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SILVER;

ITS PRODUCTION, COINAGE, AND RELATIVE VALUE AS COMPARED WITH GOLD.

THE use of the precious metals for money, or as a circulating medium, is more ancient than authentic history, since even the earliest historians refer to it as a synonym of wealth. Of course this supply must have been obtained by mining, and probably for more than forty centuries no year has elapsed in which some amount has not been extracted from the ore. The most ancient writings give instances of immense quantities having been in the possession of monarchs and individuals. Abraham, to purchase Macpelah, weighed out to the sons of Heth "four hundred shekels of silver *current money with the merchant*;" Solomon "made silver and gold at Jerusalem as plenty as the stones," and its use in ancient Rome was profuse in the luxuries of living. On the fall, however, of the Empire and the lapse into the dark ages, the use of the metals was less active, since there was less commerce, and they were therefore hoarded to a considerable extent—reappearing when commerce and the arts began to revive. Still, during all that time the production of silver and gold had been going on, and as they are not liable to destruction so much as other metals, or as likely to be lost, since they are guarded with such jealous care, the actual quantities in possession of the human race must have been constantly increasing. The Arabian mines are known to have been worked by the ancients, and those of Africa, Asia, and parts of Europe yielded largely. They furnished far more annually before the discovery of America than they have done since.

Without, however, going into a long calculation upon this part of our subject, we may accept the figures that have been given by the highest European authorities, who assert that the amount of metals in the world at the date of the discovery of America, was \$2,066,666,666. We would, however, remark, in passing, that this figure is, in our opinion, low, since if the net production was only \$700,000 per annum for 3000 years, it would reach that amount. In this estimate one-third of the whole was silver, and, at the time referred to, the value of silver in relation to gold

was as 10 to 1—that is, 10 ounces of silver was worth 1 ounce of gold, or about what it had been under the Roman Empire. During the long ages when violence ruled, and commerce and the arts suffered a total eclipse, gold was used as coin more than silver, because it was more easily transported and concealed. Hence the piece of gold rose at that time, as compared with silver, to 1 to 13. Both metals, however, bore a high value compared with other commodities, because, next to lands, they could, of all property, be most readily secured and preserved. The disposition to hoard was general, and it was well that it was so; for had it not been, the currency which sufficed to perform the service of trade and commerce in the flourishing times of the Roman Empire would have become altogether redundant, while production of other commodities was restricted and general trade fell into decay through political disquiet.

When the crusaders needed the ready means to fit out knights and their followers for their Eastern enterprises, those who advanced money took the soil as security, and Western Europe was drained of much of its currency. In a few centuries trade began slowly to revive and production to increase. Money was then more in demand, and as a consequence of this increased demand and decrease in supply its value was great; in other words, prices were very low. The tendency to low prices also increased as the products of industry multiplied, and in their turn attracted the metals through the hands of merchants, always seeking those products where they are cheapest.

It happened that, in forming their currencies, most nations of Europe adopted silver. The demand for that metal thus created tended to raise its price as compared with gold. Hence at the date of the discovery of America the growing demand for money, created by increasing prosperity, caused both metals to appreciate, and silver more than gold. Wheat in England was at that time 10s. 5d. per quarter, or about one-fifth of its present price in money.

The opening of the American mines, 1492, poured into Europe a continued stream of silver and gold, but mostly of the former metal. This had the effect, in the course of half a century, of greatly stimulating general production and business and raising prices, indicating that the new supply was rather more than the actual wants of business required. In other words, the productions of the precious metals was somewhat in excess of the relative productions of all other commodities in commercial countries. At the same time, although silver was more generally in demand for currency than gold, yet its production so much exceeded that of gold that it depreciated relatively in the proportion of 15 to 1. The yield from the American mines from 1492 to 1825, according to carefully prepared tables in a report to the twenty-first Congress, by Mr. INGRAHAM, was \$4,310,000,000 in silver, and \$1,890,000,000 in gold. The same report showed that the product in the last fifty years of the eighteenth century was forty ounces of silver to one of gold.

The causes operating to depreciate the metals, particularly silver, reached their greatest effect in 1546, from which time the influence of the large supplies of silver from America began to be felt, and the relative value of gold has continued to increase almost up to the present dates. We have prepared the following table, showing the relative value of the two metals, gold and silver, from 1344 up to 1863, according to the price paid by the mint of Great Britain:—

PROPORTIONATE VALUE OF FINE GOLD TO FINE SILVER.

Gold to silver.		Gold to silver.	
1344.....	1 to 12.475	1547.....	1 to 11.400
1349.....	1 to 11.141	1549.....	1 to 11.250
1356.....	1 to 11.286	1552.....	1 to 11.186
1401.....	1 to 11.350	1553.....	1 to 11.198
1421.....	1 to 10.527	1560.....	1 to 11.315
1464.....	1 to 10.331	1600.....	1 to 11.100
1465.....	1 to 11.983	1604.....	1 to 12.109
1470.....	1 to 11.446	1626.....	1 to 13.431
1482.....	1 to 11.429	1666.....	1 to 14.485
1509.....	1 to 11.400	1717.....	1 to 15.209
1527.....	1 to 11.455	1816.....	1 to 15.209
1543.....	1 to 12.000	1849.....	1 to 15.632
1545.....	1 to 10.714	1852.....	1 to 15.371
1546.....	1 to 10.000	1863.....	1 to 15.069

There have been many other disturbing causes in the value of money. Among these are the restrictions upon its free transit on the part of many governments, the increased use of various kinds of mercantile paper, the growth of populations, and the increased production of that wealth of which it is the function of the metals to affect the interchange, and in the last century the progress of the British army in India, by which a flood of wealth was transferred to England, and, so to speak, let loose upon the world. So, too, at the close of the last century other great events occurred to affect the value of the precious metals. The United States became a nation and commenced a career of great commercial prosperity; France went through a revolution, during which she reformed her coinage, and laid the foundation of great future prosperity by increased freedom of individual action; in England steam and many labor-saving machines were invented. These events were in their future action to stimulate immensely the production of wealth in Europe, England, and America, and consequently to cause a greater demand for the metals, and their influence began to manifest itself in 1816, when the coinage of England underwent a thorough reform and a great recoinage took place. From that time the commerce of the three countries increased rapidly. The exports of France, England, and United States progressed as follows:

EXPORTS OF FRANCE, ENGLAND, AND THE UNITED STATES.

	England.	France.	United States.	Total.
1816....	\$174,408,635	\$74,540,870	\$10,959,531	\$259,909,036
1837....	266,842,850	192,256,950	26,804,799	485,904,609
1848....	255,028,990	156,318,711	132,904,121	544,251,822
1860....	679,456,135	426,961,150	373,189,274	1,479,606,559
1862....	620,689,060	410,436,280	212,920,639	1,244,045,979

Although these figures of the foreign exports of each country do not of themselves show a necessity for more specie, since the settlement of this foreign trade is nearly all in bills; yet they indicate the ratio in which the wealth of each country increased, and therefore show the necessarily increased internal demand for coin to transact it. Thus, for instance, the national surplus products of these three countries, during the thirty-two years of peace after the exhausting wars, nearly doubled to

1848, when the gold discoveries of California began to act on industry throughout the world. In that fourteen years which have since elapsed the increase has been 125 per cent. In other words, the annual product of the three countries in thirty-two years increased \$285,000,000 per annum. In the fourteen years which have since elapsed they have increased to \$700,000,000 per annum.

The coinage of the three countries in the period named, up to 1848, was as follows:

	France.		United States.		Great Britain.	
	Gold.	Silver.	Gold.	Silver.	Gold.	Silver.
Louis XVIII.....	\$77,866,130	\$122,923,704	\$4,394,345	\$25,314,647	\$161,870,500	\$41,914,000
Charles X.....	10,583,218	126,328,923	1,903,090	16,781,047	71,216,500	2,831,500
Louis Philip.....	43,182,560	350,054,610	64,054,415	39,911,884	187,640,240	20,634,940
Total.....	\$131,631,908	\$599,377,237	\$71,151,850	\$79,007,578	\$420,771,740	\$66,379,440

A large part of the English coinage from 1816 to 1824 was recoinage. The United States coinage from 1830 to 1848, or during the reign of Louis Philip of France, was under the reform of the gold coinage. The coinage of the other nations of Europe in the same period was also large. Austria coined \$86,000,000 in silver, and Prussia, \$25,070,000. This progressive coinage, as trade increased, had a tendency to make the metals dearer, but this was counteracted by the extended use of paper money in the United States and Great Britain, which supplied the place of the metals while it lasted, but which caused two revulsions: one in 1825 and one in 1837. France used no paper, and therefore increased her supply of the metallic currency at the expense of the other nations. In the United States, Congress had neglected its duty of regulating the value of money, and allowed foreign coins to remain a legal tender. As a consequence of this the Spanish fractions circulated for more than their real value, and their silver coins came in great abundance in exchange for gold, until the law of 1837 lowered the relative value of the gold coins. In fact the original coinage of the United States was on the basis of 15 silver to 1 gold; but in the period that had elapsed the price of silver had depreciated until it was 16 to 1—its production having increased more than gold. Hence the necessity for the change in the basis of the coinage.

The continued growth of national prosperity in England and America was making still larger demands upon coin, notwithstanding the use of paper, and also notwithstanding the further fact that even up to the discovery of the gold mines of California the precious metals in the world had increased as follows:

	Silver.	Gold.	Total.
1492	\$644,444,444	\$1,422,222,222	\$2,066,666,666
1848	1,125,000,000	1,781,250,000	5,906,250,000

This last estimate is on the authority of the French Academy, and generally received as a close approximation. The proportion of silver to gold had greatly increased, and although most countries made silver the great circulating currency, its proportion to gold had fallen from 10 to 1 to 16 to 1. Under these circumstances the world was startled with the discovery of gold in California in 1848, and news was confirmed by the appearance of the metal in the markets of the world in the 1849. This was followed by the discovery of gold in Australia in April, 1851. Since that time the product has been large and regular, as well from those two sources as from the old mines of Russia, of Europe, Africa, and America,

which continued their production. From 1848 to the close of 1862 the total production of gold has been as follows:

California.....	\$641,445,000
Australia and New Zealand.....	533,363,037
Russia.....	212,110,201
Old mines of Europe, Africa, Asia, and America..	136,875,000
Total gold in 15 years.....	\$1,523,793,238
“ silver “ “	678,255,930

These figures for Russia and the old mines are drawn from the most authentic data laid before the French Academy, except for the last two years, which are estimated at the average of the former five years. The California and Australia figures are those of actual deliveries. If now we add these totals to those of 1848, we have the quantity of gold and silver in the world as follows:

QUANTITY OF GOLD AND SILVER IN THE WORLD.

	Silver.	Gold.	Total.
1492.....	\$644,444,444	\$1,422,222,222	\$2,066,666,666
1848	4,125,000,000	1,781,250,000	5,906,250,000
1862.....	4,803,255,930	3,305,043,238	8,108,279,168

It results from these figures that the relative proportions of the two metals have in the last fifteen years undergone great changes. Silver has increased, it appears, $16\frac{1}{2}$ per cent, and gold has increased 85 per cent. This great change has been effected without producing any perceptible change in the relative value of the metals in the markets of the world. Gold has not apparently depreciated in its value compared with silver, as it was expected would be the case. There seems to be two reasons for this. The first is what we have already alluded to, viz: the great development during the early part of the century of industry and traffic, following the cessation of devastating wars, and requiring more money than was before needed. The next is, that a similar development has been going on in India and China, where one half the human race exist, and those countries have therefore kept up a steady demand for silver, which, withdrawn from the channels of European circulation, left a vacuum into which gold has rushed. The first effect of gold, in raising prices of commodities, attracted the products of Asia, and those countries demanded silver in exchange. The following table of the imports of Indian products into England in a series of years indicates the nature of the increase of the trade:

IMPORTS FROM BRITISH INDIA—VALUE.

