of the man and his wife, unskilled in factory labor. This has induced some manufacturers to return, in some measure, to the old apprenticeship system, and to enter into engagements for specific periods, with boards of guardians, for the labor of destitute pauper children. In these cases, the manufacturer lodges, clothes, and feeds the children, but pays them no regular wages. With the return of this system, complaints of its abuse seem also to have revived. However, this kind of labor, it should be remembered, would only be sought after when none other could be procured, for it is a high priced labor. The ordinary wages of a boy of 13 would be about 4 shillings per week; but to lodge, to clothe, to feed, and to provide medical attendance and proper superintendence for 50 or 100 of these boys, and to set aside some remuneration for them, could not be accomplished for 4 shillings a head per week.

A comparison of the rate of wages paid to factory operatives in 1839 and that paid in 1859 proves the highly interesting fact that the rate of wages has risen, at least nominally, in factories where the hours of work were restricted to 60 per week, while, with a few exceptions, a real reduction has been suffered in the printing, bleaching, and dyeing works in which the labor of children, young persons, and women is unrestricted, and where they are at times employed fourteen and fifteen hours per day. The following statements have reference to the cotton trade in Manchester and its neighborhood:—

WEEKLY WAGES.		1839.	1859.
Hours of work per week.....		69	60
OCCUPATIONS.			
Steam engine tender.....	shillings	24	30
Warehouse boys		7	8
" men.....		18	22
Carding department—			
Scutchers, (young women and girls).....		7	8
Skippers, (young men).....		11	14
Overlookers.....		25	28
Card minders, (boys from 14 to 18).....		6	7
Drawing-frame tenders, (young women).....		6 6d.	8
Spinning department—			
Spinners on self-acting mules.....	16 to 18	20 to 22	
Piecers (women and young men).....	8	10	
Overlookers.....	20	20	
Doubling department—			
Doublers (women).....		7	9
Doffers (girls).....		4	5
Overlookers.....		24	28
Jobbers, (young men).....		10	13

In the reeling, gassing, and power loom departments there has also been a slight increase of wages. The anticipations of those who warned the factory

operatives that they would seriously suffer by the diminution of their hours of work, have thus been completely disappointed. Compare, on the other hand, the movement of wages in those branches where the hours of daily labor are legally unrestricted.

CALICO-PRINTING, DYEING, BLEACHING, SIXTY HOURS PER WEEK.

	Weekly wages.			Weekly wages.	
	1859.	1859.		1859.	1859.
Color-mixers.....	35	32	Block-printer.....	40	28
Machine-printer.....	40	38	Dyer.....	18	16
Foreman.....	40	40	Washer and laborer..	16 & 15	16 & 15
Block-cutter.....	35	25			

FUSTIAN DYEING, SIXTY-ONE HOURS PER WEEK.

Dressers.....	18	22	Dyers.....	21	16
Bleachers.....	21	18	Finishers.....	21	22

By far the most interesting portion of the reports of Mr. ALEXANDER REDGRAVE and Sir JOHN KINCAID relates to the development and extension of co-operative societies for the erection and working of mills in Lancashire, and also to some degree in Yorkshire. These co-operative societies, which have multiplied since the passing of the Limited Liability Act, are generally composed of operatives. Each society has a capital of £10,000 and upward, divided into shares of £5 and £10, with power to borrow in certain proportions to the capital subscribed, the money borrowed being made up of small loans by operatives and persons of the like class. In Bury, for instance, upward of £300,000 will be required to put the co-operative mills there built and building into working order. In cotton spinning mills the spinners and persons employed are frequently shareholders in the same mill, working for wages and receiving interest upon their shares. In cotton weaving sheds, the partners frequently hire and work looms. This is attractive to operatives, because no great capital is required to start them in their undertaking. They purchase the yarn ready for the loom, weave the cloth, and the factory operation is completed; or else they receive the yarn from some manufacturer who trades with them, and return to him the woven fabric. But this co-operative system is not confined to the spinning and weaving of cotton. It has extended to the trade on a variety of articles of consumption, such as flour, groceries, draperies, etc.

The co-operative company at Rochdale paid a dividend of 44 per cent on their paid up capital, for the half year ending in October, 1859; and another dividend of 48 per cent has been declared since that time; the capital now being £60,000.

MANUFACTURE OF SEMI-STEEL.

The method of making semi-steel, at the Albany Iron Works, is as follows:—The furnace employed is substantially the ordinary boiling furnace, that is, a puddling furnace adapted to a higher degree of heat than is used in the ordinary process. The pig iron, broken into small pieces, is placed on a trough-shaped hearth, removed from the solid fuel. The flame, as usual, passes over a bridge wall, and is deflected upon the iron. For a charge of 336 lbs. of pigs, about two barrow loads of cinders and scales, from the forge (oxyde of iron) and other fluxes, are added to the cinder, previously melted on the hearth, the whole form-

ing a bath in which the iron is heated under a constantly increasing temperature. The cinder and fluxes boil from the escape of the gases caused by the oxydation of the carbon in the iron, and of the iron itself. To prevent the too rapid decarbonization of the iron, a much larger quantity of cinder is charged than in case of making iron, and a much higher temperature is employed—the highest that can be obtained. The metal “comes to nature,” or parts with its carbon, sooner if the heat is kept comparatively low.

The cinder bath is composed largely of the slag from the boiling furnaces which are employed in making iron, and in which more cinder and a higher heat are employed than in the common puddling furnaces. A solvent of manganese and its earthy bases, prepared in a manner which is not made public, for obvious reasons, is charged with the iron, and forms a part of the bath, all of which, under the high heat, melts as thin as water, and covers the molten mass of iron. The presence of the manganese is found to produce great uniformity in the product, and to prevent, in a considerable degree, the blistering of boiler plate rolled from the blooms thus obtained.

As in the ordinary puddling process, the operator breaks up the lumps of iron, turns them over, to expose all parts to the heat, and, when they become pasty, works them into puddle balls. When 336 lbs. of iron are charged, five heats per day are made; with a charge of 280 lbs., six heats per day are made, in each furnace. The puddle balls are removed from the furnace from 18 to 20 minutes sooner than in case of making iron from the same charge; the time of stopping the process being decided by the operator, from the appearance and consistency of the mass, and with reference to the quantity of iron used.

A longer time is required to work the pig metal into steel than into iron. The same time is required to convert 336 lbs. of pig iron into steel as would be necessary to work 448 lbs. into wrought iron in a boiling furnace. A higher heat being employed, more coal is consumed, a ton of steel requiring 30 cwt., and a ton of iron requiring but 16 cwt.

The puddle balls are hammered, two together, into a slab, under a three-ton hammer; the slab is heated and hammered twice at a welding heat; at a fourth heat it is rolled into plate.

The long-celebrated Salisbury iron is exclusively used at this establishment for steel-making, and its peculiar qualities promise a higher success for the product than is likely to be obtained from almost any other variety of raw material. The Salisbury is a neutral iron, being neither red short nor cold short, from the presence of either phosphorous or sulphur; it is naturally extremely tough, and stands a tensile strain equal at least to that borne by the best irons in the market.

The Albany Works' steel, thus far, proves more uniform than any of the puddled steels that have been imported. Its chief defect, in the shape of plates, is a tendency to blister in the rolls. A remedy for this, however, appears to be perfecting. All plates are tested by hammering their entire surface. A quarter to a third of them are found to have small blisters; all of those sent out, however, have proved perfectly sound. A larger proportion of imported plates are found to blister. All puddled steel, which is free from blisters, is more homogeneous and uniform than iron.

THINGS WE SEND ABROAD.

We have sent vast quantities of agricultural implements to all parts of Europe, and some to Asia and Africa. A good many of our importations have been taken to Palestine, but it has been found next to impossible to get the Arab population to use them. In some other countries, where the laborers are almost equally barbarous, they have shown much more affection for things that lessen labor—that of drawing water from wells in particular. In a late conversation with J. D. WEST, the inventor of a most effective iron pump, he told us that his firm had frequent orders for pumps to be sent to Russia, Germany, Turkey, Egypt, and now a party is asking for its exclusive sale in Hungary. It is popular in all northern regions, on account of its anti-freezing properties. It is also in use in the city of London, and it is sent abroad, as well as used at home, with the Ericsson hot-air engines, which begin to be ordered for several foreign countries.

The pump above spoken of is manufactured by J. D. WEST & Co., 179 Broadway, N. Y., and for its simplicity, durability, and ease of action is a truly valuable invention, and we think we may be doing our readers a service by speaking of it, especially as our recommendation is sustained by the best engineers and judges of hydraulic machinery in the country, many of whom speak of it after practical trial. It is adapted for every place where liquids are to be raised, from common wells and cisterns to mines and manufactories, and it is quite economical both in price and in the power required to drive it. It has taken the first premium at the United States agricultural fair at Richmond, and at numerous State fairs.

ORIGIN OF IRON BRIDGES.

It is a curious circumstance that the most successful contriver of an iron bridge, and that of the very boldest design, was no other than the celebrated THOMAS PAINE. He was an exciseman, and drew up a petition for an increase of pay. He studied mathematics and mechanics, and became acquainted with GOLDSMITH and FRANKLIN; the latter persuaded him to go to America. He settled down at Philadelphia to mechanical and philosophical studies, and speculations on electricity, minerals, and the uses of iron. In 1787, when a bridge over the Schuylkill was proposed to be constructed without any piers, as the stream was apt to be choked with ice in the spring freshets, PAINE boldly offered to build an iron bridge with a single arch of 400 feet span. The same year we find him at Paris, submitting the plan of his bridge to the Academy of Sciences, whose opinion was decidedly favorable. He sent a copy to Sir JOSEPH BANKS, to be submitted to the Royal Society; and he next proceeded to Rotherham Iron Works in Yorkshire, to have his bridge cast. It was a segment of an arch of 410 feet span, and constructed of framed iron panels, radiating towards the center in the form of voussoirs. An American named WHITESIDE advanced him money on the security of his property in the States; he was unable to complete the castings of the bridge, which were then shipped off to London, and erected on a bowling green at Paddington. There it was visited by a large number of persons, and regarded as a great success.

WHITESIDE having become bankrupt, PAINE was arrested by his assignees,

but was liberated by the assistance of two other Americans, who became bail for him. When returned from France to America, he in 1803 presented a memoir to Congress on the construction of iron bridges, with several models. It does not appear that he succeeded in erecting his bridge. In the meantime, however, the bridge exhibited at Paddington produced results; the manufacturers agreed to take it back as part of their debt, and the materials were used in the noble structure over the river Wear, at Sunderland, where it was erected in 1794. This bridge was long regarded as the greatest triumph of art. Its span exceeded that of any existing stone arch, being 236 feet, with a rise of 34 feet, the springing commencing 95 feet above the bed of the river, allowing vessels of 300 tons burden to sail underneath without striking their masts. "If," says Mr. STEPHENSON, "we are to consider PAINE as its author, his daring in engineering certainly does full justice to the fervor of his political career; for, successful as the result has undoubtedly proved, want of experience and consequent ignorance of the risk, could alone have induced so bold an experiment; and we are rather led to wonder at than to admire a structure which, as regards its proportions, and the small quantity of material employed in its construction, will probably remain unrivaled."

MANUFACTURING IN OHIO.

Prior to 1850, Ohio had about 4,000,000 of sheep, yielding about 10,000,000 pounds of wool; nearly all this wool was sold in Manhatta, New York, Lawrence and Lowell, Massachusetts, and other manufacturing towns. It might have been manufactured in Ohio, and would have been except for the want of capital. The immense capital accumulated in Boston and New York was applied to the manufacture of woollen and cotton goods. For want of capital the West could not compete with these factories; but raised the wool and sent it to them.

Ohio is wholly an interior country, and hence can grow only with the cultivation of its lands, unless its capacities for manufacturing be brought out. This will be done, and done on an immense scale, whenever the coal and iron region is developed. This has been done to a moderate extent. We take from the report of the Commissioner of Statistics, the following digest of the production of coal and iron in Ohio, for the year 1857:—

DEVELOPMENT OF COAL.

Counties.	Quantity mined.	Counties.	Quantity mined.
Athens.....bushels	2,000,000	Perry.....	1,000,000
Carroll.....	100,000	Stark.....	2,000,000
Columbiana.....	1,365,000	Summit.....	6,000,000
Belmont.....	3,500,000	Trumbull.....	4,300,000
Guerney.....	1,200,000	Tuscarawas.....	1,795,000
Jefferson.....	3,000,000	Vinton.....	300,000
Lawrence.....	2,500,000	Washington.....	200,000
Mahoning.....	3,340,000		
Meigs.....	8,000,000	Aggregate.....	44,600,000
Muskingum.....	2,000,000		

The development of coal, especially in the counties of Meigs, Vinton, and Lawrence, has no doubt been increased since 1857; but is still far short of what it ought to be and might be, under a prosperous state of manufactures.

DEVELOPMENT OF IRON.

Counties.	Furnaces.	Tons of ore.	Counties.	Furnaces.	Tons of ore.
Gallia	1	6,000	Stark	2	.....
Hocking	3	18,000	Tuscarawas	1	12,516
Jackson	12	60,000	Vinton	5	21,000
Lake	1	.....	Trumbull .....	.	15,000
Lawrence	14	77,000			
Mahoning	6	45,000	Aggregate	54	299,516
Scioto	9	45,000			

The pig metal produced from this ore amounted to 105,500 tons.

It will be seen that the iron region round Portsmouth, on the Ohio side, has 44 furnaces, and makes 86,000 tons of pig metal. This, however, is only a part of that iron belt. There are about 20 furnaces on the Kentucky side—making about 64 furnaces in all, and producing about 110,000 tons of metal. The results of this production are centered chiefly in Cincinnati, where iron is manufactured extensively.

RAILROAD, CANAL, AND STEAMBOAT STATISTICS.

FREIGHTS FROM THE WEST.

The roads centering at Chicago met in convention September 1st, and agreed upon the following new tariff of through rates from Chicago, to take effect from Monday, September 3d:—

	1st class.	2d class.	3d class.	4th class.	Flour in lots 50 brls. & over.
Chicago and Joliet to—					
Detroit, Mich.—Rail.....	50	40	30	20	40
Suspension Bridge, N. Y.—Rail	75	60	40	30	55
Buffalo, N. Y.—Rail.....	75	60	40	30	40
Buffalo, N. Y.—Lake	60	50	30	25	45
Toronto, C. W.—Rail.....	75	60	40	30	55
Montreal, C. E.—Rail.....	1 20	1 00	65	50	1 00
Prescott—Rail.....	1 45	1 10	80	58	1 10
Albany & Troy, N. Y.—Rail.....	1 45	1 14	84	55	1 05
Albany—Lake.....	1 30	1 04	74	50	95
Schenectady—Rail.....	1 45	1 14	84	55	1 05
Schenectady—Lake	1 30	1 04	74	50	95
New York—Rail	1 45	1 15	78	58	1 15
New York—Lake	1 30	1 03	70	52	1 05
Boston via Albany—Rail.....	1 55	1 23	83	65	1 30
Boston via Albany—Lake.....	1 40	1 03	75	60	1 20
Boston via G. Trunk Rail	1 55	1 23	83	65	1 10
Portland via Trunk Rail	1 55	1 23	83	65	1 10
Danville Junction—Rail	1 55	1 23	83	65	1 10
New Haven, Ct.—Rail.....	1 55	1 23	83	65	1 30
Worcester, Mass.—Rail	1 55	1 23	83	65	1 30
Worcester, Mass.—Lake	1 40	1 08	75	60	1 20
Providence, R. I.—Rail	1 55	1 23	83	65	1 30
Providence, R. I.—Lake.....	1 40	1 08	75	60	1 20

RATES FROM LOUISVILLE AND NASHVILLE TO SOUTHERN CITIES BY RAIL.

The Superintendent of the Chattanooga Railroad announced September 1st,

the following tariff of rates on freight from Louisville and Nashville to southern points by all rail:—

	Freight from Louisville to—					
	Atlanta, Ga.	Augusta, Ga.	Macon, Ga.	Columbus, Ga.	Mont'g'y, Ala.	Char'n & Savannah.
Whisky, per barrel.....	2 50	3 25	3 10	3 50	3 50	4 00
Pork and beef.....	2 10	2 75	2 60	2 85	3 90	3 35
Flour, per barrel.....	98	1 23	1 18	1 33	1 38	1 48
Wheat, per bush.....	30½	30½	36½	42½	44½	46½
Corn, rye, barley, ship stuff, and corn meal, per bushel.....	24	31	30	35	36	38
Oats, per bushel.....	16	21	20	23	24	26

	Freight from Nashville to—					
	Atlanta, Ga.	Augusta, Ga.	Macon, Ga.	Columbus, Ga.	Mont'g'y, Ala.	Char'n & Savannah.
Whisky, per barrel.....	1 50	2 25	2 10	2 50	2 50	3 00
Pork and beef, per barrel.....	1 25	1 88	1 75	2 00	2 00	2 50
Flour, per barrel.....	50	75	70	85	90	1 00
Wheat, per bushel.....	18	26	24	30	32	34
Corn, rye, barley, ship stuff, and corn meal, per bushel.....	14	21	20	25	26	28
Oats, per bushel.....	9	14	13	16	17	19

RAILWAYS OF EAST INDIA.

In the *Merchants' Magazine* for August, page 251, was given the statistics of the existing railways in India. The *London Engineer* remarks upon these railroads and their effects as follows:—

The construction of railways in India has awakened a spirit of enterprise; had caused the country to be examined for its more valuable products, of which iron and coal had been found; had induced designs for docks, and for the improvement of navigation and of irrigation; had given employment, on an average, to 100,000 laborers; had led to an expenditure of £14,000,000, within a few years, chiefly among the native population; and had involved the delivery into the country of 700,000 tons of material, irrespective of contractors' plant, &c. costing about \$10,500,000. That they would ultimately lead to the development of the rich resources, and to the civilization of the immense native population of India, could not now be doubted.

The number of men employed on the opened portions of the Indian railways, in 1859, was 590 English and 7,855 natives, giving an average of sixteen men per mile. At this rate the lines now being constructed would give permanent employment to 77,000 persons. The fares in the Bombay Presidency in 1859 were—first class, 2½d.; second class, 1½d.; and third class, ¾d. per mile. The speed of the trains, including stoppages, was from sixteen to twenty miles per hour. The total number of passengers carried was 1,161,501, and the number conveyed over one mile, per mile of railway open, was 192,974; the average distance traveled by each person being 32.4 miles. The total number of passengers, on all the lines, in 1859, was 2,822,382, of which nearly 93 per cent were third class. The average receipts in the Bombay Presidency, for the year ending June, 1859, had been, for passengers, £453, and for goods, £464 per mile. It was evident that the goods traffic had not yet been fully developed, as the lines were not continuous, nor had they reached the principal producing districts. The cost of working to June, 1859, which had since been increased, was only 44.1 per cent of the gross receipts, notwithstanding that the cost of fuel was three guineas per ton. The dividend on the expended capital was about 5.14 per cent. The East Indian had realized even a larger dividend.

In reply to the inquiry as to the reasons which had led to the execution of

the works on the Madras Railway by the engineers, without the intervention of contractors, it was stated, that when the line was commenced there were no large contractors available in that presidency, and it was thought better to proceed at once rather than to enter into correspondence with the administrative body in England, which must have resulted in considerable delay. It had already been proved, by experience in Bengal, that the natives could be readily organized on railway work; and as the large English contractors had no more information than the engineers as to the labor question, the purchase of materials, and other arrangements, there was no room for hesitation in returning to the primitive system, so successfully pursued in the cases of the Eddystone lighthouse, and the Stockton and Darlington and Liverpool and Manchester railways. Besides, in India scarcely any plant was required. The works were begun at Madras without any appliances from this country. The natives found their own tools, and baskets for carrying the earth. Temporary rails were not needed, as there were no long "leads," from cuttings into embankments. The earthwork for the first six miles from Madras was let to a native contractor for rather less than one penny per cubic yard. The other parts of the line were let on a similar principle, in small sections, the sub-contractors being paid weekly. No difficulty whatever was experienced in carrying out this system, within a reasonable distance of Madras.

With regard to the style adopted in the construction of Indian railways, it was sometimes argued that the substantial had been selected in opposition to what was, incorrectly, called the American system. This was denied, for it had been the practice to take advantage of the cheapest and best materials to be found upon the spot; and where there was abundance of good stone, and timber was dear, it was more economical to use stone and bricks than timber.

It was but fair to mention that the rate of wages and the price of work were much higher in the Bombay Presidency than in the Madras. In the latter, labor averaged per day, coolies, 3d.; women or boys, to assist in carrying earth, 1½d.; carpenters, from 9d. to 10½d.; and bricklayers, from 7½d. to 10½d. These rates were about the same as were now being paid upon the Great Southern of India. The ordinary price of earthwork was 1½d. to 2d., and of masonry 7s. 6d. to 10s. per cubic yard. The making of embankments, building of bridges, laying of the permanent-way, and ballasting the road, cost about £1,500 per mile, exclusive of materials and of stations.

It was observed that the Calcutta and Southeastern was so small as hardly to be worth naming in an engineering point of view. It possessed, however, some interest commercially; the object being to open out a new port for the enormous and rapidly increasing trade of Bengal. The line extended from Calcutta to the Mutla, a distance of 28½ miles. The dangers of the Hooghly were well known. Its crowded state, and the expense and difficulty of its navigation, all rendered it necessary to seek another outlet. This was fortunately found in the Mutla, which was, to a great extent, free from the dangers of the Hooghly. The Mutla had a depth of not less than 24 feet at low water spring tides, from the proposed new port to the sea. It was subject to no bars, nor dangerous tidal currents. The stream of tide did not exceed, at any time, four miles per hour. It had no freshets, no shifting sands, and no bar. It was interesting, in an engineering point of view, to compare the Hooghly with the Mutla; the former with a vast body of fresh water always passing down it, incumbered with shoals and shifting channels; the other, without fresh water, a clear, deep, and permanent channel, kept open by the tidal scour alone. The system of executing the works without the intervention of contractors had been adopted, because the works were of that nature that no advantage could be derived from the large contract system. In this case no plant was required, and the native labor could be directed quite as well by the company's engineers as by those of a large contractor.

It was contended that, in a distant country like India, where the engineer himself had no precise knowledge of what would be the cost of railway works, it was impossible to induce a fair competition among contractors; who would

be tempted, in making an offer, to add a considerable sum, to provide against contingencies which might arise. In the construction of Indian railways the best materials only should be employed, put together in the most substantial manner; for the population was very great, the traffic was likely to be heavy, and there was every prospect of a fair return for the outlay.

In closing the discussion, it was remarked that the paper was one of the most interesting and instructive that had ever been read at the institution. It was a subject for congratulation that the results of the non-contract system had been so satisfactory in India; for, although great supervision had been exercised by the government over the expenditure, there was nothing like personal interest to insure economy. Contractors might be said to be both bold and timid—bold where the thing to be done was fairly understood; but timid where there were contingencies in the background. In introducing a new class of labor into a new country, the engineer should pioneer the way, so as to ascertain the character of the elements on which contractors might subsequently found estimates. When that had been done, fair competition might be relied on, and then the contract system might be introduced with advantage.

Inferences of a useful character might be drawn from the comparison which had been made as to fares, and the average distance traveled by each passenger. The third-class fares in India seemed to be about one-half what they were in England, whilst the distance traveled by each passenger was respectively thirty-two and twelve miles. If the distance each passenger was conveyed in England could be increased, no doubt either higher dividends would be realized, or lower fares could be charged. The intricate complications of railway companies had arisen from the contests for long fares. But it was believed that the real prosperity of a railway company was dependent more upon its own traffic; and that, in general, facilities should be afforded for the construction of lines in the districts traversed, so as to lead ultimately to an increase in the accommodation of the immediate population, and for the general conveyance of traffic.

THE RAILROADS OF NEW YORK.

Too much importance, says the *New York Courier and Enquirer*, cannot be attached to the railroads and canals of our State. They have contributed more than all other sources combined to the growth of the city and the State. They have promoted the great interests of agriculture and manufactures throughout nearly the whole of the forty-seven thousand square miles within our limits. They will go on further, and in an equal ratio probably, in advancing the business and wealth of the State.

In five years the total freights on the two leading roads, and the tolls on the canals have amounted to nearly \$50,000,000—and the number of tons carried 27,000,000, viz:—

1855-1859.	Freights.	Tons carried.
New York Central Railroad.....	\$19,114,338	3,884,702
New York and Erie.....	19,335,575	4,419,365
Canals (tolls).....	11,433,629	18,929,639
Total for five years.....	\$49,883,542	27,233,703

CAPITAL, DEBT, COST OF ROAD, FOR THE YEAR 1859, ENDING SEPTEMBER 1ST.