	1855.	1856.	1857.	1858.	1859.	1860.	1861.
Cotton.....	£2,241,979	£3,530,410	£3,416,883	£2,898,779	£3,901,109	£3,339,076	£9,334,115
Hemp, jute and other articles.	504,264	638,900	610,913	685,948	837,167	671,176	729,172
Indigo.....	1,518,097	2,190,131	1,791,644	1,997,511	1,619,604	2,220,119	2,605,634
Seeds.....	1,968,501	2,545,372	1,326,336	1,774,558	2,344,898	2,075,274	1,971,449
Silk.....	559,319	665,405	183,697	509,561	296,263	60,895	136,505
Sugar.....	1,043,480	1,871,279	1,928,006	1,059,291	1,101,716	939,026	821,458
Tea.....	25,661	82,908	147,989	91,152	132,255	230,064	165,064
Wool.....	490,977	576,944	673,493	490,521	462,100	699,861	614,999
Total.....	£3,352,268	£12,000,544	£12,083,961	£9,507,321	£10,695,108	£10,235,491	£16,379,286

This steady rise in value from \$30,000,000 to \$60,000,000 in 1857, producing a drain of silver, was one of the causes of the revulsion in that

year. Since then the purchases of Indian produce, mostly cotton, have risen to \$90,000,000.

The quantity of silver annually exported from England and the Mediterranean to Asia has been as follows per English official reports :

	England.	Mediterranean.	Total.
1851.....	\$8,362,500	.....	\$8,362,500
1852.....	12,116,210	.....	13,116,210
1853.....	23,550,000	4,240,000	27,790,000
1854.....	15,555,000	7,255,000	22,821,000
1855.....	32,075,000	7,620,000	39,695,000
1856.....	60,590,000	9,950,000	70,540,000
1857.....	86,477,170	10,180,291	96,657,461
1858.....	25,444,250	16,150,000	31,594,250
1859.....	33,298,120	7,340,280	40,638,400
1860.....	40,620,182	8,120,204	48,740,386
1861.....	36,399,175	7,980,000	44,379,175
1862.....	53,551,045	9,150,000	61,701,045
1863, six months.....	21,256,514	11,737,271	32,993,781
Total.....	\$450,306,162	88,723,046	\$539,029,208

This immense outpouring of silver to the East has existed as long as there has been a history of trades. It is the sort of wealth the semi-civilized Orientals still prize best, and the demand for it has augmented rather than slackened in the most recent times. As the vast population of India improves in condition, and the wealth of the country, developed by railroads for exports, increases to feed the growing wants of Western Europe, broader and deeper is the stream of silver which sets back in return. This table does not comprise all the silver sent to Asia. Russia sends annually a large amount by way of Kiachta, and from other sources it finds its way thither.

This stream of silver is fed from the countries of Europe, which in exchange receive gold chiefly from England. In illustration, we take from French official sources the import and export of silver into and from that country since 1848 :

	SILVER INTO AND FROM FRANCE.	
	Imports.	Exports.
1848.....frances	233,330,020	19,396,560
1849.....	291,414,760	46,846,060
1850.....	147,693,360	82,308,900
1851.....	178,629,800	100,680,840
1852.....	179,857,160	182,574,720
1853.....	112,568,040	220,453,480
1854.....	99,848,480	263,542,200
1855.....	120,891,400	318,051,040
1856.....	109,895,300	393,518,600
1857.....	97,518,100	459,218,000
1858.....	160,619,375	175,735,225
1859.....	149,281,431	210,204,891
1860.....	130,605,400	287,848,055
1861.....	172,179,787	233,993,067
1862.....	131,442,333	217,527,320
Total francs.....	2,315,848,046	3,200,899,958

It results from these figures that France has lost 885,051,912*f.* of silver, or \$165,000,000, in the fifteen years here mentioned, yet her whole metal circulation has largely increased. The amount of the metals in France was in—

1848.....frances	3,500,000,000
1856	4,800,000,000
1863	6,594,130,679

From the following table we see that France has gained apparently 3,000,000,000 of francs in fifteen years, distinguishing the metals as follows :

	Gold— <i>increase.</i>	Silver— <i>decrease.</i>	Net gain.
1848 to 1856.....frances	1,461,492,400	162,144,780	1,299,347,620
1856 to 1863.....	2,517,037,811	722,907,132	1,794,130,679
Total.....	3,978,530,218	885,051,912	3,093,478,299
U. S. money.....	\$745,969,414	\$165,947,233	\$580,022,181

France has abandoned \$165,947,253 in silver to the rest of the world, and taken in exchange gold. By continuing also the use of a metallic currency during a period of great inflation in other countries, she increased her supply at the expense of those nations, and has likewise sold French produce for \$580,022,181 worth of gold, and now is doubtless by far the richest country in the precious metals. Her great increase in wealth and prosperity, under the empire, is indicated in this swelling volume of the metals ; but other nations have also increased their supplies.

The mode in which gold has supplanted silver in France is apparent in the following table of coinage at the French mint down to the latest returns of the mint :

FRENCH COINAGE.

	Gold.	Silver.
1848.....frances	39,697,740	119,731,093
1849.....	27,109,560	206,548,663
1850.....	85,192,390	86,458,485
1851.....	267,709,570	59,327,309
1852.....	27,028,270	71,918,445
1853.....	342,964,020	20,099,488
1854.....	526,528,200	2,129,887
1855.....	447,427,820	25,500,305
1856.....	508,281,995	54,422,214
1857.....	511,295,684	65,075,271
Total, 10 years.....	2,755,235,249	711,205,164

If we compare this coinage of ten years with that given above up to 1848, we have results as follows :

	Gold.	Silver.
1848.....	\$131,631,908	\$599,377,237
1857.....	516,606,609	133,350,967
Increase.....	\$384,974,701	Dec. \$466,016,290

This indicates the complete change in the monetary system of France,

and the same change is going on in all the countries of Europe. It follows that the demand for gold for currency is constantly on the increase, while that for silver for the same purpose is continually diminishing, and this fact counteracts the tendency of gold to depreciate as compared with silver. In fact, the precise contrary result from what was expected has taken place; instead of silver getting dearer, as compared with gold it gets cheaper, and its increased cheapness aids in propelling it towards India. We say this was contrary to the general expectation, for the large quantities of gold mined induced the belief that it would depreciate as compared with silver. But as we have seen, the positive demand for the latter has lessened, and besides its supply has increased much beyond what it was before the discovery of California gold, as is shown in the above table of the production of the metals. This increased production was also due to California, since the discovery of cinnabar or quicksilver in that country has imparted activity to many mines of silver which before were not worked. Quicksilver is an indispensable agent in the profitable mining of silver. During the previous twenty-five years none but the richest silver mines could be worked in Mexico, in consequence of the continually enhancing price of quicksilver, which was only produced in any considerable quantity in the mines of Almaden, in Spain. The principal source of the wealth and power of Mexico consists in her mines of silver, and she had, while she owned California, in her own territory vast mountains of cinnabar or ore of quicksilver, but an overruling Providence decreed that she should be kept in ignorance of it. The Americans were no sooner in possession than they found both gold and quicksilver. Notwithstanding the high price of labor in California, quicksilver is wrought and sold there for fifteen cents per pound, while the ruling price in the London market for Spanish quicksilver has been equal to one dollar per pound.

Before the revolt of the Spanish American colonies Spain sold the quicksilver at \$50 per quintal; after that event the price rose to \$130 per quintal. This price drove the less productive mines out of the market, as they could no longer be worked at a profit. The Spanish Government then pledged the Almaden mines to the house of ROTHSCHILD, and the price rose still higher, and the supply of silver became artificially restricted. Thus, the price of quicksilver acted as a ligature upon the mines, which, by checking the supply of money, affected prices of all commodities throughout the world. The quicksilver mines of California acted as a charm. The mines became more profitable to work, old ones were reopened, and the silver stream from the American mountains became broader and deeper. This of course aided in depreciating silver, which is to-day, as we before stated, cheaper as compared with gold, than it was on the discovery of the California mines. The last quotation for silver in London in the open market was $61\frac{3}{4}$ pence per standard ounce, which is to gold as 16.000 to 1, against 15.632 to 1 in 1849, a fall of $2\frac{1}{2}$ per cent in the value of silver as compared with gold, a fact, as before stated, exactly contrary to what was expected by the public as a consequence of the supply of gold.

In the month of April, 1852, the present writer on the occasion of preparing some tables for the Senate Committee on Finance, upon the subject of the new coinage, remarked upon the panic which then existed in relation to silver as follows:

“Up to the close of 1850, the California supply of gold had reached

\$41,000,000, and silver attained its highest price. In the year 1851, the supply was \$63,000,000, and up to March \$70,000,000. Thus the whole supply of gold was \$111,000,000, and during the delivery of two-thirds of that amount silver *fell two per cent* in the open market. This single fact is enough to show that there was really no relative change in the value of the two metals arising from the enhanced abundance of one. The rise is to be ascribed to other causes, mostly political, but also to a considerable extent to the fears of governments and bankers in relation to the probable effect of the increase in gold. All through Europe the banks and private bankers held considerable sums of the national coins, which, in nearly all the countries, are silver. When, therefore, gold threatened to become cheap or to fall in value materially, all permanent holders of it sought to exchange it for the metal which was to rise, and this very attempt to exchange produced to some extent that which was anticipated. The demand for silver for banking purposes and for hoarding throughout Europe carried large quantities out of the channels of commerce, as much as if it had returned to the mines and its absence was supplied by increased coinage of gold, more particularly in France and the United States. *

* * * * * The coins of France circulate to a considerable extent in Germany, Belgium, and Italy. If now political events caused the withdrawal of \$80,000,000 of silver from circulation, and its place was supplied with gold, as seems probable, the price of silver would rise during its withdrawal, but would cease to rise with a pause in that market, because its function as money was supplied by gold, and as soon as it begins to return upon the markets its price will fall perhaps *lower than before*, until it becomes re-absorbed in the circulation. This process seems now to be going on. It was the positive and effective demand from fortuitous causes which caused it to rise, and not the negative influence of gold upon it."

This seems to be just what has taken place. The active local demand for silver has ceased, and gold has been accepted in its place; while if silver has not returned from India, but has, on the contrary, continued to go thither, the supply from the mines and from the channels of European circulation have exceeded even that large Indian demand. The new American mines of Washoe and other localities have produced \$5,226,461 of silver, and will henceforth be very profitable.

A PRESENT FOR MR. ERICSSON.

The builders of iron vessels, after the plan of Captain ERICSSON, have prepared for presentation to him a beautiful and appropriate present. It is a model of a monitor made of pure gold, 25 inches long, 5½ inches wide, and 1¾ inches deep, and is modeled on a scale of ⅓ of an inch to a foot. In every particular the model resembles the monitor vessel, except in size. It has a revolving turret, with guns in it, a smoke pipe, binnacle, steam whistle, etc. The machinery which turns the turret also sets an organ in motion which plays four tunes—Yankee Doodle, Star-Spangled Banner, Life on the Ocean, and a national air of Sweden, the country of Captain ERICSSON. The cost of the model monitor was \$7,000. It is to be exhibited in several of the principal cities before it is presented. JOHN D. BENTON, of Wilmington, Del., was the manufacturer.

COMMERCIAL ECONOMY.

BY A. K. SHEPARD.

NEXT in importance to the science of political economy, or the knowledge of the relations of society to government, is a knowledge of the principles upon which commerce is founded, and of the proper relations existing between it and the various interests of society.