Name of road.	Capital.	Total debt.	Cost of road.	Receipts, 1859.
New York Central Railroad.	\$24,000,000	\$14,333,771	\$30,840,713	\$6,200,848
New York and Erie	11,000,060	25,613,703	35,390,907	4,482,149
Hudson River	3,758,466	9,256,654	11,388,279	1,842,636
New York and Harlem	5,717,100	5,353,297	8,019,671	1,076,322
Total, four roads.....	\$44,475,566	\$54,557,425	\$85,569,570	\$13,601,955

Name of road.	Capital.	Total debt.	Cost of road.	Rec'pts, '59.
Broadway, (Brooklyn).....	199,000	14,556	213,069	29,804
Brooklyn City.....	1,000,000	.....	1,054,107	471,442
Eighth Avenue, N. Y. City..	800,000	.....	769,550	379,499
Ninth ".....	795,360	.....	352,694	8,522
Second ".....	650,000	368,000	992,366	262,166
Sixth ".....	750,000	.....	877,336	323,956
Third ".....	1,170,000	185,600	1,564,698	502,951
Total city railroads....	\$5,364,360	\$518,156	\$5,824,220	\$1,978,340
All other railroads....	64,826,434	72,559,202	123,668,813	18,363,034
Total State of N. Y....	\$70,189,794	\$73,077,358	\$129,493,033	\$20,341,374

RECEIPTS.

	1858.	1857.	Price of shares August 6.
New York Central Railroad.....	\$6,528,412	\$8,027,251	86 a 86½
New York and Erie ".....	5,151,616	5,742,606	27 a 27½
Hudson River ".....	1,636,412	1,839,416	57½ a 57½
New York and Harlem ".....	975,853	1,027,572	18½ a 18½
Total, four roads.....	\$14,292,293	\$16,636,845	
Broadway, (Brooklyn).....	.....	.....	.....
Brooklyn City.....	395,026	388,610	115 a 118
Eighth Avenue, N. Y. City.....	338,410	341,471	140 a 150
Ninth ".....	.....	.....	.....
Second ".....	227,457	.....	98 a 100
Sixth ".....	280,617	.....	130 a 140
Third ".....	403,055	419,029	180 a 190
Total city railroads.....	\$1,445,565	\$1,411,158	
All other railroads.....	18,621,787	20,689,795	
Total State of New York.....	\$20,266,352	\$22,100,953	

MEMPHIS AND CHARLESTON RAILROAD.

RECEIPTS FOR THE YEAR ENDING JUNE 30, 1860.

Passengers.....	\$975,259 33	Rents and tolls.....	4,220 70
Freight.....	582,573 26		
Mail.....	55,175 00	Total receipts.....	\$1,605,096 67
Express.....	17,438 38	Total expenditures....	761,500 00
Privileges.....	430 00		
		Net earnings.....	\$873,596 67

For these figures we are indebted to an official source; and comparing them with the company's annual report for the year ending June 30, 1859, we find that for said year the gross receipts were \$1,330,812 40, and the net receipts \$783,037. These amounts, deducted from the gross and net earnings for the year ending June 30, 1860, exhibit in the gross receipts an increase of \$304,284, and in the net receipts an increase of \$95,560 67.

The Memphis and Charleston Railroad is an astonishing financial success; and we use this strong adjective not because there is anything surprising in the fact that the road is a success—for that result was always expected of it—but because the *measure* of its success is beyond the hopes of the most sanguine of its confident projectors, and is almost beyond example among iron lines.

The Memphis and Charleston Railroad Company at date, July 1, 1859, owned 287 miles of first-class road, with complete appurtenances and equipments, represented by a funded debt of \$2,700,000, and a stock capital of \$3,580,264, making a total of capital and funded debt of \$6,280,264.

The floating debt is small; the interest on the funded and floating debt together, for the year, not exceeding \$200,000, and which, deducted from the net receipts for the year, leaves a balance of \$673,596 67, from which to make appropriations to sinking fund, and renewal fund, and also to pay *in cash* a dividend so large as to seem fabulous.

The Memphis and Charleston Railroad Company *command* congratulations upon their most triumphant success, for no railroad man can ponder their figures without emotions of the heartiest and highest satisfaction.

WEAR OF RAILS.

In *Herapath's Railway Journal*, (English,) it is stated that, "at a late meeting of the West Flanders Railway, the editor having mentioned, on the experience of one of our ablest practical railway men, that the rails, unless at the stations and places where there is skidding, do not sensibly wear out, was afterwards spoken to by a gentleman and a railway chairman, who seemed to misunderstand what Mr. HERAPATH said, and adduced the splitting and exfoliation of some of the rails in disproof of what they called a theory. Lest others should run away with the same mistaken notions and misapprehensions, we think it necessary to say that the non-wearing-out applies to rails made of good iron, not inferior iron tinned over, as it were, with good, of which far too many rails are made, and to rails on the middle of a line over which the trains run in the ordinary way. Experiments have been made by taking up and carefully weighing rails in this position after twelve months' wear or more, which were found not sensibly to have lost any weight during that time, thereby proving that there could have been no sensible wear. Besides, we have been assured that, after being down for many years, they showed no signs of material wear, which justified the statement which Mr. HERAPATH made on the authority given him. It is true that, near stations and places of 'shunting,' where there is much sliding and slipping by the application of the breaks or otherwise, there is a very sensible wear, but this is caused by slipping friction, not rolling, which is incomparably less than the former, though it seems we have ex-railway chairmen quite innocent of the knowledge of that simple fact." Rails made of the best iron cost more at first, but they endure three times longer than rails made of an inferior quality of metal, and the former are therefore the cheapest in the end.

LOCOMOTIVES IN FRANCE.

The number of locomotives which can be built yearly by the French builders is officially reported as follows:—CAIL, of Paris, 100; E. GOUIN, of Paris, 73; ANDRE KOEHLIN & Co., of Mulhouse, 100; works at La Creuzot, 80; BUDICOM, of Rouen, 40; Cave, 50; CLEMENT DESORMES, 40; and the workshops of the Orleans Railway Company, 34; making 516 yearly. Besides the Orleans, other railway companies produce from 30 to 40 more engines yearly.

STATISTICS OF AGRICULTURE, &c.

COTTON CROP OF THE UNITED STATES.

 STATEMENT AND TOTAL AMOUNT FOR THE YEAR ENDING 31st AUGUST, 1860. FROM THE
 NEW YORK SHIPPING LIST.

	1860.	1859.	1858.
NEW ORLEANS.			
Export from New Orleans—			
To foreign ports.....bales	2,005,662		
To coastwise ports.....	208,634		
Burnt at New Orleans.....	5,240		
Stock, 1st Sept., 1860.....	73,934		

	2,298,470		
Deduct received from Mobile..	34,179		
Received from Montgomery, etc.	28,473		
Received from Florida.....	16,335		
Received from Texas.....	49,036		
Stock, 1st Sept., 1859.....	26,022		

	154,045		
	-----	2,139,425	1,669,274
		1,576,409	
ALABAMA.			
Export from Mobile—			
To foreign ports.....	659,481		
To coastwise ports.....	158,332		
Burnt at Mobile.....	3,387		
Manufactured in Mobile.....	1,220		
Stock, 1st Sept., 1860.....	41,682		

	864,102		
Deduct received from N. Orleans	984		
Stock, 1st Sept., 1859.....	20,106		

	21,090		
	-----	843,012	704,406
		522,364	
TEXAS.			
Export from Galveston, &c.—			
To foreign ports, including 1,865 to Mexico).....	111,967		
To coastwise ports.....	139,767		
Manufactured in Galveston....	177		
Stock, 1st Sept., 1860.....	3,168		

	255,079		
Deduct stock, 1st Sept., 1859.....	2,655		
	-----	252,424	192,062
		145,286	
FLORIDA.			
Export from Apalachicola, St. Marks, &c.—			
To foreign ports, Uplands....	53,353		
Sea Islands.....	755		
To coastwise ports, Uplands...	117,394		
Sea Islands.....	13,200		
Burnt at Apalachicola.....	1,394		
Stock, 1st Sept., 1860.....	864		

	192,960		
Deduct stock, 1st Sept., 1859....	236		
	-----	192,724	173,484
		122,351	
GEORGIA.			
Export from Savannah—			
To foreign ports, Uplands....	331,159		
Sea Islands.....	6,596		
To coastwise ports, Uplands...	190,937		
Sea Islands.....	18,345		
Stock in Savannah, 1st Sept., '60	4,307		
Stock in Augusta, 1st Sept., '60	5,252		
	-----	556,596	

Deduct received from Florida, Sea Islands.....	6,308			
Uplands.....	686			
Stock in Savannah, 1st Sept., '59	9,320			
Stock in Augusta, 1st Sept., '59	9,063			
	<u>25,377</u>			
SOUTH CAROLINA.				
Export from Charleston—		531,219	475,788	282,973
To foreign ports, Uplands.....	365,654			
Sea Islands.....	21,116			
To coastwise ports, Uplands...	153,393			
Sea Islands.....	5,946			
Burnt at Charleston.....	284			
Stock in Charleston, 1st Sept. '60	8,897			
Export from Georgetown, S. C.—				
To Northern ports, Uplands....	801			
	<u>556,091</u>			
Deduct received from Florida, Sea Islands.....	6,844			
Uplands.....	539			
Rec'd from Savannah, Sea Isl'ds	1,411			
Uplands.....	19,596			
Stock in Charleston, 1st Sept. '59	17,592			
	<u>45,982</u>			
NORTH CAROLINA.				
Export to coastwise ports.....	41,194	510,109	480,053	406,251
	<u>41,194</u>	41,194	37,482	23,999
VIRGINIA.				
Export to foreign ports.....	3,259			
To coastwise ports.....	33,462			
Manuf. (taken from the ports)..	17,841			
Stock, 1st Sept., 1860.....	2,800			
	<u>57,362</u>			
Deduct stock, 1st Sept., 1859.....	375			
	<u>56,987</u>	56,987	33,011	24,705
TENNESSEE, ETC.				
Shipments from Memphis.....	391,918			
" " Nashville....	23,000			
" " Columbus and Hickman, Ky.....	4,500			
Burnt and manuf. at Memphis..	1,482			
Stock at Memphis, 1st Sept., '60	1,709			
	<u>422,609</u>			
Deduct shipments to N. Orleans	263,589			
" " Norfolk ..	160			
Manufactured on the Ohio, &c..	49,000			
Stock, 1st Sept., 1859.....	1,184			
	<u>313,933</u>			
	<u>108,676</u>	108,676	85,321	9,624
Total crop of the United States.....	4,675,770	3,851,481	3,113,962	
Increase over crop of 1859	824,289	Increase over crop of 1857	1,736,251	
Increase over crop of 1858	1,561,808	Increase over crop of 1856	1,147,925	

* COMPARATIVE CROP STATEMENT.

	Bales.		Bales.		Bales.
1859-60...	4,675,770	1856-7.....	2,939,519	1853-4.....	2,930,027
1858-9.....	3,851,481	1855-6.....	3,527,845	1852-3.....	3,262,882
1857-8....	3,143,962	1854-5.....	2,847,339	1851-2.....	3,015,029

EXPORT TO FOREIGN PORTS, FROM SEPTEMBER 1, 1859, TO AUGUST 31, 1850.

From	To Great Britain.	To France.	To North of Europe.	Other for. ports.	Total.
New Orleans.....bales	1,426,986	313,291	136,135	129,270	2,005,662
Mobile.....	445,663	148,918	21,806	43,094	659,481
Galveston.....	83,972	5,471	19,569	2,955	111,967
Florida.....	52,986	1,420	2,634	2,068	59,108
Savannah.....	291,403	20,422	24,809	1,121	337,755
Charleston.....	240,151	64,895	47,056	34,668	386,770
Virginia.....	3,259	.....	.....	.....	3,259
New York.....	121,200	35,110	39,916	6,802	203,028
Baltimore.....	29	60	50	18	257
Philadelphia.....	289	.....	.....	3	292
Boston.....	3,514	.....	3,097	83	9,694
Grand total.....	2,669,432	589,578	295,072	220,082	3,774,173
Total last year.....	2,019,252	450,696	330,012	221,443	3,051,403
Increase.....	650,180	138,891	.....	.....	752,770
Decrease.....	.....	.....	34,940	1,361	.....

CROP OF SEA ISLAND COTTON.—The crop of this staple the past year (included in the general statement) was as follows:—Florida, 14,955 bales; Georgia, 18,657; and South Carolina, 18,801—total, 52,413, against 47,592 in 1858-9; 40,566 in 1857-8; 45,314 in 1856-7; 44,512 in 1855-6; 40,841 in 1854-5; and 39,686 in 1853-4.

CONSUMPTION.

Total crop of the United States, as before stated.....bales		4,675,770
Add stocks on hand at the commencement of the year,		
1st Sept., 1859, in the Southern ports.....	85,369	
In the Northern ports.....	63,868	
		149,237
Makes a supply of.....		4,825,007
Deduct therefrom the export to foreign ports	3,774,173	
Less, foreign included.....	917	
		3,773,256
Stocks on hand, 1st Sept., 1860, in the Southern ports.....	142,613	
In the Northern ports.....	85,095	
		227,708
Burnt at N. O., Apalach., Charleston, and N. Y.	7,415	
Burnt and manufactured at Mobile, Galveston, and Memphis.....	6,266	
Manufactured in Virginia.....	17,841	
		31,522
		4,032,468
Taken for home use north of Virginia.....bales		792,521
Taken for home use in Virginia, and south and west of Virginia.....		185,522
Total consumed in the U. S. (including burnt at the ports.) 1859-60.		978,043

	North of Virginia.	Else-where.	Total.		North of Virginia.	Else-where.	Total.
1858-9.bales	760,218	167,433	927,651	1852-3.bales	650,393	153,332	803,725
1857-8.....	452,185	143,377	595,562	1851-2.....	588,322	111,281	699,603
1856-7.....	665,718	154,218	819,936	1850-1.....	336,429	99,185	485,614
1855-6.....	633,027	137,712	770,739	1849-50.....	476,486	187,012	613,498
1854-5.....	571,117	135,295	706,412	1848-9.....	504,143	138,342	642,485
1853-4.....	592,284	144,952	737,236	1847-8.....	523,892	92,152	616,044

WHEAT: ITS HISTORY AND ITS CULTURE.

The following account of one of the most useful crops of this country, and particularly of the great industrial West, is well worth preserving in the pages of a work like the *Merchants' Magazine*, dedicated, as it is, to commerce in all its relations to Agriculture and that other german sister Manufacture. We therefore copy from the *Prairie Farmer* a brief history of its past and present culture:—

There are five kinds of grain upon which mankind principally subsist—wheat, rye, Indian corn, rice, and oats. Wheat grows in a great variety of climates. The isothermal curve of $57^{\circ} 2'$ appears to be its utmost boundary in North America, though in Europe it grows at Drontheim in Norway, in 65° north, a mean temperature of 40° in summer. It is not grown nearer the equator than within 20° .

In 1622, wheat was introduced and sown on the Elizabeth Island, Massachusetts. In 1611, it was sown in Virginia, and in 1648 hundreds of acres of it were grown in that colony, though soon afterwards tobacco claimed precedence, and wheat became neglected. It was in 1718 that it was first grown in the Mississippi Valley, but it did not succeed well, owing to the peculiar character of the soil, growing too much to straw, and producing but little grain; however, in 1746, in consequence of a better culture perhaps, it was exported from the Wabash Valley to New Orleans.

During the last fifteen years the gain in the production of this crop in the United States has been over sixteen million bushels, while at the same time it has decreased in New England over one million bushels. It is estimated that one bushel of seed is used to every ten produced, and that three bushels are used annually by every individual of the population.

There are eleven species or sub-species named by botanists, but it is more than probable that some of them are mere varieties. In this country two only—winter and spring wheats—are generally grown. The grain of spring wheat is not usually as large as that of winter wheat, but it contains more gluten, and is preferred by many, who think it makes a more palatable bread. It is unpopular except where it is impracticable to grow the winter species. Sir JOHN SINCLAIR tells a story, the correctness of which we doubt somewhat, as we do some other things which he has written, that the Scotch farmers were in the habit of sowing fall wheat in March, and that it ripened as well as fall-sown wheat. The experiment has not yet been tried in this country, to our knowledge, but we should not expect much from the trial. Spring wheat should be sown as early as possible, the soil may be lighter than that necessary for winter wheat, but to insure a good crop it must be in good condition as to fertility. Rolling the land after sowing, especially if the soil is light, is highly important. From one-and-a-half to two bushels is the quantity of seed per acre. Grass seeds generally do well with spring wheat, and they should seldom be omitted.

The varieties of wheat are very numerous, differing in appearance, in constituent qualities, in adaptation to soil and climate, in their power to resist disease and insects, and in productiveness.

Under our present system of culture here, is one fact of general application regarding wheat, which is, that a given variety, though it succeeds better than any other when first introduced, by-and-by begins gradually to deteriorate in the qualities which at first recommended it. We are not prepared to say that this is owing to bad management or improper culture altogether—we should not like to make this accusation against our best farmers. They will agree with us, however, as to the fact alluded to. That we sow a great deal of imperfect seed, which in turn produces imperfect grain, or grain lacking a strong vitality and vigor, and which in its turn again produces weak and feeble plants, bearing a diminished product, no observant farmer doubts. Yet, is this cause alone sufficient to account for the deterioration spoken of? We are not able to determine this question.

Gen. HARMON, of New York, one of the best, most extensive, and observant wheat growers in the country, gave the following as the best varieties of wheat in the United States:—

1. *White Flint*, probably introduced from the Black Sea into New Jersey in 1814. Its peculiarities are strong straw, solid grain, with thin bran; the chaff adheres to the grain so that it does not readily shell out; is little affected by frost; has withstood the Hessian fly better than any other now cultivated. Its usual yield is from twenty to twenty-five bushels per acre.

2. *Improved White Flint*. It is superior to the last in the size of the berry, thinness of the bran, and the weight per bushel.

3. *White Province*, introduced from France. It grows rapidly, yielding much straw; ripens four or five days earlier than the common varieties; withstands cold, and is not injured by insects, but the straw is soft and apt to fall down. It is bald; berry very large and white, yielding flour well and of good quality.

4. *Old Red Chaff*. This originated in Southern Pennsylvania. It is a bald wheat, with a red chaff, but a white grain, and in other respects is similar to the last. On new oak lands it succeeds admirably, when the season is just right, but on old lands it is subject to rust, mildew, insects, and winter killing.

5. *Kentucky White Bearded*, (*Hutchison White Flint*, *Canada Flint*), a white chaff; bearded wheat, which endures dry weather remarkably.

6. *Indiana Wheat*, originated in Indiana; white chaff, bald wheat, peculiarly adapted to strong soils.

7. *Velvet Beard or Crete Wheat*, introduced from England twenty-five years ago; a red chaff; bearded, large berried wheat. It is very hardy, not apt to be thrown out by frost nor injured by insects.

8. *Wheatland Red*, originated from the *Virginia May*, by Gen. HARMON; a red chaff, bald wheat, and not apt to rust.

9. *Golden Drop*, an English variety.

10. *Mediterranean*, introduced from the south of Europe in 1829. It is a light chaff, bearded; is very red and long, bran thick, and flour inferior, but it is not injured by insects, and ripens early. (Since Gen. HARMON wrote this, a great improvement in grinding this wheat has been accomplished, and it bears a better character for bread, and is in better repute in market.)

11. *Blue Stem*, cultivated in Virginia about sixty years since, but now generally grown in the Northern States. Formerly it was a red wheat, but now it is changed to a beautiful white. It is very productive. This list might be much extended, but it would be of no practical utility.

SPRENGAL analyzed 100,000 parts of dry wheat and obtained the following inorganic constituents:—

SUBSTANCES IN THE GRAIN AND STRAW.

	Grain.	Straw.		Grain.	Straw.
Potash.....	225	20	Sulphuric acid.....	50	37
Soda.....	240	29	Phosphoric acid.....	40	170
Lime.....	96	240	Chlorine.....	10	30
Magnesia.....	690	32			
Alumina.....	26	90		1,777	3,518
Silica.....	400	2,870			

The organic portion of wheat consists of *albumen*, *gluten*, *starch*, more than half, *gum*, *dextrine*, *sugar*, &c.

The time of cutting affects the weight of produce as well as the quantity of organic matter, and the relative proportions of flour and bran. JOHNSTON gives some experiments in cutting with the following results. That cut twenty days before ripe gave 160 pounds of grain; that cut ten days before gave 220 pounds; that fully ripe 209 pounds. The yield of flour and brand were the same in proportion—in favor of the portion cut ten days before ripe.

The best wheat soils are those which contain a good proportion of clay with

lime and potash. BOUSSINGAULT estimates "rich wheat land" to contain 75 per cent of clay, 10 of sand, 4 of lime, and 11 of humus; but we do not deem it at all necessary for the production of the largest crops that the soil shall consist of three-fourths clay—not at all. Nor is 4 per cent of lime essential. In Great Britain, good crops of wheat are taken from very sandy soils, where the alternating system is employed. By adopting a good system of rotation, with turnips and clover, and sheep, we can produce wheat on any arable soil.

As a *scouring* crop, wheat must be placed at the head of the lists of grains. According to BOUSSINGAULT, a medium crop takes from one acre of ground, in grain and straw 17 pounds phosphoric acid, 2 pounds sulphuric acid, 1 of chlorine, 16 pounds of lime, 13 pounds magnesia, 24 pounds potash and soda, 121 pounds silica—all in the straw, and 2 pounds oxides of iron and alumina. It is therefore found impolitic, and indeed impracticable, to grow this grain for several years in succession.

Wheat, more than any other grain crop except barley, requires a *dry soil*. It cannot endure an excess of water either in the soil or sub-soil. It is water which by freezing and thawing causes the much complained of winter killing, rusting, &c. Wheat was never known to winter kill on a dry soil, and seldom to rust. A dry soil, therefore, is the first requisition in growing wheat with profit. Next in importance is *good condition*. No farmer—and especially no poor farmer—can afford to raise a poor crop of wheat. Three poor crops of wheat in succession—where this grain is made almost the sole dependence as it is in the West—will cripple his energies for twice that number of years to follow. The land should not only be well cultivated, but should be supplied with all the elements taken up by the crop as indicated by the above analysis.

Wheat may be safely and profitably grown after corn, barley, or oats, providing the land is in good condition; otherwise it is a bad practice under any circumstances. Taking a series of years into the account, estimating the influence of seasons and the depredations of insects, there is no better method of growing wheat than the old fallow system affords. If there is more labor, there is also less hazard or risk. If there is a loss of the use of the land during one summer crop, there is generally a gain in the amount of crop sufficient to make it up. This system admits of thoroughly working the land which the plan of sowing after another crop will not in every case allow, and this consideration is one of the highest importance. What cannot be done in the best manner, had better be let alone altogether. This is the first rule in arable farming.

The waste of seed is very great in our common broadcast way of seeding. STEPHENS made the following calculation:—Wheat at 63 pounds to the bushel gives 87 of its seeds to the drachm; or 701,268 apothecaries' weight, or 865,170 in avoirdupois weight. Now three bushels of seed are sown to the acre, or 2,595,510 grains of wheat. Suppose that each grain produces one stem, and every stem bears an ear containing the common number of 32 grains, the produce of an acre would be 96 bushels; but the heaviest crop in Scotland rarely exceeds 64 bushels to the acre, or 33 per cent of the seed is lost in the best crops, and 58 per cent in an ordinary one of 40 bushels. This is a subject of great magnitude, although we seldom sow more than a bushel and a half or two bushels of 68 pounds to the acre. The loss of seed is attributable to two causes; imperfect grain and covering too deeply. We are too careless in the preparation of seed for the field. The small light grains should all be taken out, and this may be done to great perfection with the "eagle fan," now manufactured by JARVIS & Co. at Laporte, Indiana.

Then we sow in a very inconsiderate manner—dashing the seed on the ground so rough and uneven that it is with difficulty he who casts the grain keeps a straight course or an even step across the field. In no case should wheat be buried deeper than two inches. In order to germinate freely a seed must have air, warmth, and moisture. If it is covered to deeply it will not sprout for want of air and heat. Old wheat is better for sowing than new. It is less affected by bad weather and insects, and the stalks are more numerous and vigorous. The proper way to keep old wheat for seed, is not to thrash it and let it remain

exposed to air in the bin, but put upon some safe scaffold let it remain unthreshed until seeding time arrives. Then let the threshing be done by horses.