The most successful merchant is not always he who amasses the most money, but he who accumulates it in the proper observance of the immutable laws which govern the commercial and social as well as the physical world. The man who has neglected no other duties in the pursuits of commerce, nor suffered his moral nature to become dwarfed by a slavish subservience to money, is truly successful, whether his portion of worldly goods be great or small. That so few men succeed is a proof of the prevailing ignorance or disregard of the simple but important principles of commercial economy.

Consider for a moment the operations of Wall-street; the bolstering up of worthless securities; the fictitious rise and fall of stocks, uninfluenced by any real cause. An "operator," by putting up a "margin," carries stocks to many times the amount of his capital, enough to have the decline of a single day sweep away his whole fortune. Or if the "bulls" are in the ascendant and a rise comes instead of a decline, he may become, as many have of late, a millionaire by the lucky investment of a few thousands. In neither case is this right. In the first instance we can readily discern the wrong, but can we as well in the second? Is it right that a reckless gamester, without the exertion of intellect, industry, or even adequate capital, should become the possessor of millions, with all the opportunities for good or evil which wealth bestows? Money, like any other good, (for it is *good*, and only ignorance or folly apply it to evil purposes,) should only be attained by exertion. The winning gambler is no more virtuous than the losing one. These suddenly-acquired fortunes are the curse of this country.

Let a man of the most ordinary capacity, possessed only with the necessary recklessness, venture but a small "margin" in the stock or grain market. He makes his "calculations" and thinks he knows it all. By chance the market takes a favorable turn, (it might as easily have gone the other way,) and he has won. Behold his self-adulation and complacency. He can never after take advice. It is all through his "genius," "shrewdness," and "business talent."

He builds a larger house; his conjugal partner, ever ready to assist in any expenditure that will excite the envy of her dear friends and neighbors, indulges in new carpets and mirrors and costly furniture. His family expenses increase. But his luck turns perhaps after he has well "spread" himself. (An expressive term if well considered.) His ventures are not so successful. His mind is always on the rack to provide the means for carrying on his schemes. Afraid of what Mrs. Grundy will say, he dare not reduce his style of living. Thus he continues under a hopeless burden, till the inevitable crash buries him. This is no exceptional case, but as statistics of business failures abundantly prove, it is only a type of a very large class of American merchants; the successful being the exceptional.

The cause of misfortunes like these is, evidently, too great facilities for obtaining credit. Probably nine out of every ten merchants "carry" property to even ten and twenty times the amount of their capital. Their risks are enormous, and *interest* is their bane. The young men of America have a great lesson yet to learn, viz.: that saving more than gaining is the true course to wealth. That prudence and economy (not meanness) always result in competence, besides leaving the mind and body in a healthful state; while a wild, speculative career brings upon its votary premature old age, a decrepit body, an exhausted mind, and, at the close of life, generally an exhausted purse. Business, as most of our people practically interpret it, instead of being a means to an end, is made the grand end and aim itself, and every thing else subservient to it. Scheme is crowded upon scheme, project upon project, with no relaxation, no intermission. If recreation is sought, it is on the high pressure plan, at some crowded Saratoga or Newport, where the motto is, "the greatest excitement in the shortest time," that the treadmill may be again set in motion. This overdone business, this doing too much is eminently the fault of our commercial system, or more properly want of system and sound principles.

It is urged by advocates of the "wildcat" plan of business that credit is the life of commerce. So it is when properly guarded and representing something of value, but it should be surrounded by every safeguard, that its benefits may not be improperly bestowed. Too much credit is the great fault of American business, as a general tendency towards expansion is the fault of American society; all our enterprizes being laid out on too great a scale and not sufficiently well developed in detail.

A late financial writer remarks that "paper money has inaugurated all our great improvements. It has paid for our railways and canals, and has built our steamships, and why should we now hesitate to make use of it?" True, it has done all this, but what of the panics and the poverty, distress and shaken confidence that follow in their train? How many of the railroads which our credit system and paper money have given us pay dividends? How many have not rather proved "elephants" of the largest description to their luckless founders? We have now enough railways in operation for ten times our population, thinly scattered over a half cultivated country as it is.

But the mismanagement of railway interests is not the only evil result of excessive credit induced by paper currency. Take for instance the bread-stuff trade, a branch of commerce whose importance to the country increases daily. Its legitimate pursuits are almost deserted for the slippery but enticing field of speculation.

The proportion of legitimate shipping or commission merchants is alarmingly small. Between the producer and consumer produce changes hands a multiplicity of times, and all this buying by parties who have no use for it, either to supply a regular trade or to manufacture, tends to give to the article a fictitious value. The real facts of supply and demand are never known, and the result is disastrous.

The true principle is, to let the demand come from consumers. Any man who buys property of any kind for which he has no use, to sell again on a rise is a speculator. This "operating" in grain buying in Chicago or Buffalo or Oswego and shipping to New York, "drawing" against it and paying with other peoples' money, or buying in store and "holding," is as surely gambling as staking the money on cards. And these "operators"

are unworthy the name of merchants, being ignorant of the first principles of their profession.

The mainspring of all this "operating" and illegitimate business is the paper currency system. If we are to have paper money at all, which in ordinary times is not necessary, except to a very limited extent, it is evidently not the business of banks of discount to furnish it. It induces them to take too large risks by giving them inordinate profits, and it induces false ideas of wealth by flooding the country with fictitious value which passes for real. The only rational and safe currency would be one where a central point of issue and redemption existed, that the facts of circulation may be definitely known at one point for the whole country, thus guarding against excessive issues. This should be done by government, and the furnishing of paper money made an entirely separate thing from banking, the principle being recognized also that gold occupies a place in the commercial world which cannot be usurped without endangering the whole fabric of trade. This we are taught by the "panics" which always occur when this vital principle is ignored. But even experience fails to teach us. A speculator is never taught by his failure. It is never his fault, but may always be attributed to some extraordinary combination of circumstances. The gambler is always sanguine of making up his losses in the same old way. It is thus with the advocates of paper currency and inflated credit, they fear that business may be restricted. It needs to be restricted; it will be all the healthier. Which is the stronger, the plant forced to an artificial growth in a hothouse, or that which slowly and surely gathers to itself strength from the more sterile soil and colder air of nature?

American society is a hothouse. It forces our business to overgrown proportions, with no real strength; it forces our men into (tobacco) smoke-dried dyspeptics, while they should be still vigorous, and it forces our girls into used-up belles, before they are out of their "teens." Conservatism is the element which we now need. We are like an overgrown schoolboy: weak in the joints and chests, and lacking muscle. We need to stop growing and to fill in and build up.

In this duty the business of the country should lead the way. Too often the merchant is a man of one idea. He can grow eloquent on the price of New York Central or of corn, but will not attempt to understand the science of trade. Hence he is often faulty in his own judgment, mistaking recklessness for "business talent," and prudence for "fogyism." The merchant should be as highly educated a man as a member of any of the so called "learned professions," and the interests of his pursuits are certainly important enough to demand it. The true farmer is not simply the man who plods behind the plow, but it is he who understands the chemistry of the soil and its productions, the laws of nature and their relations to his trade. So the merchant should be the man of liberal education, versed in the *science* of his profession.

It has been truly remarked that a large proportion of business failures may be attributed to ignorance of bookkeeping and the science of accounts. And the number of merchants who are entirely dependant upon employes in this respect, and who are incapable of pursuing any sort of system of themselves, is very great. The "Revelations of a Stock Broker" show that some of the heaviest bank failures in this country are attributable to the gross ignorance and want of system of bank officers.

The fact is, business in this country is a sort of scramble in which the

first is the best. Principles and rules are ignored. The wealthy men of to-day are the beggars of to-morrow; there is no stability in either men or fortunes.

Extravagance rules in business as in living. We cannot wait to increase our business with our capital. If we have \$20,000, we stretch our credit to its utmost; we do as much business as \$50,000 or \$100,000 would warrant; our interest account eats us up. A few losses from a few reckless borrowers like ourselves, a fall in the market, and we are insolvent. We stagger along under the load of interest on borrowed capital, our risks are enormous, but we must keep in the treadmill. This is the life of very many of our merchants.

The author of that ingenious work "Le Monde tel qu'il Ser á," is of the belief that in future centuries the world will be but a vast bazaar, where commerce is king and trade all engrossing. Let us hope that, in that event, the science of commercial economy, now in its infancy, may have been brought to perfection, and that its importance may be acknowledged and its study wide-spread. And may the first of its precepts adopted be this, taught by one of the soundest commercial writers of the country: "It ought not to be considered any part of the business of banks to issue paper currency." With the adoption of this principle, and the consequent restriction of credit; with educated merchants carefully trained to the science of business, competent to supervise the important interests that may be intrusted to them, we may yet hope to see commerce established on a firmer basis in this unstable country.

But so long as extravagance and recklessness rule, so long as credit is inflated, till like a soap bubble the least breath destroys it, just so long we will be convulsed with commercial revolutions, and panic and disaster will continue to visit us as a stern corrector of abuses.

BOSTON AND HER CONNECTIONS WITH THE WEST.

The citizens of Boston have recently been making exertions to increase their facilities of transportation with the Great West, and the *Shipping List*, in replying to it, says: "We are right glad to know that their efforts have been crowned with a measure of success. The negotiations which have been for some time in progress to effect a practical consolidation of the five lines of railroad, viz: The Lowell, Concord, Northern, Vermont Central and Ogdensburg, with the East Boston Freight Railroad, and thus with tide-water at East Boston, was consummated on the first of the present month, and the line is now in practical operation. The steamer *St. Lawrence*, which was launched at Ogdensburg some weeks since, commenced her trips between Ogdensburg and Prescott, on the 29th of June, thus connecting the lines of the road specified above with the Grand Trunk railway and transporting freight cars and passengers. The roads forming this line are making every effort by providing the best accommodations at low fares, to increase the business connections of Boston with the West. The Bostonians believe that this consolidated line is to have an important bearing upon the business interests of Boston, particularly if the merchants, by the establishment of lines of steamers and packets to Europe, will furnish an outlet for the flour, grain, and other produce which will find its way there.

F L A X;

ITS HISTORY, CULTURE, IMPORTATION, EXPORTATION, AND CONSUMPTION.

BY HON. JOHN TITUS, JUSTICE SUPREME COURT OF U. S.

THE present inadequacy and prospective uncertainty of the supply of cotton, have directed unusual attention to the cultivation of flax as a substitute for that valuable staple.

Knowledge of its culture and uses is probably much below its merits as a product, and to aid in supplying this deficiency we propose to examine—

First. The botanical classification of flax; Second, its economical history; Third, its culture and uses; Fourth, its production, importation, exportation, and consumption by the people of the United States.

First. The botanical classification of flax is simple, its *order* being *linaceæ*, and the name of its *genus* *linum*. Its species, as already verified, are somewhat more than thirty. Of these, four are well known in our country, viz.: First, *Linum Usitatissimum*; second, *Linum Virgineanum*; third, *Linum Rigidum*; fourth, *Linum Perenne*.

The second and third of these species are found in the various States of our country, and in Canada. The fourth is a native of the regions west of the Mississippi. It is perennial, as indicated by the name.

The *first*, *Linum Usitatissimum*, (*most common, most used*, as the name implies,) is cultivated over a large portion of the globe for seed, for fiber, or for both. It is the flax grown in our own country and in Europe; and to this species we propose to confine our examination.

The application to flax of its *generic name*, *Linum*, is ascribed to the eminent Swedish botanist LINNÆUS. The term is from the Latin language, and signifies line or thread. It is expressive of the thread-like character of the stalk of flax, or use of its fiber in making thread.