In judging of seed the dimpled end should be distinctly marked, and the point from which the roots protrude must be somewhat prominent as if it was swollen.

THE PRODUCTIONS OF IOWA FOR 1860.

We commend the following letter, says the New York *Tribune*, to the particular attention of farmers and all dealers in farm produce. The writer is a gentleman of intelligence, whose position gives him rare opportunities of obtaining information :—

SIR: I have just returned from an agricultural trip through the northeastern counties of this State, which enables me to give a pretty accurate estimate of the yield of wheat and corn in that section of Iowa. From a partial examination and inquiry in regard to the yield in the middle, southern, and western portions, I think I am enabled to form a pretty correct estimate of the average yield there, also. Owing to more frequent and copious showers, as well as the better adaptation of the soil for wheat, the average yield in the northeast is fully equal to twenty bushels to the acre. But in the middle, western, and southern counties, it is not over from 12 to 15 bushels per acre. Much of the wheat, all over the State, was sown in March, and generally not later than the first week in April. It was sown on a very dry soil, little or no rain or snow having fallen during the previous eight months, and it was not until a month at least, on the average, after the grain had been put in, that sufficient rain fell to moisten the earth. Much of the wheat was above the surface at that time, and at least half had germinated after the first rain. Hence it was very irregular, and it was feared for some time that not more than half a crop would be gathered. Some fields all over the State have been seriously affected by rust and the chinch bug, but not so much as to prevent a yield of 16 bushels per acre as the average of the State. This is double the yield of last year, and nearly four times that of the year before. The quality of the berry is at least 25 per cent better than it has been for years.

I subjoin the breadth of land occupied by wheat for four years with the gross production of each of those years, the first two from official returns, the last two upon estimates based upon as good authority as can be obtained. I esteem the estimate below rather than above a fair computation, at least I am satisfied that it is not extravagant. Twenty-five per cent only on the two previous years, has been added for the breadth of land occupied by wheat in 1859 and 1860 :—

Year.	WHEAT.	
	No. of acres.	Gross yield, as per census returns.
1856.....	388,080	5,469,516 bushels.
1858.....	779,909	3,293,254 “
1859.....	974,886	estimate 7,799,088 “
1860.....	1,218,607	“ 19,491,712 “

CORN.

From present appearances the average yield of corn for 1860 will exceed that of any year since the settlement of the State. Unless we have an early September frost, as was the case last year, the northern half of our State will exhibit as good, if not a larger yield, than the middle and southern counties. From the best information I can obtain, in addition to my own extensive examination of fields, I am safe in placing the probable average yield at 45 bushels per acre. In many sections of the State it will be from 60 to 70 bushels, while there are numerous fields which will not turn out less than 100 bushels per acre. I subjoin the production of corn for four years past, but I have only placed the increased breadth of land for 1859 and 1860 at one-fourth that of wheat :—

Year.	No. of acres.	Gross yield, as per census returns.
1856	737,213	31,163,362 bushels.
1858.....	936,096	23,386,684 "
1859.....	1,109,358	estimate 44,374,320 "
1860.....	1,248,027	" 56,161,215 "

In order to make an estimate of the probable resources of our State for the year 1860, I subjoin the following from our State census returns:—

Value of cattle sold in 1856	\$2,923,258	Value of hogs sold in 1856	\$3,127,531
" " " 1858	2,950,187	" " " 1858	2,111,425
Total value of cattle and hogs sold in 1856.....			\$6,050,789
" " " " 1858.....			5,061,612

The severity of the winter of 1857 caused a serious loss of cattle and hogs, but the increase has been such since as to be a matter of especial remark, from the number sent to the New York market. It would not be out of the way, therefore, to claim an income for the year 1860, from cattle and hogs, even after deducting a fair amount for home consumption, of at least \$7,000,000. We shall then have, for this year:—

For wheat, after deducting one-third for home consumption, etc., if sold at only 60c. per bushel	\$7,200,000
For cattle and hogs.....	7,000,000
Making a total, in these two items alone, of.....	\$14,200,000

This sum will go a great way toward liquidating our debts at home and abroad; but if our farmers had expended their means more judiciously, and devoted their energies to the production of more profitable products than wheat, such as cattle, hogs, and sheep, and added cheese, butter, etc., we should have an exhibit of at least one-third more.

I send you the above, that there may be no miscalculation in regard to the actual or probable agricultural products of our noble State of Iowa, of the items mentioned for the year 1860. To place them too high would be unjust to the producers, and to place them too low would discredit the State. I have submitted it to several gentleman having extensive means of information, who assent to its general accuracy.

OFFICE OF SECRETARY OF IOWA FARMERS' COLLEGE, {
Des Moines, Iowa, Aug. 1, 1860. }

WM. DUANE WILSON.

AGRICULTURAL FAIRS FOR 1860.

Alabama.....	Montgomery,	October 29 to Nov. 2.
Cotton Planters' Convention.....	Macon, Ga.,	December 3-20.
Georgia.....	Atlanta,	October 23-26.
Illinois.....	Jacksonville,	September 11-14.
Indiana.....	Indianapolis,	October 15-20.
Iowa.....	Iowa City,	October 2-5.
Kentucky.....	Bowling Green,	September 18-22.
Mississippi.....	Jackson,	November 6-9.
Missouri.....	St. Louis,	October 24-27.
New Hampshire.....	Manchester,	October 2-4.
New York.....	Elmira,	October 2-5.
Ohio.....	Dayton,	September 25-28.
Pennsylvania.....	Wyoming,	September 24-27.
South Carolina.....	Columbia,	November 13-16.
Tennessee.....	Nashville,	September 10-16.
United States Agricultural Society	Cincinnati, O.,	September 12-20.
Vermont.....	Burlington,	September 11-14.
Wisconsin.....	Madison,	September 24-27.

STATISTICS OF POPULATION, &c.

POPULATION OF CHINA.

A correspondent of the *Boston Traveller*, who dates from the frigate *Powhattan*, May 20, 1860, remarks as follows:—

The population of China has been carried to so high a figure by the Chinese officials in other years, that Europeans have been disposed to consider the whole as nearly fabulous, the Chinese being supposed to aim in this, as in other matters, to secure their own glorification, and create awe and wonder among the "outer barbarians." Thus, in 1780, the census gave a population of 277,548,431, and that of 1812 was 361,693,179, which seemed incredible to the rest of the world, divided into so many petty kingdoms and States. Since the expulsion of the Jesuits, the Russian mission, or college rather, established in Peking under the authority of the Chinese Government, has been usefully occupied in various departments of science and general knowledge. A work of the members of this college has recently been translated from the Russian into German, bearing the title, "Researches of the Imperial Mission at Peking," in which, among other matters, tables are given of the population of China, one of which is according to the census of 1842, which had never been made public.

The article in the "Researches" from which the tables are taken, was written by M. SACHAROFF, a member of the college, who obtained the returns of the census for the year 1842 from the Board of Revenue in Peking, no census of a later date having been taken. It is a long period back, therefore—no less than eighteen years—and the natural increase of the population, even at a low ratio, must add very considerably to the figures and sum total given. Intelligent gentlemen and scholars, long resident in China, say they see no reason to doubt their substantial accuracy. Besides, comparing the census of 1780 and that of 1812 with that in 1842, obviously there is nothing impossible nor impracticable in the returns of the last.

China proper is divided into eighteen provinces, omitting Manchuria, Thibet, and Mongolia, of which the census of Manchuria only is given in the tables, this division of the empire being the native country of the reigning dynasty, and therefore better known and more entitled to honorable notice than the other subdued portions of the empire. Were these to be added, the total population of the empire would be very considerably increased. The entire population of England or the United States is less than that of a single Chinese province:—

Provinces.	Population in 1842.	Provinces.	Population in 1842.
Chih-le, or Pechele	36,879,838	Shen-se	10,309,769
Shan tung	29,529,877	Kan-suh	19,512,716
Shan-se	17,056,925	Sze-chuen	22,256,964
Hu-nad	29,069,771	Kwan-tung	21,252,670
Keang-soo	39,646,924	Kwong-se	8,121,327
Ngan-hwei	36,596,988	Yun-nah	5,823,670
Fuh-Keen	25,799,556	Kwei-chow	5,679,128
Che-Keang	30,437,974	Kiang-se	26,513,889
Hoo-pih	28,584,564	Manchuria	1,665,542
Hoo-nan	20,048,969		
Total			414,688,994

The census of 1780 gave a population of 277,548,431, and the census of 1812 a population of 361,693,179. The ratio of increase from 1812 to 1842, a period of thirty years, would give an increase of 36,454,000 in 1860, which, added to the population reported in 1842, would make the present population of China proper, including Manchuria, 451,137,000. This may seem incredible and purely fabulous to one who has seen only the sparse population in our own country, where neighbors are miles apart. But no figures can stagger the faith of a

careful observer, who wanders through the towns and villages which fill the country in China, wherever he goes, or who has made his way through the almost consolidated masses which block the streets of the great cities, and also, in addition, takes into account the hundreds of thousands who are born, live, and die in their boats and junks in the canals and rivers, and along the coasts, for there are towns and villages on the water as well as on the land.

M. SACHAROFF, as before stated, obtained the returns of the census for 1842 at the office of the Board of Revenue in Peking. He points out several circumstances which threw more or less doubt on the entire reliableness of the census, one of which is the extraordinary disproportion between the number of families and the individuals reported, the number of families being to the number of individuals nearly as one to two, just as though the parents only were reckoned in the returns, while the children and servants were omitted. This anomaly does not appear in the carefully prepared returns of the military population, which were kept in the War-office, and which were also accessible to M. SACHAROFF, and examined by him. Here he found the proportion of families to individuals to be as 1 to 4; nor can any reason be readily assigned why the proportion should not hold the same among other classes, *i. e.*, every family at an average consisting of four members, which is less than in Europe and the United States, where the average is between five and six. However the anomaly may be accounted for, whether from carelessness of the officials or any other unknown cause, there appears to be no grounds for doubting the general correctness of the returns, whether regard be had to the reported number of families, or to a moderate ratio of natural increase. At the ratio of increase of the population of the United States from 1810 to 1840, periods closely corresponding with those when the Chinese census was taken in 1812 and 1842, the increase within these two dates would be 515,714,000 instead of 53,000,000, the difference in the returns in the census tables, a gain of more than the entire population of the empire in 1860, by more than 100,000,000, and making the population of the empire in 1842 876,000,000, and at the present time 912,000,000, and adding the natural increase since the last census in 1842, and estimable at 36,000,000, at the ratio of increase given in the Chinese tables, and not according to our own.

The ratio of increase in China and all the East is greatly below that in our own country. Still at a very low ratio, if we may place any reliance upon the Chinese census, it will be seen that there may be more truth than fable and self-glorification in the reported population of the empire. I have not attempted precision in my last figures, omitting thousands and tens of thousands, where a million and twenty millions are nothing.

INCREASED WEAR AND TEAR OF THE BRAIN IN MODERN LIFE.

In the report of the Commissioners on Lunacy for the year 1847, says the London *Quarterly Review*, we find the total number of private patients of the middle and upper classes, then under confinement in private asylums, amounted to 4,649. Now, if we skip eight years, and refer to the report of 1855, we find that there were only 4,557 patients under confinement, or about 96 less, notwithstanding the increase of population during that period. If we compare the number of pauper lunatics under confinement at these two periods, we shall find a widely different state of things; for in 1847, there were 9,654 in our public and private asylums, whilst in 1855 they numbered 15,822. In other words, our pauper lunatics would appear to have increased 6,170 in eight years, or upwards of 64 per cent. It is this extraordinary increase of pauper lunatics in the county asylums which has frightened some psychologists from their propriety, and led them to believe that insanity is running a winning race with the healthy intellect. But these figures, if they mean anything, prove that it is not the intellect of the country that breeds insanity, but its ignorance, as it cannot for one moment be contended that the great movements now taking place in the world originate with the laboring classes. We shall be told, we know, that there is a constant descent of patients from private asylums to public asylums;

that the professional man and the tradesman, after expending the means of his friends and family for a year or two in the vain hope of a speedy cure, becomes necessarily in the end a pauper lunatic, and that this stream aids to swell the numbers in the county institution. Allowing its due weight to this explanation—and those who know public asylums are well aware how small, comparatively speaking, is the educated element—yet, as the same disturbing element in the calculation obtained at both periods, we may safely conclude that both the figures are not thereby essentially altered.

A still more convincing proof that mental ruin springs rather from mental torpidity than from mental stimulation, is to be found by comparing the proportion of lunatics to the population in the rural and the manufacturing districts. Sir ANDREW HALLIDAY, who worked out this interesting problem in 1828, selected, as his twelve non agricultural counties, Cornwall, Cheshire, Derby, Durham, Gloucester, Lancaster, Northumberland, Stafford, Somerset, York, (West Riding,) and Warwick, which contained a population at that time of 4,493,194, and a total number of 3,910 insane persons, or 1 to every 1,200. His twelve agricultural counties were Bedford, Berkshire, Bucks, Cambridge, Hereford, Lincoln, Norfolk, Northampton, Oxford, Rutland, Suffolk, and Wilts, the total population of which was 2,012,979, and the total number of insane persons 2,526, a proportion of 1 lunatic to every 820 sane. Another significant fact elicited was, that whilst in the manufacturing counties the idiots were considerably less than the lunatics; in the rural counties the idiots were to the lunatics as 7 to 5! Thus the HODGES of England, who know nothing of the march of intellect, contribute far more inmates to the public lunatic asylums than the toil-worn artisans of Manchester or Liverpool, who live in the great eye of the world, and keep step with the march of civilization, even if they do but bring up its rear. Isolation is a greater cause of mental ruin than aggregation—our English fields can afford cretins as plentifully as the upland valleys of the mountain range seldom visited by the foot of the traveler; whilst, on the other hand, in the workshop and the public assembly, "As iron weareth iron, so man sharpeneth the face of his friend."

POPULATION OF ALEXANDRIA.

Under the official returns, as reported to the Department, the population of the city aggregates 11,206, and that of the county 1,367—making a total of 12,573. The following is the aggregate of each class of the population as returned by the census of 1850, and 1860:—

	—Alexandria city.—		—Rest of county.—	
	1850.	1860.	1850.	1860.
Whites.....	6,420	8,932	795	962
Free colored.....	1,308	1,248	105	147
Slaves.....	1,067	1,026	321	358
Total.....	8,795	11,206	1,221	1,367

The following table shows the progressive increase of population in city and county since 1800:—

	1800.	1810.	1820.	1830.	1840.	1850.	1860.
City.....	4,196	7,227	8,218	8,263	8,459	8,795	11,206
County.....	.....	.....	9,703	9,608	9,967	10,016	12,573

It will be seen by the first table that, while the increase in the population of the city since the last census has been about thirty per cent on its previous population, the increase in the county has been only about twelve per cent. In the city the increase of the white population has been 2,512; while the free negroes have decreased 60, and the slaves 41. In the county the white population has increased 167, the free negroes 41, and the slaves 37—thus showing that while the white population of the city and county has rapidly increased, the number of negroes has diminished.

RUSSIAN AGGRESSION AND EXTENSION.

The *Journal de Statistique Universelle* publishes the following table of the successive encroachments of Russia from the 14th century up to the year 1832 :

	Extent in geographical miles.	Population.
GRAND DUCHY OF MOSCOW.		
In 1328, at the accession of Yvan, (Kaleta).....	4,656	6,290,000
1462, at the accession of Yvan I.....	18,475	.....
1503, at the death of Yvan I.....	37,137	.....
1584, at the death of Yvan II.....	125,465	.....
1645, at the death of Michel I.....	254,361	.....
1689, at the accession of Peter I.....	263,900	16,000,000
EMPIRE OF RUSSIA.		
1725, at the accession of Catherine I.....	273,814	20,000,000
1762, at the accession of Catherine II.....	319,358	25,000,000
1793, at the death of Catherine II.....	331,850	33,000,000
1825, at the death of Alexander I.....	367,494	56,000,000
1831, at the taking of Warsaw.....	369,764	60,000,000

That is to say, that during the last two centuries Russia has doubled her territory, and during the last hundred years has tripled her population ; her conquests during sixty years are equal to all she possessed in Europe previous to that period ; her conquests from Sweden are greater than what remain of that kingdom ; she has taken from the Tartars an extent equal to that of Turkey in Europe with Greece, Italy, and Spain ; her conquests from Turkey in Europe are more in extent than the kingdom of Prussia without the Rhenish provinces ; she has taken from Turkey in Asia an extent of territory equal to all the small States of Germany ; from Persia, equal to the whole of England, (United Kingdom;) and from Poland, equal to the whole Austrian Empire. A division of the population gives—

Tribes of the Caucasus.....	2,000,000
Cossacks, the Georgians, and the Khirguiz.....	4,000,000
Turks, the Mongols, and the Tartars.....	4,000,000
Ouralians, the Finlanders, and the Swedes.....	6,000,000
Muscovites, (of the Greek Church).....	20,000,000
Poles, (Roman and Greek Church united).....	24,000,000
Total.....	40,000,000

The population of ancient Poland counts for two-fifths of the total population over an eighth part of the territory, and the Muscovite population for one-third of the total number over a tenth of the territory ; in other words, the Polish element is in a great majority, as compared to all the others.

A NEW EMIGRATION.

We find in *Le Nord* an account of a most remarkable migration now going on from the Russian to the Turkish possessions. It shows that the nomadic instincts of the old Scythian race are not yet lost. The whole Tartar population of the Crimea—men, women, and children, 300,000 strong—are leaving that fertile peninsula for the rigors and hardships of a life in Asia Minor. The Russian Government offers no opposition. Its experience in the Crimean war was sufficient to show that the Tartars never would make good Russian subjects, and in times of danger would always be a cause of weakness rather than of strength. Whole villages rallied to the enemy, serving as entertainers, spies, guides, and at Eupatoria as light troops. These little treasons were pardoned by the treaty of Paris, but the fact was not forgotten by the Russian or by the Tartar. A project was started to remove them to a central portion of the empire, but Alexander has too strong a sense of justice to exile a whole race to what to them would prove a sort of Siberia or Botany Bay. The war, however, roused the

national spirit of the Tartars, and the hope which was raised by it of reunion to a race kindred to them in blood, language, and religion, they have at length determined to realize at any cost. The example of the Tcherkesses in the Caucasus, and the artificial excitement raised by Turkish emissaries, decided them to make a general movement this spring, and they have put no seed in the ground. The Russian Government consoles itself with the idea that the extraordinary fertility of the soil of the Crimea will attract German emigrants, who are far more valuable to the State, and under whose industry the peninsula may regain its fame of the granary of the East.

MERCANTILE MISCELLANIES.

COMMERCE OF NEW YORK.

The Annual Report of the New York Chamber of Commerce has been published in an octavo volume of 364 pages. The volume contains the proceedings and special reports of the year 1859; a list of members, January, 1860, with the by-laws in force; also the laws of the State, passed 1860, in reference to commercial matters; and elaborate reports on the following subjects for the year 1859:—Asia, (commerce with); Assay-office, New York; Banks; Battery Extension; Boot and Shoe Market; California trade; Canals of New York; China trade; Clearing-house of New York; Coal trade; Coffee trade; Coinage; Collisions at Sea; Coolie traffic; Cotton; Cuba trade; Currant trade; Decimal Weights and Measures; Domestic Manufactures of New York; Drug trade; Dry Goods trade; Dye Woods; Encroachments on the Harbor; Fire in Cotton Ships; Frauds in Cotton; Freights; Fruit; Hemp Market; Hudson River; Indigo; Insurance, Marine and Fire; Key West Wrecks; Leather trade; Lumber trade; Magnetic Telegraph; Naval Stores; Newark Bay; Population and Debt of New York City and State; Quarantine; Reciprocity Treaty; Rice; Salt Production; Savings Banks; Sandy Hook; Staves; Sugar; Taxation in New York; Tea trade; Tobacco trade; Turpentine; Weights and Measures; Wine and Liquor trade, &c.

One of the most valuable contributions to the Chamber of Commerce report, is the annual summary of marine losses, showing the number of ships, steamers, barks, brigs, and schooners lost each month of the year, with the amount of loss on each. The official documents are also of value, and find a prominent place, viz.: Treaty with China; progress of debt, taxation, and real and personal property each year since 1805.

The executive committee acknowledge interesting and acceptable details contained in the official and other reports of the following gentlemen—information highly necessary to illustrate the important subjects under consideration:—Hon. HOWELL COBB, Secretary of the Treasury of the United States; Hon. WM. B. REED, of Philadelphia; Professor JOHN H. ALEXANDER, of Baltimore, Md.; Professor ALEXANDER DALLAS BACHE, Superintendent United States Coast Survey; JAMES ROSS SNOWDEN, Esq., Director of the United States Mint; D. H. CRAIG, Esq., of New York; D. T. VALENTINE, Esq., Clerk of the Common Council, New York; J. H. UPTON, Esq., Special Agent of New York Board of Underwriters.

PROFITABLE INVESTMENTS.

There are at this moment many cautious persons in those lines of business which are conducted on the cash system, who are seeking safe investments for capital, but rendered distrustful by the financial difficulties through which the country has recently passed. Let such persons keep two principles steadily in view, and they need not withhold their capital from its natural union with labor, from any sense of insecurity. Let that capital be so invested as to give occupation to labor directly employed in producing something as generally useful to mankind as possible. Because men will always continue to want those objects, and be willing to pay liberally for the use of that capital, which renders their production most abundant. A telegraph company, for example, which, by an application of science, transmits the most important intelligence to distant points at a trifling cost, will, if well conducted between cities of sufficient importance, be sure to be a profitable investment.

But here a second principle comes in. Every man should, as a general rule, invest his money in some way connected as directly as possible with his own pursuits in life, or so that he be intimately acquainted with all concerning it. If farmers employ their accumulating wealth in such railroads as will convey their produce to market, they will form no slight judgment of how the operations are conducted, and the officers' conduct, and gain not only the dividends of their stock, but reap a rich reward in the increased value of their lands, and convenient access to a market. It is because railroad projects have been so often started and managed by speculators, instead of the persons whose knowledge and other interests were connected with the state of the district, that unprofitable lines have sometimes been undertaken, or at least extravagant hopes raised, frauds carried on, and failures followed. It is a law of no mean importance in political economy, that the same investments of capital that will be profitable for one, may occasion loss to another.

Upon the same principle, the merchant might well employ some of his surplus capital in shares of a manufacturing company, with the demand for whose productions his business may have made him familiar. In like manner let all who labor for a support, lay by and invest their savings in those forms of capital with whose value and operation they are intimately acquainted. Thus, if clerks would invest their surplus earnings, as opportunity offered, in such mercantile houses as they knew to be sound, instead of speculating on the rise and fall of some fancy stocks, they would soon become partners in the wealthiest firms of the city. Or, if the seamstress would, instead of railing against sewing machines, labor and economize, until she were able to pay the first instalment for the purchase of one, she would soon double and treble her earnings, and be able to lay by an ample provision for future contingencies.

The best truth of these views is that the great source of the recent mercantile pressure has been the adoption of an exactly opposite policy in both the respects to which we have alluded—*i. e.*, the large sums vested by all classes in useless or in speculative objects. Extravagances of decoration and living have characterized the wealthy, while those of dress and luxuries have swallowed up all the savings of such as are dependent on their own earnings alone. Instead of having money to lend, they have had it to borrow; instead of augmenting their

means through invested capital, producing a return, they have been perhaps paying interest for money squandered in consuming the productions of others.

A still more fruitful source of distress has been the neglect of the second great principle. Men have invested their capital too far away from their own eyes and supervision, in pursuits unconnected with their own line of business, and about which they knew nothing, except that some cunning speculator assured them that large dividends were paid, concealing the fact, of course, that they were paid out of the capital stock, and not out of the earnings of the investment. All the bubble speculations, from those in *morus multicaulus*, or in Eastern lands, to those of New York city property, have deceived the unwary, chiefly through investments of capital made by those who know nothing of the subject.

NEBRASKA CITY AND THE WEST.

A correspondent of one of our cotemporaries of New York, writing from Nebraska City under date of August 11, 1860, gives the following graphic account of the prairie regions of the West, and of the progress of Nebraska City in population and wealth :—

At this point the river washes the bank of a bold eminence, on which is beautifully located Nebraska City. Back of it, in gentle undulations, for many miles, rolls a prairie, for beauty of scenery and richness of soil not to be surpassed in the West. This city has now a population of about 2,000, although the gold-fever has carried away many of its inhabitants. A number of fine brick buildings are among its dwellings. Previous to April last, it could boast two of the finest hotels west of St. Louis. The fire of a few months since has made sad havoc, having destroyed one of the hotels and a block of fine brick stores. The effects of the financial revulsion are still upon them; but little building has been done during the last year.