The term *Linaceæ*, which expresses the *order* of *Linum* or flax, is attributed to the distinguished Swiss botanist DE CAUDOLLE. This term means *flax-like*, and it comprehends every plant having *orderly resemblances* to flax.

It may here be added that the *California flax*, as described by Mr. J. NORRIS, of Windsor, Ashtabula County, Ohio, "for profusion of seed and length of fiber," is probably superior to every other known species or variety. Its blossoms are described as white, and its seeds of a light green color. Little, however, seems to be known of the California flax. Its valuable qualities, as thus attested by Mr. NORRIS, certainly commend it to further examination and trial.

The *Linum Usitatissimum*, or common flax, is an annual plant. Its stem when thickly grown is from two to three or more feet high. It is round, smooth, slender, straight, slightly tapering, and single nearly its whole length—branching only near the top. When grown thinly, the stem is shorter, thicker, and more branching. The leaves grow alternately on the stem. They are small, lance-shaped, or tapering, at each end, and have three straight veins or fibers. The flowers are small and of a beau-

tiful blue color, and the capsules or seed bolls are globular or roundish, but rather pouted at the end opposite the stem. Each capsule is divided into ten cells, and contains so many solitary seeds.

The flaxseed, which is also called *linseed*, is oval, more or less flattened, smooth, and shining. Its color, externally, is light brownish, *not unlike mahogany*. Flaxseed is, however, sometimes white or lightish green. *Internally*, it is always white, or nearly so.

Second. *The economical history of flax* traces its use through the oldest mementos of the human race. Alluvial deposits of unnumbered centuries, the oldest monumental inscriptions, the tombs of departed dynasties, and the formation of the oldest of all written languages, with the Bible, attest the use of flax to have existed in domestic economy at the dawn of primitive manufactures. It is found in its raw state, as well as in the manufactured forms of thread, cordage, mats, etc., among the submerged ruins of the *lacustrian habitations* of Europe—habitations originally built on piles over lakes, as at Waugen, Robenhouson, Pleffikaw, and other places in Switzerland, and perhaps elsewhere, with the arms, tools domestic implements, and other remains of those who erected and occupied them. Among these remains is not found the slightest trace of any metal. The battle axe, the hatchet, the saw, the borer, and the knife, as well as other tools and implements always elsewhere made of metal, are here of stone. It is impossible to conceive a more primitive state of the arts than is here indicated, and yet flax is one of the most prominent materials. The alluvion of these submerged deposits, attests them to have been made from twenty to forty centuries before the Christian era. Truylon on Lacustrian Habitations, pages 43, 44, 283, 426, 451 ; Lubbock, *Natural History Reviewed*, January, 1862.

Flax was grown and manufactured in Egypt centuries before the exodus of the Children of Israel from that country. The various processes of its growth, preparation, and manufacture are indicated at Bennita in sculpture, made, as seems to be established, in the eighteenth century before the Christian era, during the reign of the *first* Osirtasen, one of the Pharaohs referred to in the Biblical history of Joseph. Wilkinson's *Ancient Egypt*, volume 3, pages 134, 135, 136, 137. Vol. 4, p. 21.

The Egyptian priests were required by the rules of their order to dress themselves in flaxen linen. Herodotus *passim*.

The Hebrew word *pisetah* is applied in the Bible to flax and its fabric, linen. Ex. 9 : 31, 39 : 5 ; Lev. 13 : 47 ; Josh. 2 : 6 ; Is. 43 : 3 ; Hos. 2 : 5. This word is derived from *pashath*, a Hebrew root, which means to heat, to pound, to hatchel, to weave—well known processes everywhere applied to flax, and which, probably, as things always suggest words, produced the one thus expressing these operations. The use of flax, in thus forming the oldest of all written languages, clearly shows its great antiquity.

The sacred habits of the Jewish priests were, by divine appointment, made wholly or partly of linen. The "curious girdle" of the "ephod," the "breast-plate of cunning work," and "the hems of the robe," the "coats," the "mitre," the "bonnets," etc., so prominent in the habiliments of the Aarvnie priesthood, were all made of fine trimmed linen. Ex. 39 : 5, 8, 24, 28, 29. The divine ordinance requiring this was addressed to the Jewish priests a little less than fifteen centuries before the Christian

era. A thousand years afterwards it was reaffirmed to the same priesthood in the order, "that when they enter in at the gates of the inner court, they shall be clothed with linen garments; and" that "no wool shall come upon them while they minister" there. Ez. 44: 17, 18. The linen habit is still worn by the priests of that remarkable people. So also the mummy cloth is invariably found to be made of linen. Herodotus passim; Wilkinson, volume 3, page 115; Ures Philosophy of Manufactures, page 95. The date of its adoption for this purpose will probably never be ascertained. It was certainly, however, very remote.

Third. *The culture and uses of flax* are nice and complex. It is grown for seed, for fiber, and for both together. The seed is extensively used in the arts and in medicine, while the fiber is used for thread, cordage, linen, laces, and other similar fabrics of every degree of fineness.

The culture must be adapted to the nature of the plant, the character of the soil, and the object of its production. The mode of culture for fiber differs from that for seed alone. The culture of flax for both seed and fiber is a medium between the other two.

"All plants," says Davy, "gain their nutriment either by their leaves from the air, or by their roots from the soil." The elementary substances of the plant must therefore be found in the soil and air. The portion of these elements furnished by the air are oxygen, hydrogen, carbon, and nitrogen—not simple, but in various forms of combination. The elementary substances furnished by the air to plants are uniform, or nearly so. Soils differ in their agricultural elements; and it is to these, therefore, that the attention of the flax-grower must be chiefly directed.

The fitness of our soil for its growth may be approximately determined by an analysis of both. As guides in the choice of soils, and as illustrative of the mode of treating fiber, we present some analysis of flax and the soils on which they were grown, by Dr. HODGES, Messrs. MAYER and BRAZIER, and by Sir ROBERT KANE.

A flax plant, selected for examination by Dr. HODGES from an experimental crop grown by him in Ireland, weighed 62.40 grains—its capsules, 22.50 grains.

The composition of the stem was per centum as follows:

	In the fresh plant.	In the dry plant.
Water.....	56.64	.....
Organic matters.....	41.97	96.89
Ash.....	1.39	3.11
	100.00	100.00
Total.....	100.00	100.00

The "water," says Dr. HODGES, "in the straw of the plants, as sent to the steeping works, after fourteen days exposure to the air in frames," was "12.2 per cent," the "water in air dried capsules" was "11.84 per cent," the "weight of the air-dried flax produced in the experimental field" was "77.70 pounds."

COMPOSITION OF DR. HODGES' EXPERIMENTAL FLAX CROP.

One hundred parts of the ash, of the dry straw, and capsules, had, respectively, the following composition:

	Ash of straw.	Ash of capsules.
Potash.....	20.32	16.38
Soda.....	2.07	6.25
Chloride of sodium.....	9.27	12.98
Lime.....	19.88	13.95
Magnesia.....	4.05	3.91
Oxide of iron.....	2.83	0.38
Sulphuric acid.....	7.13	14.51
Phosphuric acid.....	10.24	23.26
Carbonic acid.....	10.72	6.37
Silica.....	12.80	0.67
Total.....	99.31	99.60

The proportion of nitrogen, it may be added, contained in the straw and capsules, was as follows :

1. In the straw dried at 212°..... 0.53 per cent.
2. In the capsules and bolls at 212°..... 1.24 “

The results of Dr. HODGES' experiments have been further illustrated by Mr. WILSON ascertaining the relative properties of the produce of flax, and also the distribution of the inorganic matters in them. The flax employed had been steeped in the ordinary way, and was found to contain 1.73 per cent of ash. Of this air-dried straw, 4,000 pounds were taken, which produced—

Of dried fiber.....	500 pounds.
Of fine tow.....	132 “
Of coarse tow.....	192 “

Of fiber in all..... 824 pounds.

These products contained—

In the dressed flax.....	448 pounds of ash.
In the fine tow.....	208 “ “
In the coarse tow.....	256 “ “

Or in the whole of the fiber only. 912 pounds of inorganic matter.

So that 59.08 pounds, which the crop had withdrawn from the soil, remained in the useless portion, while only 9.12 pounds were carried off in 824 pounds of the dressed fiber and tow. As the whole of the former could be easily returned to the soil, it thus appears that but a small portion of all the fertilizing matter of the crop would necessarily be withdrawn from it.

ANALYSIS OF THE FLAX PLANT BY MESSRS. MAYER AND BRAZIER IN THE
LABORATORY OF THE ROYAL COLLEGE OF CHEMISTRY.

The specimens of flax examined were from	Livland.	Cowland.	Lethvania.	Estland.
Potash.....	43.42	37.44	36.61	25.70
Soda.....	.....	3.74	3.06	8.37
Lime.....	21.35	25.39	24.09	26.41
Magnesia.....	7.79	7.71	7.45	11.74
Sesquioxide of iron.....	1.15	1.13	1.04	1.02
Manganese.....	.....	trace.	.....	.....
Chloride of sodium.....	.....	1.94	3.75	1.67

The specimens of flax examined were from	Lievlund.	Cowland.	Lethvania.	Estland.
Chloride of potassium.....	1.31	.....	.....	.....
Phosphoric acid.....	10.94	8.31	14.30	15.47
Sulphuric acid.....	5.66	5.89	3.65	4.64
Silicic acid.....	8.38	8.45	6.05	4.98
	100.00	100.00	100.00	100.00

RESULTS OF THE ANALYSIS OF THE SOILS WHICH PRODUCED THIS FLAX.

The soils examined were from	Lievlund.	Cowland.	Lethvania.	Estland.
Potash.....	0.5011	0.3241	0.5466	0.3726
Soda.....	.....	0.1320	0.6452	0.0481
Lime.....	0.3751	0.7814	0.4980	0.7955
Magnesia.....	0.2006	0.1304	0.1805	0.3619
Sesquioxide of iron....	0.8076	2.3767	3.1900	2.0206
Alumina.....	1.1919	1.8731	2.1418	2.0102
Manganese.....	trace.	trace.	trace.	trace.
Chloride of sodium....	0.0455	0.0247	0.0421	0.0790
Sulphuric acid.....	0.1539	0.0880	0.1206	0.1618
Phosphoric acid.....	0.1399	0.6538	0.6805	0.1597
Organic matter.....	4.7176	4.0300	4.3442	4.8430
Insoluble residue deducting organic matter..	91.0634	88.4872	88.4724	88.2364
	100.1966	99.3016	99.6619	99.1087

The residue fused with carbonate of potash upon calculation yielded :

	Lievlund.	Cowland.	Lethvania.	Estland.
Lime.....	trace.	1.8727	0.8778	2.0121
Alumina.....	11.6270	6.1145	2.2452	5.7549
Sesquioxide of iron....	trace.	trace.	trace.	trace.
Phosphoric acid.....	trace.	trace.	trace.	trace.
Silicic acid.....	79.3424	81.5000	85.0938	80.5776
	90.9694	92.6224	81.2168	88.3345

Some analysis of flax, from the parts indicated, present the following results, as stated by Sir ROBERT KANE before the Royal Dublin Society April 6, 1847 :

	Courtraï District.		Antwerp district.		Holland.	Dublin.	Armagh.
	Heesfelt.	Escamafles.	Hamruë Zog.	Not named.			
Potash.....	9.69	30.42	26.67	28.62	21.35	11.78	6.60
Soda.....	24.16	none.	16.88	0.48	12.65	11.82	6.61
Lime.....	19.37	22.04	22.15	21.19	21.30	14.85	23.67
Magnesia.....	4.34	4.45	4.70	4.05	3.50	9.38	4.22
Sesquioxide of iron....	5.65	2.03	1.31	2.53	2.74	9.38	14.10
Alumina.....	0.56	0.58	0.86	2.53	1.67	7.32	14.10
Manganese.....	trace.	trace.	trace.	2.53	1.67	7.32	1.12
Sulphuric acid.....	7.93	8.33	8.18	13.43	11.22	3.19	9.30
Phosphoric acid.....	14.10	15.78	10.66	12.19	12.82	13.05	7.89
Silicic acid.....	3.85	4.54	3.20	3.36	6.38	25.78	0.94
Chloride of sodium.....	10.34	11.63	5.49	14.15	6.57	2.90	26.15
	100.00	100.00	100.00	100.00	100.00	100.00	100.00

The following are the results of the analysis of the soils on which this flax was grown as shown by Sir ROBERT KANE as above stated :

	Heesfelt.	Escamaflles.	Hamrue Zog.	Not named.	Holland.
Potassa	0.160	0.123	0.068	0.151	0.583
Soda.....	0.298	0.146	0.110	0.206	0.306
Lime	0.357	0.227	0.481	0.366	3.043
Magnesia.....	0.202	0.153	0.140	0.142	0.105
Alumina	2.101	1.383	0.125	0.988	5.626
Sesquioxide of iron....	3.298	1.663	0.202	1.543	6.047
Manganese	trace.	trace.	trace.	trace.	trace.
Chloride of sodium....	0.017	0.030	0.067	0.009	0.023
Sulphuric acid	0.025	0.017	0.013	0.026	0.023
Phosphoric acid	0.021	0.152	0.064	0.193	0.159
Organic matter not driven off at 100° centigrade	3.123	2.341	4.209	3.672	5.481
Clay	14.920	9.289	5.760	4.400	17.081
Sand	75.080	84.065	86.797	88.385	60.947
	99.703	99.600	99.995	100.081	99.783

The differences in the quantities of similar elements as shown in the foregoing analysis, both in the flax and in the producing soils, mark the diversity of the conditions to which flax accommodates itself.

The quantity of clay or loam in any soil depends upon the amounts of its silica, alumina, lime, and magnesia in certain combinations. The abundance of these elements in the approved flax soils, whose analysis are above given, demonstrates, what experience has also shown, the adaptability of clay or loam to the production of flax. Thus the conclusions of science accord with those of experience.

A well drained and subsoiled loam or clay is found to be much the best adapted to the growth of flax. A soil of this description is also disposed to the moisture and temperature which are found so beneficial to the growth of flax.

Uniform moisture and temperature are not less beneficial in the atmosphere than in the soil for the growth of flax. And it is produced from the equator to remote latitudes both North and South, wherever these conditions of soil and climate are attainable. In tropical countries, as in Egypt and India, flax is grown during winter to avoid the heat and drought of other seasons. In countries of more temperate latitudes, flax is grown in spring and summer in order to realize the proper temperature and moisture. Intermediate countries require flax to be grown at the proper intervals.

The best flax fiber is produced by a uniform protracted growth, and the soil, climate, and tillage are the best which secure these conditions. For fiber alone, or for both seed and fiber, flax requires between three and four months in its growth; for seed alone somewhat less.

In the United States flax may be sown in March or in April, whenever the soil is first sufficiently dry and mellow. Everything being in proper condition, early sowing is much the best for flax, because it then avoids in its growth the heat and drought of the latter part of summer, which always damage the fiber. The most successful growers in the United States sow when the leaves are so far developed as to give the woods and forests a tinge of green. Abundant experience has established the value of this rule for all parts of the country.

The best soil, as already stated, for the growth is one of clay or loam. Any soil, however, in order to exert its full productive capacity must be properly subsoiled and drained. The best crops are rarely if ever produced from lea or fresh plowed grass. Flax ground should therefore have been fallowed or cropped the preceding year. It succeeds well, other conditions being favorable, after corn, oats, potatoes, or any other crop which leaves the ground loose and free. Care, however, should always be taken that the management of the preceding crop may not have been such as to render that of the flax liable to weeds, whose roots and seeds generally abound, as the consequence of bad treatment of any crop. Unless the roots and seeds of these be destroyed, they always spring up with the flax and require to be pulled, to the damage more or less of the crop. In all cases, therefore, when weeds are to be apprehended, either from some existing condition of the soil, or from some applied manure, it may be advisable to allow their roots and seeds time to begin their growth, and then destroy them with the plow or harrow, or both, before sowing the flax. This would postpone the sowing but little, and would avoid the damage to the crop which is done by pulling weeds during its growth, or the still greater one of allowing them to remain.

Flax ground should be rendered mellow before sowing. Soils differ much in the requirements of their treatment ; but any soil which may have been fallowed or cropped the preceding season, should be plowed for flax from eight to eleven inches in depth as soon in the spring as sufficiently dry, and immediately harrowed and cross-harrowed. It should again be lightly plowed at once, or after sufficient time to permit weed seeds and roots to sprout before sowing. For breaking clods or softening a harsh soil the roller may always be used with advantage.

Before sowing flax the ground should be supplied with proper manure, unless already present. The best practice in flax growing is to take a soil sufficiently enriched by proper manures, which recent tillage has mixed and combined well with it. Weeds are thus avoided, and the gradual uniform growth of the flax best secured. In order, however, to facilitate the supply of any deficiency of manures in flax ground, we would state that sheep manure, well mixed with the soil in sufficient quantities, has been found of unfailing benefit. So, too, bird or fowl manure in moderate quantity, applied as a top-dressing, has been found of great efficiency. A top-dressing consisting, for an acre, of one bushel of salt, one bushel of finely ground plaster of Paris, and two bushels of unleached ashes, well mixed and sown broadcast, has also been found of the greatest value. Another excellent top-dressing for flax may be formed from muriate of potash, 30 pounds ; chloride of sodium, (common salt,) 28 pounds ; burnt plaster of Paris finely powdered, 34 pounds ; bone dust, 54 pounds ; sulphate of magnesia, (epsom salts,) 56 pounds. This quantity is sufficient for an acre, and it rarely fails to produce an excellent crop. Indeed, chemical researches show that this preparation restores to the land what the flax crop takes away, and leaves it in the same condition as before its growth. The cost of this preparation would nowhere much exceed \$3. Flaxseed, oil cake, and the steep water of fermented flax yield rich manures. The fertilizing matter of the fiber of flax is but little, as already shown, and it is all that is necessarily withdrawn from the soil in its production. The fertilizing matter of the boon or shives of the steep water, and of the seed of flax obtained by feeding it or its equivalent of oil cake

on the farm, carefully applied, would thus return to the soil nearly all the productive power drawn from it by the entire crop.

The ground having been well mellowed and smoothed, should be sown at the period indicated with full, ripe, healthy seed. For fiber and seed, all conditions being favorable, the quantity of seed sown should not be more than two bushels per acre. A soil rich and in perfect order requires less seed than any other.

For seed alone, exclusive of fiber, half the quantity, or about one bushel to the acre is found sufficient.

The seed being covered with a light harrow to the depth of not more than one inch, successful flax-growers generally finish the sowing process with the roller. In Ireland, Belgium, Holland, and perhaps some other countries on the continent of Europe, three and even four bushels of seed are sown to the acre for fiber alone, with a diminution of a third or a fourth for both seed and fiber. So much seed would, however, result in an entire failure of the crop in our country. If the ground be inadequately subsoiled or drained, rough or imperfectly mellowed, or the seed be covered too deeply, more of it will be required. The best soil and most approved mode of culture are given above. It will, however, bear as wide a departure from these recommendations, such as in employment of inferior soils, insufficient labor, and imperfect culture as any of the ordinary crops. Any soil which will grow wheat, corn, oats, or potatoes will produce flax with at least equal advantage, other conditions being similar.

After being sown, and during growth, the crop is susceptible of but little treatment beyond an approved top-dressing, where the condition of the soil renders it necessary watering, and the eradication of weeds by pulling them with the hand. The top-dressings most approved are already stated. In cases of severe drought, after the flax plants have attained a few inches in height, and before fully shading the ground, the crop may be watered with much advantage. A regular water cart will moisten sufficiently an acre of flax per day. If weeds invade the flax crop they should be pulled by hand as soon as this can be conveniently done. The best time for this is in the sunshine, when the ground and plants are both dry. The few flax plants which may be prostrated in the work, entirely recover the succeeding night. Useless tramping, which always hardens the soil, is however to be avoided.

Flax grown for fiber, or both seed and fiber, should be harvested before perfect ripeness, *when the lower parts of the stalks and their leaves begin to turn yellow*. Always at this stage the flax plants have received from the soil the full measure of their nutriment, and when harvested therefore at this period in its growth the fiber is found to be much improved, and the seed not sensibly deteriorated. When, however, the plant is cultivated for seed alone, the flax should probably be left to ripen fully before being harvested, if it is to be used for sowing. For the latter purpose the thinner portions of the crop, and which are always found where the drainage is least perfect, should be allowed fully to mature. Of such, the fiber is invariably inferior and the seed abundant and excellent. Great care and attention should be paid to the seed sowing. If left too long unchanged flaxseed loses its vital power and produces an inferior plant. Rye seed, grown of course in the north of Europe, produces an abundance of excellent fiber in all the flax growing countries of that continent. In the

United States it has been found equally valuable—yielding much good fiber, as well as seed, which retains its vitality for a long time. For the growth of flaxseed exclusively, that of India as well as some other Eastern countries succeeds well generally, and is found equally valuable in our own country.

Careful flax-growers avoid sowing flax immediately after a crop of the same plant. Its failure, thus sown, is attributed to the withdrawal from the soil of some element necessary to the production of flax, or the deposit of some substance deleterious to it by the preceding crop which it requires several years to correct. The following is recommended as a judicious rotation for flax-growing, by a gentleman of much experience in its production, viz.: "1. Oats after the grass or clover; 2. Flax immediately followed by rape manured with two cwt. of guano and two cwt. of plaster of Paris; 3. Potatoes or turnips well manured; 4. Wheat sown in the spring with clover and rye-grass; 5. Hay and clover; 6. Grazing; 7. Oats; 8. Flax and winter vetches, (plants of the pea or bean family;) guano as before stated; 9. Turnips well manured; 10. Barley sown with rye grass and clover; 11. Clover and hay; 12. Grazing; 13. Oats should follow a potato crop. Except on very poor soils a better crop of flax will be produced after grain than grass. If an old lea (grass ground) be broken up and potatoes planted, followed by a grain crop, a very fine one of flax may be obtained in the ensuing year." Flax leaves in the steep water in which it has been retted, or in the soil on which it is spread for the purpose, is a fertilizing element beneficial to every other crop, but said to be injurious to its own growth till corrected by timely rotation.

Particular soils, as well as whole regions of greater or less extent, are sometimes found to possess local susceptibilities not yet explained, requiring modifications in the culture of flax, as well as other crops, which it requires constant observation and judgment to supply.

It may here be stated, as a physical law applicable to flax, as well as to all other vegetable productions, that *the more uniform and protracted the growth, the less is the exhaustion of the soil by the extraction from it of any given amount of fertilizing matter.* A similar law applies to all animals, the vital powers of which are so much exhausted by spasmodic muscular efforts.