The time seems approaching when nations shall be born in a day. Only six years ago, when I first visited Nebraska, I slept in the first frame house, then just built, in this city. The deeply trodden trail near the river showed the highway of the Otoe and Pawnee. At that time the Otoes were performing their yearly visit to some southern tribe. On such occasions the Indian village is deserted, and the whole tribe, including ponies and dogs, go to share the neighboring hospitalities. Here an aged chief, who had often led the warriors in the chase for the buffalo, and the hunt for the scalp of the red brother, with the same stoical composure, and who showed on his breast and forehead the scars of Indian warfare, was taken ill, and although there was there no knight of the lance and saddle-bag, no mercury to hasten his departure, suddenly died, and was buried with all the "pride and circumstance" due to the head of the nation. The rude grave was prepared. The chief, wrapped in his blanket, was placed in a sitting posture in his resting-place; the weapons of the chase, arms of strife, ornaments of his person, and the rude dishes which were supposed to be necessary in the spirit land, were laid by his side. Rude stieks, placed like the roof of a house, were covered with a little earth. Each maiden cut a lock from her dark flowing tresses, and threw it upon the grave; while a company of young warriors, who had followed in procession, having previously obtained small sticks of wood, at one end adorned with shavings, and the other split through the center, made an incision in the fleshy part of the left arm large enough to hold the split stick, and then, with all their trained indifference to pain, assumed the proud distinction of mourners, went to the foot of the grave, and with cheerful countenances drew the sticks of wood from the wounds, dripping with warm blood, and threw them upon the ground. It was a solemn burial service. Then planting at the head a pole with a white cloth fastened,

to mark that royal flesh was mouldering into dust beneath, the tribe in single file marched away to the south.

The curious travelers soon carried away as mementoes the hair of the maidens and the sticks of self-inflicted torture; the rough winds buried the flag beneath the rank prairie grass. A city has risen upon the burial-place of the Otoes, and now no monument marks the spot where the aged warrior sleeps.

Gen. Downs erected the first building here. He deserves well of his country. A true patriot and brave soldier, he periled his life in the everglades of Florida and on the plains of Mexico.

There are now one Methodist church, and a second in course of construction, and a large and neatly-arranged Presbyterian church. The present pastor has ministered to this people some four or five years, and is an able preacher, and a faithful shepherd over the flock committed to his care.

Here the natural scenery is grand. Stretching away to the east, the eye crosses the great river-bottoms for over ten miles, and rests upon the bluffs which bound them, having the appearance of high mountains, while to the north, south, and west stretch away the nodding corn-fields, and the graceful groundswells of the prairie. Ride in either direction from the city, and you get many miles away before you lose sight of its church-spire and buildings. Although the country has the appearance of hills, yet on the summit of each roll you can overlook the whole country, in front and rear. To illustrate: A tall cottonwood tree stands in a ravine, yet, when the country was *new*, the lost traveler for twelve miles would correct his journey by its green foliage.

The whole country has the appearance of a mighty ocean, recovering from the shock of the tempest, and while rocking itself into the quietude of rest, instantly becomes solidified, and the changing swells of the ocean become the fixed billows of the prairie.

PHILOSOPHY OF EXPENDITURE.

Dr. JOHNSON says, "he who drinks beer, thinks beer;" and a recent writer in an English periodical, the *Saturday Review*, declares that those who occupy themselves with "endless care for small savings, get to think candle ends," as their reward. There never was a happier expression. It is almost equal to Dr. JOHNSON, and would be quite so, were it not for the probability that the first epigram suggested the other; the beer hinted the tallow. In the same essay the *Review* points out in the most amusing manner the folly of preaching Poor Richard to the world in the present age. We subjoin a paragraph from the essay:—

Economy is a good thing; but among the classes who, whether they are economical or not, are sure never to go to bed hungry, there is nothing in the triumphs of economy or in the accumulation of money to compensate for the deterioration of mind and feeling, which is almost sure to accompany the pursuit of so trumpery an end as screwing fourpence a week out of the butter bill. As intellectual education is more widely spread, this is more keenly felt, and persons become more unwilling "to lose life for the sake of the causes of living." It seems better to lay out money on learning and on mental cultivation, than to tie it up in a stocking. And the state of society at present helps this feeling. The old saying that a fortune is more easily saved than got is no longer true. Its truth belongs to a time when each class was shut up in its own narrow limits, when locomotion was difficult and the chances of success in remote adventure were extremely small. Now a fortune is more easily got than saved.

The world is open to the enterprising, and, if they please, they may pick up gold abroad instead of painfully hoarding up copper at home. The habits and natures of families are naturally accommodated to this altered state of things. A prudent father does better by spending his income on his children, so as to give them a fair start, than by neglecting their present advancement, in order to prepare for their future needs. His object is not to teach them to save money, but to get it, and spend it rightly; and it is impossible to teach this, unless a certain

liberality and generous largeness in dealing with money, proportionately to the family income, is openly encouraged. There is, indeed, a sort of idiotic wastefulness, by which silly people manage to dribble away vast sums yearly, without anything to show in return—that a parent ought of course to prohibit, by every means in his power. But the general principle remains that a fortune should be earned, and not inherited or saved, and that it should be spent with somewhat of easiness and magnanimity. There is one test which will act as a perfect safeguard against too wide a departure from the rules of prudent economy. So long as *debt* is abhorred, everything is safe.

The writer of the above possesses practical wisdom and knows how to put it in words. Of course he does not intend to say that one must, as a duty, spend all that he can get, though he does think that “an income may be better spent without too much thought, than if every item is scrutinized, and every penny paid away with a groan.” Having quoted, at some length, the practical wisdom of the *Review*, we give, at the risk of the ire of the ladies, a witty contrast between the habits of men and women :—“The difference between the two sexes may often be stated thus : a man gives two shillings for an eighteen-penny thing he wants, and a woman gives eighteen pence for a two-shilling thing she does not want.”

DEAD MEN'S SHOES.

One of the worst mistakes men make is, in leaving gifts and charities to be dispensed after their death ; and this applies as well to mere donations as to legacies to children and relatives. In truth, of such a one it may be said, “he heapeth up riches, and knoweth not who shall gather them.”

The grasp upon wealth—even with the benevolent—is tight, and, in most cases, death is the only power which can loosen it ; but if men would reason upon the subject of their donations, as upon any other business transaction, then the man of moderate wealth would content himself to drop his gifts along the path of life, even if in small sums, rather than risk the danger from squandering of large legacies after his death ; and the man of overflowing riches would direct his thousands with his own loving hand, and when his own eye could see that his intentions were not thwarted, nor his benevolence abused.

Rich men, too, make sad errors in regard to their children. It is a very common idea that because the father has toiled early and late for his money, eating the bread of frugality, and wearing the robe of economy, that the son must do likewise, whether he has the disposition or not. The difference in the great facts which underlie the whole being of father and son, are forgotten ; to wit, that one was born without wealth, the other was born in affluence. Hence the one felt the entire dependence upon his own exertions, and the other did not.

To this error can be traced the ruin of so many young men, whom the death of a father leaves rolling in wealth. It is bad enough for a boy to have the curse of wealthy parentage upon his birth, but it adds to that curse to keep him waiting for his father's shoes. A division of the wealth with that son, while the father can, at least by his advice, control it, would materially lessen the chances of injury to the child, and bring audible prayers for the preservation of that father's life, rather than secret wishes for his death.

Of this great error in leaving wealth to be distributed after death, the famous McDonough estate of New Orleans affords a glaring illustration. At McDon-

OUGH's death, his estate was estimated at \$5,000,000; now it is estimated at \$2,230,000; and it has gone like water through a sieve as follows:—Over \$250,000 spent in litigation; over \$100,000 in charges and commissions; over \$500,000 lost in interest and delays; and over \$500,000 lost in pillage and decay.

The paper from which we take the statement says:—

Not one dollar of charity had ever yet been received from the estate; not one negro had been sent to Liberia, nor the tears and sorrows of one poor orphan boy ever been assuaged. At every point and in every way, the last will and testament of JOHN McDONOUGH had been frustrated and thwarted.

SILKS AND SERVANT GIRLS.

A Philadelphia correspondent of the New York *Tribune* moralizes upon the progress of extravagance in dress among the working female portion of the community. The remedy of restraining women by sumptuary laws is a very old one, leveled at the same evil centuries ago, with very little effect however. People cannot be made prudent, or frugal, or temperate, or wise by law; the press and the schoolmaster are your true repairing agents:—

The slaughtering of silk goods at the New York auctions is making the article so cheap and plenty here that our feminines are crowding the retailers' counters more anxiously than ever, to buy not what they want or need, but simply because these trappings are cheap. Looking in at these crowded bazaars, one is struck with the large proportion of servant girls who are spending their money for silks. Indeed, the consumption of these luxuries among this class is enormous. They flaunt in our fashionable thoroughfares in skirts as ample and finery as gaudy as their mistresses. When sickness overtakes them, they are left without a dollar, beggared by the pernicious example set them by their employers. It must be evident that much of the general stagnation of trade is owing to this insane extravagance among American women. Your importers may lose heavily by glutting the country with these superfluities; but let them sell as ruinously low as they may, the country is a greater loser by consuming them. The women of this nation having never yet saved it, we should adopt measures to prevent them from thus destroying it.

THE PRESERVATION OF MILK.

From the *Le Genie Industriel* we learn that several patents have lately been secured in France by M. NEUNSWANDER, for the preservation of milk. The first consists in putting it into bottles immediately after it is drawn, when the bottles are hermetically corked and placed in a vessel containing water of the temperature of about 57° Fah. The water is then made to boil in a close vessel for an hour. The fire is then extinguished, and the vessel opened and suffered to cool for a quarter of an hour. The bottles are now taken from the water and the operation is completed.

For larger amounts, the process is continued longer; thus, for quantities of from ten to twenty quarts, the boiling must be continued from one-and-a-half to two hours, in vessels closely corked and set in a boiler containing water at a temperature of 57°.

A second process is thus conducted:—as soon as the milk is drawn, it is put into a copper boiler lined with tin. It is then set boiling, and as soon as ebullition has fairly commenced, it is poured into vessels prepared for it, which are

hermetically closed as soon as it can possibly be done. While still warm, these vessels are put into a boiler containing water at a temperature of 57°, and submerged nearly three inches. This boiler is closed with a cover, set on fire, and to boil from a half to two hours, according as the bottles range in capacity from one to twenty quarts. The boiler is then opened and suffered to cool from a quarter to a half hour. The fire should always be moderate, that the heat of the vessels may not rise too high.

The patentee likewise varies his processes, as follows :—The milk, when quite fresh, is put into a vessel and gently boiled and shaken for about ten minutes, when a decoction of horse-radish is put into it, in the proportion of almost a tenth. The decoction itself is prepared by mixing about one hundred grammes of raddish with three quarts of milk. The mixture is then gently boiled and passed through a linen cloth, or some other fine strainer.

After this decoction has been poured into the milk, the boiling is stopped and the milk poured into bottles at a temperature as high as they will bear. They are then corked, and the operation is completed.

THE TEST OF RESPECTABILITY.

To judge from the conduct and ideas of some persons among both sexes, respectability consists in driving fast horses, wearing rich lace, drinking champagne, or idling away life. To cut a figure in society, on the promenades, or at a watering place, appears to be the sole aim of many women, who surely were born for better things. To cultivate a moustache, sport a “two forty” trotter, or act as a model exhibitor of coats for some fashionable tailor, seems to be the conception of a dignified and respectable career, formed by not a few of the men.

Now, being respectable, in either man or woman, is, to our notion, doing what is duty. The poorest person even, in what is considered popularly the humblest avocation, who pays his debts, obeys the law, and fulfills his other obligations to society and to his fellow-creatures, is a thousand times more respectable than the wealthy idler, the educated spendthrift, the callous miser, or the fashionable fool. So the modest female, whether seamstress, book-folder, press-tender, store-keeper, or even house-servant, is, in the true sense of the word, infinitely more respectable than the extravagant wife who is ruining her husband, than the thoughtless votary of fashion, than the butterfly flirt. In a word, worth, not wealth, constitutes respectability.

Again ; it is what really is, not what merely seems to be, respectable, that men of sense honor as such. The millionaire, who has obtained wealth by knavish practices, though he may creep through the meshes of the law, cannot escape the indignant verdict of an honest public ; he may give grand dinners, drive a showy equipage, inhabit a palace, and even subscribe ostentatiously to benevolent purposes ; yet, with all his outside gilding, people recognize the rottenness within, and from the very summit of his splendor, trace back the slimy track by which he rose. Such a man, let him do what he will, can never become respectable. A gulf as wide as that between Dives and Lazarus, separates him from the esteem of the good. So also the low-minded in all pursuits, those cruel and unfeeling towards their fellow-men, charlatans, of every hue, hypocrites, demagogues,

toadies, sharpers, and all others of a similar kind, cannot be respectable. Pinchbeck never yet passed long for gold. Or, as the old proverb has it, "you cannot make a silk purse out of a sow's ear."

As people are generally what habit renders them, it is for the young that these remarks are meant. If they are shams now, shams they will remain; nothing, alas, can ever make them respectable. But the young have yet their habits to form. Let them take a high standard, and become truly respectable.

THE KEY WEST NEGROES.

The following is the official report of the United States Marshal concerning the final disposition of the Africans in his charge :—

U. S. MARSHAL'S OFFICE, SO. DIST. OF FLORIDA, }
KEY WEST, July 26, 1856. }

SIR :—For the information of the Department, I beg leave to submit the following statement, showing the number of Africans delivered to me by the commanders of the United States steamers Mohawk, Wyandotte, and Crusader. Also, the number of births and deaths which occurred here, and the number shipped on board the three vessels chartered by the African Colonization Society to carry them to Liberia :—

Number of Africans received from the bark Wildfire.....	507	
" births.....	1	
	—	508
Number of Africans received from the bark William.....	513	
" " " " Unknown.....	411	
	—	1,432
Number of deaths from cargo bark Wildfire.....	95	
" " " William.....	171	
" " " Unknown.....	28	
	—	294
Number of Africans to be shipped.....		1,138
" " shipped on ship Castilian.....	400	
" " " " South Shore.....	355	
" " " " Star of the Union.....	383	
	—	1,138

By the next mail I will furnish the Department with the proper certificates of the death and burial of 294 Africans specified in the within statement.

Very respectfully, your obedient servant,
FERNANDO J. MORENO, United States Marshal.

MONUMENTS OF HUMAN LABOR.

Nineveh was 15 miles long, 8 wide, and 40 miles round, with a wall 100 feet high, and thick enough for three chariots abreast. Babylon was 50 miles within the walls, which were 75 feet thick and 300 feet high, with 100 brazen gates. The Temple of Diana, at Ephesus, was 429 feet to the support of the roof. It was a hundred years in building. The largest of the pyramids is 481 feet high, and 653 on the sides; the base covers 11 acres. The stones are about 30 feet in length, and the layers are 208. It employed 330,000 men in building. The labyrinth in Egypt contains 300 chambers and 12 halls. Thebes, in Egypt, presents ruins 27 miles round, and 100 gates. Carthage was 23 miles round. Athens was 25 miles round, and contained 359,000 citizens and 400,000 slaves. The Temple of Delphos was so rich in donations, that it was plundered of £500,000, and Nero carried away from it 200 statues. The walls of Rome were 13 miles round.

FRAUDS IN TRADE.

When people read that the gold watches they buy have really very little gold in them; that the jewelry they purchase is one-half of it bogus, and their gold and silver ware is not worth a fifth of the value set upon it, they are struck with the enormity of the fraud practiced upon them by dishonest dealers; but there are other frauds, which, though less extensive in single instances, are far greater in the aggregate, of which they are the daily victims. Shopkeepers frequently find their goods short in the specified number of yards in the piece. It was proven in an English court, quite recently, that a very distinguished maker of sewing cotton made up short spools for certain markets. In the articles of sewing silk and knitting zephyr, we are informed, there is the same kind of fraud perpetrated, and, considering the enormity and universal use of sewing silk, this fraud must prove a very profitable one to the dealers. The standard weight of sewing silk is 16 ounces to the pound. Custom has reduced this to 12 ounces. The practice of dishonest dealers is to put up 5 ounces to the half pound instead of 6, and in some cases 4 ounce, and even 3 ounce, packages have been offered to retailers in this city to be sold as 6 ounce packages, with the assurance that this was becoming the common practice. In retailing sewing silk, weights are used which contain only twelve drachms to the ounce instead of sixteen, and some have as low as eight drachms only, the half and quarter ounces being proportionately reduced.

INDUSTRY IN JAMAICA.

A late number of the London *Economist* has the following table of the exports from Jamaica of unrefined sugar for the year 1835 to 1859, inclusive. Though the population of that island has increased about 100,000 since the act of emancipation, yet the production of one of her main products of industry has fallen off nearly three-fourths since 1832.

EXPORTS OF UNREFINED SUGAR FROM JAMAICA.

Pounds.		Pounds.		Pounds.	
1835.....	128,641,120	1845.....	83,201,104	1854.....	56,636,608
1840.....	58,076,592	1849.....	70,949,648	1859.....	47,939,600

The exports into Great Britain of unrefined sugar during the following years, were—

Pounds.		Pounds.		Pounds.	
1849.....	55,605,536	1854.....	273,200,592	1859.....	393,440,547

WEIGHT OF VARIOUS ARTICLES OF PRODUCE.

The following is the established weights of various articles of produce:—

A bushel of wheat, sixty pounds.	Of flax-seed, fifty-six pounds.
Of shelled corn, fifty-six pounds.	Of hemp-seed, forty-four pounds.
Of corn on the cob, seventy pounds.	Of buckwheat, fifty-two pounds.
Of rye, fifty-six pounds.	Of blue-grass seed, fourteen pounds.
Of oats, thirty-five pounds.	Of castor-beans, forty-two pounds.
Of barley, forty-eight pounds.	Of dried peaches, thirty-three pounds.
Of potatoes, sixty pounds.	Of dried apples, twenty-four pounds.
Of beans, twenty pounds.	Of onions, fifty-seven pounds.
Of clover-seed, sixty-two pounds.	Of salt, fifty pounds.
Of timothy-seed, forty-five pounds.	

THE BOOK TRADE.

- 1.—*The Wild Sports of India*; with remarks on the Breeding and Rearing of Horses, and the formation of Light Irregular Cavalry. By Capt. HENRY SHAKESPEAR, Commandant Nagpore Irregular Force. 12mo., pp. 283. Boston: Ticknor & Fields.

As the title indicates, this book comprises a series of hair-breadth escapes and successes experienced by an Indian hunter in the jungles of India—an Englishman, by the way. It has been written, he says, "not so much for the instruction or edification of the old and experienced hunter, as to teach the young and uninformed." Reasoning, with great good sense, in this way—that the ardent and excitable youth, just free for the first time from the trammels of school, love and are formed for excitement, and excitement they will have at all hazards, and that activity and employment are necessary to keep youth from vice—prone by nature, as we all are, to it, and more easily allured to its temptations than to good. This being the case, let it be manly exertion, rather than feasting, rioting, or debauchery. To this end, while not holding up amusement as the business of life, he would recommend the leisure hours of those blessed with the gifts of good sense, energy, and strength, to take to the sports of the field, become good horsemen and expert riflemen—inure themselves to toil while they are young, that a green old age may reward them when the hand shall have forgotten its cunning. The book, though evidently written by one who understands his profession, and doubtless a proficient in cunning woodcraft, still bears evidence of that egotism which appears inseparable from the personal narratives of nearly all traveling Englishmen, in relating exploits in which they have participated. As an evidence of the mystery and palpable importance they contrive to throw around even the slightest circumstance, and which, to a less enthusiastic, or we might say, egotistical mind, dwindles down to about nothing, we give but two illustrations where with time and space we might many. "In 1848, while stationed at Bolarum, hearing that a large bear had taken refuge in some canes near by, I immediately started for the spot, and having placed a lot of beaters at one entrance to shout, and so drive the bear out, I stood at the other, ready to shoot him when he bolted. This was quite successful, and out he went, I fired three balls at him within the first twenty-five yards; but from my not seeing the deadly part to fire at, he went on in spite of the wounds. I followed him by his blood; but being very lame, and with a slipper fastened round my afflicted foot, when I came to the next mass of rocks, I sat down at the bottom, telling my people to carry on the track. They had scarcely gone on a hundred yards from me, when they beckoned to me to come up, and pointing down through the crevice of the rock, showed me what I thought was the wounded bear. I fired and *heard my bullet hit*; but to my astonishment, out went two bears from below me. One of them almost immediately rolled over; and the other (which is very common with bears) stopping to condole with him. I fired at, and knocked him over also. Before I could load my rifle, the smallest bear of the two got up and entered a large jackal-earth on the other side of the rock. The other bear also began wandering about, as if looking for something. There were several coolies, native hunters, who carry matchlocks and are great skikarees (hunters) out with me; and I thought that by telling them to go and fire at this other bear, the noise would put up out of the hole the one that was close to me. The coolie who valiently approached the other bear was immediately charged, and bolted up to me saying 'The bear is not wounded at all; you had better come and shoot it yourself if you want it!' I therefore went down and fired another shot. Then taking a short spear, and thinking this would be a good opportunity of trying the feat of spearing a bear, I brought the point to the front. The bear charged down from thirty yards at full gallop so soon as she

saw me, and I stopped her with a spear in the withers. I had before this told my shikaree, who had my gun in his hand, that I would *spear this bear*, and that he was on no account to shoot, unless the bear got hold of me in the scuffle. Directly the bear received the spear, she threw herself on her back, and I was not strong enough to hold her down, so disengaging herself, and before I could straighten the spear again, she rushed upon me. The crooked shaft prevented me from spearing straight, and the blade passed only through the side. She very nearly caught me round the waist, but I drew out the spear, and as she again charged in blind fury I allowed her to pass me, in doing which I sent the spear in behind the shoulders. As usual, she threw herself upon her back, and before she could recover herself, putting my shikar knife between her fore paws, I sheathed it in her heart, killing her dead. My *shikaree, with the rest of the men, had bolted.*" And again, when speaking of the requisites of a good hunter, "one of the great secrets in stalking game in the jungles, is to know how to walk silently, both in putting the foot on the ground and in not rustling the bushes, branches, or grass. The pace to walk at must be regulated by many circumstances. The kind of foot which will fall most silently must be given by God; for it must be naturally arched in the instep, and have its corresponding concave in the sole. Only this formation of foot will allow of a silent and firm tread, and will give the elasticity and strength necessary to support the weight of the body through a long day's toil without jarring the limbs above it, or wearying the muscles and tendons which have to move it. A foot of this form is also less liable to bruises from stones and hard ground. The shoe or boot must not be made with thick soles. I myself use Wellington boots, to keep the spear grass out of my ankles; but if one's work is among rocks, which it may be in bear or ibex shooting, the soft sambur-skin shoe will be best. You can have it made as light as a racket-shoe." Shade of Davy Crockett! what think you of this? Verily there is no good ale but that distilled of Thames water, and as Falstaff would have it, but one great man in the kingdom, *and he waxes old and fat.*

2.—*The Ebony Idol.* 12mo., pp. 283. New York: D. Appleton & Co.

This little volume will be found another touch upon the negro lyre, and all those not yet weary with this eternal harping upon the negro string will find abundant here to whet up their morbid sensibilities. Yet we would warn the *positives* to be careful how they touch it, for it is charged to the muzzle against all those philanthropists who have been so long exerting their zeal in the "holy cause"—threatening annihilation to our Southern brethren—to tear up the national flag, and boldly flouting their fists in the face of Uncle Sam—or they will get their fingers burned. Taking for his stand-point of view the purlieus of one of our remote country villages, the author attempts with good grace the eclairsissement of those vague reverences we see so often springing up in our midst to the neglect of our own individual frailties and home sins, and pictures to us what he deems some of the practical illustrations of our zeal in foreign causes while withholding dew and nourishment from our own home vineyards. It is vigorously written, and though some of the characters have been overwrought, for the sake of sensation, the author exhibits a good deal of talent in his various caricatures, and to say the least, has succeeded in weaving together a very readable and amusing story. As for ourselves, we think we have had full enough books touching these subjects, for we opine that all this sort of teaching is but vanity, for it is a noted fact, that even those of sterling talents are attracted from their even orbit by that strange fascination mind yields over mind; and the staid and doubting stickler for fact is not unfrequently the very first to adopt the absurdest issue of the day.

3.—*An Elementary Grammar of the Italian Language*, progressively arranged for the Use of Schools and Colleges. By G. B. FONTANA. 12mo., pp. 232. New York: D. Appleton & Co.