In harvesting flax it is pulled with the roots or cut as near the ground as practicable. For fiber alone, or with the seed, flax is usually pulled by hand and bound in small sheaves so as to be easily manageable in the subsequent processes. By this method the whole fiber is saved, weeds and foreign matter easily excluded, and plants of similar length kept together. An efficient hand can pull from a third to half an acre of flax per day, and bind the straw in sheaves of suitable size. It is cut by hand or with machinery. The common grain cradle, or one made for the purpose, is generally used for hand cutting. If a high stump or stubble is left in cutting some of the strongest fiber is inevitably lost. Machinery, however, might easily be devised which would pull flax or cut it so closely as to save all the fiber, much more rapidly and cheaply than it can be done by hand. J. H. BENNETT, on the 23d January, 1854, received letters patent for a flax pulling machine, in which he claimed as his invention, "grasping the flax standing, for the purpose of pulling it between fingers or jaws, by means of the moveable part sliding in the clamps, and receiving its motion in the direction of the handles from the crank knob, by means of

a slot and pin or toggle joint, as fully described in the specification." This machine is reputed to work well. Another machine for pulling flax and hemp is now in preparation, which it is to be hoped will supply every remaining want. In 1855 letters patent were issued to J. L. HADEMAN for an improved machine for cutting hemp, wheat, flax, and other similar productions, claiming the side reel with its curved arms for sustaining and bringing the hemp (or other products) to the scythes or cutters, also cleansing shears, in connection with arms, supporting bars, and cutters before known. In April, 1858, J. B. McCORMICK obtained letters patent upon a machine for cutting hemp, flax, and other similar products, claiming a "separator" formed of bars and rods, in "combination with an adjustable rod" and "bars, seat and reel provided with concave beaters, constructed, arranged, and operated as described" in the patentee's specification. These machines are reported to have given satisfaction. Improvements, however, in machinery for harvesting flax and hemp strongly commend themselves to the inventive genius of the country.

After harvesting, the next process in the management of flax is to secure the seed. This is sometimes done at the time of harvesting, and before the seed bolls are fully dry. It is doubtless, however, better to permit them to become perfectly dry before separation from the stalks. Deterioration is thus prevented. As soon as dry, the seed bolls or capsules should be separated from the rest of the crop. Labor and material are thus both saved, for the seed forms much of the weight of the flax crop, and more or less of it is lost by delay in the separation. Separation of the seed from the stalks of flax is effected by beating, thrashing, rippling, or pressure.

The oldest way of separation is by beating the seed ends of the small sheaves of flax on some fixture until the bolls are separated from the stalks and more or less broken. This is a slow method, and impracticable in the management of large quantities of flax. Another process of separation is by thrashing the seed ends of the flax.

This, if carelessly done, tangles it and renders the subsequent operations difficult. A third method is by rippings. The ripple is made of steel or other metallic teeth, of proper size and form, firmly inserted in a strong bench or other suitable fixture. The seed ends of the flax are drawn through the ripple till the bolls and consequently the seeds are all removed. This method is superior to either of the former. But the best method of freeing flax from the seed, is by passing it between revolving rollers, plane, toothed, or with corresponding grooves or variations, working, however, so closely as to crush the bolls and liberate the seed without breaking it or the woody matter of the stalks. This is the most effective and cheapest of all known methods, especially where the quantities are large. Chaff, dust, or any other foreign matter may be expelled by the usual processes for grain cleaning. The flax seed should be kept dry and cool till ready for the mill or the market.

The experience of two of our most successful flax-growers presents the following pecuniary results, which are here given to show the relative value of flax as a product:

First Example.—Average produce of flax per acre, viz: Fiber, 600 lbs., at 12 cents, \$72; seed, 20 bush. at \$1 12½, \$22 50—whole product, \$94 50. Average cost of crop, viz: Rent and taxes, \$6; operations on the soil, \$7 50; seed for sowing, \$2 50; sowing, 50 cents; manure, top-

dressing, \$3 50; harvesting and cleansing, \$30—whole cost of crop, \$50; profit of the crop per acre, \$44 50.

Second Example.—Average produce of flax per acre, viz: Fiber, 400 lbs., at 12 cents, \$50; seed 16 bush. at \$1 25, \$20—whole value of product, \$70. Average cost per acre, viz: Rent and taxes, \$4; operations on soil, \$6 50; seed for sowing, \$1 87½; sowing, 50 cents; harvesting, etc., \$20—whole cost of crop, \$32 87½; whole profit, \$37 12½.

These pecuniary results show the flax crop to be one of the most valuable known to our agriculture, while at the same time, from data already given of the productive power extracted from and returned to the soil by flax, the conclusion may be regarded as established, that it is less exhaustive than any other of the valuable crops.

Flaxseed, in its dry state, contains 11.265 per cent of oil, 0.146 of wax, 2.458 of soft resin, 9.550 of a coloring resinous matter, 0.926 of a yellowish substance analogous to tannin, 6.154 of gum, 15.12 of vegetable mucilage, 1.48 of starch, 2.932 of gluten, 2.782 of albumen, 10.884 of saccharine matter, 44.382 of envelopes or outer covering, including some vegetable mucilage. It also contains a free acetic acid, some acetate, sulphate and muriate of potash, phosphate and sulphate of lime, phosphate of magnesia and silica. M. MURIN found in the mucilage, extracted by cold water from the coats of flaxseed, a very small proportion of an aleo extract, to which their peculiar odor is due. As might be expected from these constituents, *flaxseeds and their products are useful in the mechanical arts, for animal nutriment, and in medicine.*

Flaxseed oil, also called *linseed oil*, becomes dry and solid on exposure to the air. It is therefore much used in making printers' ink, in painting, and for similar purposes. Mixed with white lead, or a similar preparation of zinc, it forms a most durable white paint, for wood and walls. It is called a dry, or drying, oil because it becomes and remains dry and solid when exposed to the air. Linseed is obtained from flaxseed by cold pressure. For preparation on a large scale, the seed is roasted in order to destroy the gummy matter in the coating. The specific gravity of linseed oil is 0.932. It therefore floats on water, whose specific gravity is 1.000. Linseed oil boils at 600° of temperature, does not freeze at zero, and dissolves in forty parts of cold and in five parts of boiling alcohol, and also in one part and-a-half of ether.

Flaxseed also form a valuable nutriment for stock. The finest qualities of beef and mutton owe much of their excellence to its fattening qualities. It is fed to stock whole or ground. Oil cake, which is the solid residue remaining after the oil is expressed, is fed to stock with the best results. Rightly used, it is as healthy as it is fattening to cattle.

Linseed oil forms a valuable medicine, and as such is used in various ways, both externally and internally.

The separation and cleansing of the fiber of flax for spinning are among the most important operations connected with its whole economy, and their labor and expense constitute its principal cost as a material in manufactures. These operations are by no means perfect, and the improvement of them must depend upon the structure and nature of the plant itself. This structure, as shown in the stem of the plant, consists of a woody tube, or rather hollow cone, of slowly diminishing diameter in the inside, called boon or shives when broken, and the harl enclosing the former tube or cone, like an outer or larger one, containing the fiber in par-

allel filaments. Over all these is an outer covering or cuticle. The filaments of flax have probably not yet been reduced to their elementary divisions, nor has the probable length of these divisions been ascertained. M. ALCAN, in his "Essay on Textile Industry and Trades," (introduction, page 9th,) states the average height of flax plants at from seventy hundredths to eighty hundredths of the French metre, which is equal to from thirty to thirty-one of our inches. The proportion of the length of the fiber or filament to the height of the plant seems not to have been determined. The same author, from careful microscopic investigations, seems to have found the filaments of flax to be vascular tubes, with close, jointed, cylindrical interstices, open however at the extremities. These tubes, says he, are united by a gummy matter, which dissolves by fermentations. M. ALCAN found the filaments of flax to be from the forty-fifth to the fifty-fifth of a millimetre, or from the seven-thousandth to the eight-thousandth part of an inch in diameter—about double the size of the filaments of fine cotton, as shown by the same author.

The elementary divisions of the filaments of flax are sometimes said to be "shingled on" or "spliced to" each other. This is, however, evidently erroneous, for there are no such forms of vegetable union in nature, nor could they be developed by any known law of vegetable growth. These filaments will probably be found to be a series of very pure hollow truncated cones, or minute open ferules, diminishing in size from the bottom to the top, and inserted into each other. This would seem to be established by the fact that the fibrous bundles increase in size towards the root of the plant. The rataneane and the cane of our Southwestern brakes is an enlarged prototype of these forms. This form of union is the inevitable result of a universal law of vegetable growth.

The dry rough stems of flax, stripped of their seeds, contain from 77 to 80 per cent of boon, and from 20 to 23 per cent of harl. Of this harl an average of 8 per cent is fine flax fiber. The chemical constituents have been previously stated somewhat at large. In addition to those statements, it may here be added that the harl of flax contains 25 per cent of a substance soluble in water, apparently extractive matter and albumen, and 17 per cent of a substance insoluble in water, being chiefly gluten. It is to this latter substance—the gluten in the fiber of flax—that the difficulty of preparing it for manufacture is chiefly due. Some marked sensible changes, to which the fiber of flax is subject, are due also to the presence of albumen. Gluten is the gray, tough substance of wheat flour, and may be obtained pure, or nearly so, by kneading the paste under running water till all the starch is expelled. Albumen is found nearly pure in the white of eggs, as well as abundantly in vegetables. The gluten is insoluble in water, and the cohesion which it gives to the fiber of flax is so considerable that the separation of its filaments by blows, pressure, rubbing, or any of the ordinary mechanical means, may be attended with much labor and loss of fiber.

Two different classes of methods have been adopted to prepare flax fiber for spinning: the one, *chemical*, which expels or destroys the gluten, and the other, *mechanical*, which prepares the fiber with the gluten present. In the former of these classes certain *chemical agencies* are employed which destroys the cohesive power of the gluten. The effect of these agencies is a species of fermentation to which the flax stalks are exposed. It is called retting, which is but another name for rotting, because it is always attended with more or less of putrefaction.

The processes of retting are threefold ; first, *dew-retting*, in which the natural agencies of air, light, dew, rain, etc., are employed ; second, *water-retting*, in which water is used at any desirable temperature ; third, *mixed retting*, in which both the other processes are combined.

Dew-retting is the old way of dissolving the cohesive substance which attaches the harl to the boon, and the filaments of the fiber to each other. In this process the flax is thinly spread on closely-mown grass or meadow land, but never on the bare ground, and turned over from time to time, until the stems, on being rubbed together between the fingers, show that the harl is ready to separate from the boon, and filaments of the fiber from each other. The time required for dew-retting is from two to eight weeks, according to the state of the weather. The result is always hastened by warmth and moisture, and retarded by the opposite conditions of cool and dry. It is always complete when the filaments are separable as above-stated.

Water-retting is accomplished by macerating or soaking the flax in water of a moderate temperature after the seeds have been taken off. Fermentation soon begins by the disengagement of carbonic acid gas and the production of vinegar, as evinced by the odor and the dingy infusion of the water. If the flax be taken from the water at the end of a few days, the fiber will be found easily separable from the boon, and its filaments from each other, by rubbing as in the case of dew-retting. The whole mass ought then to be withdrawn without delay. The water by longer steeping ceases to be acid, and an odor like that of rotten flax is at once produced—a proof that putrefaction has attacked the fiber, and that longer steeping will weaken and turn it brown. Water-retting, if judiciously managed, always terminates with the acetous fermentation, or the production of vinegar as stated. For this process the flax must be bound up in sheaves and placed in layers over each other, or upright with the roots downwards. When the retting is conducted in an open pond or stream, straw may be put below the flax to prevent its touching the ground, and boards may be put upon the sheaves to keep them entirely below the surface of the water, especially during the fermentation, which renders the flax buoyant and disposed to rise out of the fluid.

Flax loses its buoyancy and sinks at the end of the acetous fermentation—another indication that it ought to be withdrawn from the water immediately. Longer steeping always impairs the fiber. The time required varies from five to fourteen days, with the temperature of the water. It may be done in running water or in the still water of a tank or pond. Pure rain water is the best for still-water retting ; its digestive power is great, and it is free from coloring matter, which might stain the fiber. The steeping fluid, at the end of the process, is found to contain a substance both fertilizing to the soil and nutritive to cattle. By retting in a tank, therefore, this may be saved for valuable use. Yet the running water, for steeping, always leaves the fiber brighter and freer from coloring matter. Steep water, containing iron and some other mineral substances, should, however, always be avoided, as they stain the fiber, and every new supply of flax should be treated with pure fresh water. Judicious retting diminishes the weight of the flax, of an average quality, about thirty per cent, or nearly one-third. In excessive retting the diminution of the weight is greater, in proportion to the excess. The gluten which unites the filaments of flax fiber to each other probably preserves

them until it is expelled or destroyed. The danger of damage to the fiber is thus diminished while the gluten remains in its natural state. Flax fabrics not freed from the gluten and albumen emit an offensive smell when exposed to heat, air, and moisture, and soon become entirely rotten. This, however, may be prevented by treating them with proper preservatives, as shown in another place. The fiber and its fabrics, when freed from the gluten and albumen, is almost imperishable if kept clean and dry. Thread, cordage, linen, and laces, of every degree of fineness, will bear wearing and washing in all its various processes, for months or even years, without becoming rotten till quite worn out.

Flax when withdrawn from the water is usually spread upon the grass or upon frames to dry, Sometimes, however, it is dried in close rooms by steam or otherwise.

It may be here stated, as an important practical rule applicable to the management of flax fiber in all its stages, *that the heat of an open flame or the dry heat of any strong fire, directly applied, always impairs it.* This is true whether the fiber be on the straw or separated from it. Dried, therefore, in the old way, on a frame over an open fire burning below, it is always damaged by the heat as well as discolored by the smoke.

As we stated above, both dew and water retting are combined in mixed retting. The flax is steeped in water for a longer or a shorter time, and is then spread on the grass, exposed to the air and light as well as the dew until the fiber yields to moderate rubbing, as already stated. The damage from excessive retting, which may result from steeping too long, is thus avoided, and the subsequent treatment is similar to that of flax retted in any other way.

These methods of preparing flax fiber are *chemical* in the simplest form, by which the straw of flax is submitted to the ordinary agents of nature, entirely unchanged by art.

Other processes of freeing the flax fiber are employed, in which the water is heated to any desirable temperature by art, or impregnated with chemical agents to effect the purpose intended, or both these operations are employed together.

The natives of India and other Eastern countries have long been in the habit of bleaching muslins by boiling them in a ley of the carbonate of soda and then washing them in a solution of lime or lemon juice. In other parts, they boil the stalks of certain plants in a ley of wood ashes in order to facilitate the separation of the fibers. Similar methods have been employed in Europe. In the "Jury Report" of Class IV., by Prof. E. SALLY, for the exhibition of London in 1851, an account is given of the old German process, called "Molkenrost," sometimes employed in preparing the finer sorts of flax. The flax stems were steeped for four or five days in warm milk and water, until the desired degree of fermentation was produced. In the more modern process of bleaching linen, employed by the Dutch, the material was boiled in a weak solution of alkali, or in any weak alkaline ley, and subsequently treated with sour buttermilk. This method is similar in principle to that employed in Eastern countries, in which the acid of sour milk is, however, substituted for that of lime or lemon.

(To be continued.)

COMMERCIAL LAW. No. 5.

SALES OF PERSONAL PROPERTY AND STOPPAGE IN TRANSITU.

OF SALES WITH WARRANTY.

A SALE may be with warranty; and this may be general, or particular and limited. A general warranty does not extend to defects which are open to inspection and observation, unless the purchaser is at the time unable to discover them readily, and relies rather upon the knowledge and warranty of the seller. A warranty may also be either express or implied. It is *not* implied by the law generally merely from a full, or, as it is called, a sound price. The rule of law, *caveat emptor*, (*let the buyer take care*,) prevents this. But the usage of the trade will be considered, and if that require a declaration of certain defects whenever they exist, the absence of such declaration is a warranty against such defects. Mere declarations of opinion are not a warranty. Thus, in England, an action was brought on a warranty that certain goods were fit for the China market. The plaintiff produced a letter from the defendant, saying that he had goods fit for the China market, which he offered to sell cheap. But the court held that such a letter was not a warranty, but merely an invitation to trade, it not having any specific reference to the goods actually bought by the plaintiff.

If these declarations are intended to deceive, and have that effect, they may avoid the sale for fraud. And affirmations of quantity or quality, which are made pending the negotiations for sale, with a view to procure a sale, and have that effect, will be regarded as a warranty; thus, in New York, it was held that a representation made by a vendor, upon a sale of flour in barrels, that it was in quality superfine or extra-superfine, and worth a shilling a barrel more than common, coupled with the assurance to the buyer's agent that he might rely upon such representation, was a warranty of the quality of the flour. So in England, where upon the sale of a horse the vendor said to the vendee, "You may depend upon it, the horse is perfectly quiet and free from vice;" this was held to amount to an express warranty.

Goods sold by sample are warranted by such sale to conform to the sample; but there is no warranty that the sample is what it appears to be. Thus, in England, there was a sale of five bags of hops, with express warranty that the bulk answered the samples by which they were sold. The sale was in January; at that time the samples fairly answered to the commodity in bulk, and no defect was at that time perceptible to the buyer. In July following, every bag was found to have become unmerchantable and spoiled, by heating, caused probably by the hops having been fraudulently watered by the grower, or some other person, before they were purchased by the defendant. The defendant knew nothing of this fact at the time of sale, and the samples were as much damped as the rest; and it was then impossible to detect it. It was held by the

court that there was here no implied warranty that the bulk of the commodity was merchantable at time of sale, although a merchantable price was given.

It seems, according to the weight of authority, that a breach of warranty does not generally authorize the buyer to return the article sold, unless there be an agreement to that effect, or fraud; but only to sue on the warranty, and recover damages for the breach of it. But if one orders a thing for a special purpose known to the seller, he may certainly return it if unfit for that purpose, if he does so as soon as he ascertains its unfitness.

In this country, the seller of goods actually in his possession is generally held to warrant his own title by the fact of the sale. But if the property be not in the possession of the vendor, and there be no assertion of ownership by him, no implied warranty of title arises.

If a thing is ordered of a manufacturer for a special purpose, and is supplied, there is an implied warranty that it is fit for that purpose. In an English case, the defendant was a dealer in ropes, and represented himself to be a manufacturer of the article. The plaintiff, a wine-merchant, applied to him for a crane-rope. The defendant's foreman went to the plaintiff's premises, in order to ascertain the dimensions and kind of rope required. He examined the crane and the old rope, and took the necessary admeasurements, and was told that the new rope was wanted for the purpose of raising pipes of wine out of the cellar, and letting them down into the street; when he informed the plaintiff that a rope must be made on purpose. The defendant did not make the rope himself, but sent the order to his manufacturer, who employed a third person to make it. It was held that, as between the parties to the sale, the defendant was to be considered as the manufacturer, and that there was an implied warranty that the rope was a fit and proper one for the purpose for which it was ordered. And the seller was held responsible, not only for the rope, which broke, but for a pipe of wine which was thereby lost.

This principle must not be applied to those cases where an ascertained article is purchased, although it be intended for a special purpose. For if the thing itself is specifically selected and purchased, the purchaser takes upon himself the risk of its effecting its purpose. This is illustrated in an English case thus: "If a man says to another, 'Sell me a horse fit to carry me,' and the other sells a horse which he knows to be unfit to ride, he will be liable for the consequences; but if a man says, 'Sell me that gray horse to ride,' and the other sells it, knowing that the buyer will not be able to ride it, that would not make him liable."

It has been much discussed whether a bill of sale, describing the article sold, amounts to a warranty that the article conforms to the description. It seems now to be well settled that it does. In a recent Massachusetts case, there was a bill of sale as follows: "H. & Co. bought of T. W. & Co. two cases of indigo, \$272." The article sold was not indigo, but principally Prussian blue. No fraud was imputed to the seller, and the article was so prepared as to deceive experienced and skillful dealers in indigo. The naked question was presented, whether the bill of sale constituted a warranty that the article sold was *indigo*. And the court held that it did. Here the warranty implied by the bill of sale was as to the *kind of goods*. In another case the bill was, "Sold E. T. H. 2,000 gallons *prime quality winter oil*." The thing sold was oil, and winter oil; but not *prime*

quality. And the court held that the bill of sale amounted to a warranty that it was of *that quality.* In an English case, a vessel was advertised for sale as "copper fastened;" and this was held to be a warranty that she was so according to the usual understanding of merchants.

In Pennsylvania the courts consider a bill of sale as a warranty of the *kind* of goods, but not of their quality. Thus, where a bill of sale described the thing sold as "superior sweet-scented Kentucky leaf tobacco," the court held that all the warranty was satisfied if the tobacco was "Kentucky leaf tobacco," and would not permit the plaintiff to recover in an action on the warranty, although the tobacco was of low quality, ill-flavored, and not sweet-scented. But the rule in this country generally is the same as that in Massachusetts and England.

One who sells provisions is always considered in law as warranting that they are good and wholesome.

OF THE SALE OF ONE'S BUSINESS.

Such sales are not unfrequent in this country; and the seller always agrees and promises that he will not pursue that trade, business, or occupation again. There are numerous cases, both in English law-books and our own, which have arisen from bargains of this kind. The law seems now to be settled, that such a contract is wholly void and inoperative, *provided* the seller agrees to give up his business and never resume it again, *anywhere*, that is, without any limitation of space or time. But the contract is good, if for a fair consideration the seller agrees not to resume or carry on that business within a certain time, or within certain limits. What these limits must be, is not certain. The courts say they must be "reasonable," and made in good faith. A contract not to carry on a business in a certain town would undoubtedly be good. So, we should say, would be a bargain not to do so within a certain State. This may not be quite certain, although, in one case in Massachusetts, a contract not to use certain machines in any of the United States except *two*, (which were Massachusetts and Rhode Island,) was held valid, all of the States but two being considered as a sufficiently defined or limited place; but this was unusual. We should expect that the courts generally would sanction such a bargain, if it were limited to only a part of the United States; as to all New England, for example.

In such a contract, it would be better for the parties to agree upon the amount which the seller should pay by way of damages, if he violated his bargain, because it might be very difficult to prove specific damages; and such a bargain, if it were reasonable, would be enforced by law. Such damages, agreed on beforehand, are called liquidated damages. Generally, it is the duty of the jury to determine, from the evidence before them, what damages an injured party has suffered, and what amount would indemnify him.

STOPPAGE IN TRANSITU.

Here is an instance where a Latin phrase has become English, by general adoption and use. *In transitu* means "in the transit," and the English phrase may just as well be used; but the Latin one is used much oftener. What the whole phrase stoppage *in transitu* means, is this. A seller, who has sent goods to a buyer at a distance, and after sending

them finds that the buyer is insolvent, may stop the goods at any time before they reach the buyer. His right to do this is called the right of stoppage *in transitu*.

The right exists only between a buyer and seller. A surety for the price of the goods, bound to pay for them if the buyer does not, has not this right. But one who is *substantially* a seller has; thus one ordered by a foreign correspondent to buy goods for him, and then buying them in his own name and on his own credit, and sending them as ordered, may stop them *in transitu*. So may a principal who sends goods to his factor, or one who remits money for any particular purpose. The fact that the accounts are unsettled between the parties, and the balance uncertain, does not defeat the right; nor does the reception and negotiation of a bill for the goods, or actual part payment.

If the goods are sent to pay a precedent and existing debt, they are not subject to this right.

The right exists only upon actual insolvency; but this need not be formal insolvency, or bankruptcy at law; an actual inability to pay one's debts in the usual way being enough. If the seller, in good faith, stops the goods, in a belief of the buyer's insolvency, the buyer may at once defeat this stoppage, and reclaim the goods, by payment of the price. So he may, we think, by a tender of adequate security, if the sale be on credit. And if the sale be on credit without security, by agreement, then the seller can stop the goods and demand security only for actual and sufficient cause, and takes this risk on himself.

The stoppage must be effected by the seller, and evidenced by some act; but it is not necessary that he should take actual possession of the goods. If he gives a distinct notice to the party in possession, whether carrier, warehouseman, middleman, or whoever else, before the goods reach the buyer, this is enough. But a notice of stoppage *in transitu*, to be effectual, must be given either to the person who has the immediate custody of the goods; or if to the principal whose servant has the custody, then at such a time, and under such circumstances, as that he may, by the exercise of reasonable diligence, communicate it to his servant in time to prevent the delivery to the consignee. Therefore, where timber was sent from Quebec, to be delivered at Port Fleetwood in Lancashire, England, a notice of stoppage given to the shipowner at Montrose, while the goods were on their voyage, whereupon he sent a letter to await the arrival of the captain at Fleetwood, directing him to deliver the cargo to the agents of the vendor, was held not to be a sufficient notice of stoppage *in transitu*.

They can be stopped only while *in transitu*; and they are in transit only until they come into the possession of the buyer. But this possession need not be actual, a constructive possession by the buyer being sufficient; as by being placed on the wharf of the buyer, or on a neighboring wharf with notice to him; or in a warehouse with delivery of the key to him, or of an order on the warehouseman. Thus, where goods were shipped at Troy, New York, directed to the purchaser at Vergennes, Vermont, and were landed upon the wharf at Vergennes, half a mile from the purchaser's place of business. The purchaser's goods were usually landed at the same place, and it was not customary for the wharfinger, or the carrier, or any one for them, to have any care of the goods after they were landed; but the consignee was accustomed to transport

the goods from the wharf to his place of business; as was also the custom with other persons having goods landed there. The goods, while on the wharf, were not subject to any lien for freight or charges. It was held that a delivery on the wharf was a constructive delivery to the vendee, and that the right of stoppage was gone when the goods were landed. But the entry of the goods at the custom-house, without payment of duties, does not terminate the transit. If the buyer has demanded and marked them at the inn where they had arrived on the termination of the voyage or journey, personally or by his agent; or if the carrier still hold goods, but only as the agent of the buyer; in all these cases the transit is ended. But if the carrier holds them by a lien for his charges against the buyer, the seller may pay these charges and discharge the lien, and then stop the goods *in transitu*. And the master of a ship, which the buyer hires or owns, may be a carrier, in whose hands the seller may stop the goods, if they are to be delivered finally to the buyer himself; but if they have been put on board the buyer's ship, to be transported, not to him, but by his order to another place, they will never be any more in his possession than they are when first put on board; and therefore they are so far in his possession, as soon as on board, that there can be no stoppage *in transitu*.

If the buyer has, in good faith and for value, sold the goods, before he has received them, and in expectation of their arrival, and indorsed and delivered the bill of lading, this second purchaser holds the goods free from the first seller's right to stop them. But if the goods and bill are transferred only as security for a debt due from the first purchaser to the transferee, the original seller may stop the goods, and hold them subject to this security, and need pay only the specific advances made on their credit, or on that very bill of lading, and not a general indebtedness of the first purchaser to the second.

A seller who stops the goods *in transitu* does not rescind the sale, but holds the goods as the *property* of the buyer; and they may be redeemed by the buyer or his representatives, by paying the price for which they are a security; and if not redeemed, they become absolutely the seller's, in the same way as a pledge might become his; and if he fails to obtain from them the full price due, he has a claim for the balance upon the buyer.

The exercise of this right is necessarily adverse to the buyer; for if the goods are taken by the seller, by agreement with the buyer, it is no longer a stoppage *in transitu*. An honest buyer, apprehending bankruptcy, might wish to return the goods to their original owner; and this he could undoubtedly do, if they have not become distinctly his property, and the seller his creditor for the price. But if they have, the buyer has no more right to benefit this creditor by such an appropriation of these goods, than any other creditor by giving him any other goods.

It has been questioned whether, when goods sold are sent by the seller to the buyer by any regular and usual conveyance, the vendee may go forward to meet them, and take possession of them before the time of their regular delivery, and thus abridge, by his own act, the right of stoppage of the seller. But it seems that he may do this, and that the right of stoppage *in transitu* is terminated by the buyer's thus taking possession of the goods.

OF GUARANTY.

A guarantor is one who is bound to another for the fulfilment of a promise, or of an engagement, made by a third party. This kind of contract is very common. Generally, it is not negotiable; that is, not transferable so as to be enforced by the transferee in his own name. But no special form or words are necessary to the contract of guaranty; and if the word "guarantee" be used, and the whole instrument contains all the characteristics of a note of hand, payable to order or bearer, then it is negotiable. Thus, in a case in New York, the instrument was as follows: "For and in consideration of thirty-one dollars and fifty cents received of B. F. SPENCER, I hereby guarantee the payment and collection of the within note to him or *bearer*. Auburn, September 25, 1837. (Signed) THOMAS BURNS." And it was held negotiable.

The guaranty may be enforced, although the original debt cannot; as, for example, the guaranty of the promise of a wife or an infant; and sometimes the guaranty of a debt is requested, and given, for the very reason that the debt is not enforceable at law. But, generally, the liability of the principal measures and limits the liability of the guarantor. And if the creditor agree that the principal debt shall be reduced or lessened in a certain proportion, the guaranty is reduced in an equal proportion, especially if the guarantor be a party to the arrangement.

A contract of guaranty is construed somewhat strictly. Thus, a guaranty of the notes of one, does not extend to notes which he gives jointly with another.

A guarantor who pays the debt of the principal may demand from his creditor the securities he holds, although not, perhaps, an assignment of the debt itself, or of the note or bond which declares the debt, for that is paid and discharged. And in a court of equity the creditor will be restrained from resorting to the guarantor, until he has collected as much as he can from these securities.

Unless the guaranty is by a sealed instrument, there must be a consideration to support it. If the original debt or obligation rest upon a good consideration, this will support the promise of guaranty, if this promise be simultaneous with or prior to the original debt. But if that debt or obligation be first incurred and completed, before the guaranty is given, there must be a new consideration for this promise to guarantee that debt. But the consideration need not pass from him who receives the guaranty to him who gives it. Any benefit to him for whom the guaranty is given, or any injury to him who receives it, is a sufficient consideration if the guaranty be given because of it.

In general, if there be a new and independent consideration for the guaranty passing between the parties to it, this will make it an original promise, and not a promise to pay the debt of another; and will therefore protect it from the Statute of Frauds, of which important statute we shall speak more particularly in the next article.

A guaranty is not binding unless it is accepted, and unless the guarantor has knowledge of this. But the law presumes this acceptance in general, when the giving of the guaranty and an action on the faith of it, by the party to whom it is given, are simultaneous. In New York, wherever the guaranty is absolute, notice of its acceptance is unnecessary, unless expressly required. But, generally, an offer to guaranty a future

operation, especially if^l by letter, does not bind the offerer, unless he has such notice of the acceptance of his offer as would give him a reasonable opportunity of indemnifying himself.

If the liability of the principal be materially varied by the act of the party guaranteed, without the consent of the guarantor, the guarantor is discharged. Many interesting cases have arisen, which involve this question. Thus, where a bond was given conditioned for the faithful performance of the duties of the office of deputy collector of direct taxes for eight certain townships, and the instrument of appointment, referred to in the bond, was afterwards altered, so as to extend to another township, without the consent of the surety, the Supreme Court of the United States held that the surety was discharged from his responsibility for moneys collected by his principal after the alteration. Again, in an English case, the facts were, that, in a bond by sureties for the careful attention to business and the faithful discharge of the duties of an agent of a bank, it was provided "that he should have no other business of any kind, nor be connected in any shape with any trade, manufacture, or mercantile copartnery, nor be agent of any individual or copartnery in any manner or way whatsoever, nor be security for any individual or copartnery in any manner or way whatsoever." The bank subsequently, without the knowledge of the sureties, increased the salary of the agent, he undertaking to bear one-fourth part of all losses which might be incurred by his discounts. The House of Lords held, affirming the decision of a majority of the court below, that this was such an alteration of the contract, and of the liability of the agent, that the sureties were discharged, notwithstanding that the loss arose, not from discounts, but from improper conduct of the agent.

The guarantor is also discharged if the liability or obligation be renewed or extended by law. As if a bank, incorporated for twenty years, be renewed for ten more, and the officers and business of the bank go on without change; the original sureties of the cashier are not held beyond the first term. So a guaranty to a partnership is extinguished by a change among the members, although neither the name nor the business of the firm be changed. But a guaranty, by express terms, may be made to continue over most changes of this kind.

A specific guaranty, for one transaction which is not yet exhausted, is not revocable. If it be a continuing or a general guaranty, it is revocable, unless an express agreement, founded on consideration, makes it otherwise.

A creditor may give his debtor some accommodation or indulgence, without thereby discharging his guarantor. It would seem just, however, that he should not be permitted to give him any indulgence which would materially prejudice the guarantor. Generally, a guarantor may always pay a debt, and so acquire at once the right of proceeding against the party whose debt he has paid. On this ground, it has been held that, where a surety requested the creditor to proceed against the principal debtor, and the creditor refused to do this, and afterwards the debtor became insolvent and the surety was without indemnity, still, the surety (or guarantor) was not discharged, because he might have paid the debt, and then sued the party whose debt he paid. In New York, it seems indeed to be the law, that, if the surety requests the creditor to proceed against the principal debtor, and he refuses, and the principal debtor afterwards

becomes insolvent, the surety will be discharged. But this rule has not been established there without much opposition; and can hardly be said, even now, to be certain. But if, by gross negligence, the creditor has lost his debt, and has deprived the surety of security or indemnity, we should say that the surety must be discharged, unless he was equally negligent. If a creditor gives time to his debtor, by a binding agreement which will prevent a suit in the meantime, this undoubtedly discharges the guarantor, because it deprives him of his power of acquiring a right of proceeding against the debtor, by paying the debt; for the debtor cannot be sued.

If there be a failure on the part of the principal, and the guarantor is looked to, he should have reasonable notice of this. And, generally, any notice would be reasonable which would be sufficient in fact to prevent his suffering from delay. And if there be no notice, and the guarantor has been unharmed thereby, he is not discharged.

If a guaranty purport to be official, that is, if it be made by one who claims to hold a certain office, and to give the promise of guaranty only as such officer, and not personally, the general rule is, that he is not liable personally, provided he actually held that office and had a right to give the guaranty officially. But he would still be held personally, if the promise made, or the relations of the parties, indicated that credit was given personally to the parties promising, and not merely to them in their official capacity.

A guaranty was given for the price of a cargo of iron; and the buyer bargained with the seller to pay him more than the fair price, the excess to go towards an old debt. The guaranty was held to be altogether void, because fraudulent; and was not enforced even for the fair price.

AREA AND POPULATION OF MEXICO.

Mexico is made up of twenty-one States, three Territories and one federal district, the names, areas, and populations of which were, in 1850, as follows:

	Square miles.	Populat'n.		Square miles.	Populat'n.
Chiapas.....	16,880	144,070	Sinaloa.....	33,721	160,000
Chihuahua.....	97,015	147,600	Sonora.....	183,467	139,474
Coahuila.....	56,571	75,340	Tabasco.....	15,609	63,508
Durango.....	48,489	162,218	Tamaulipas.....	30,445	100,064
Guanajuato.....	12,618	713,583	Vera Cruz.....	27,595	264,725
Guerrero.....	32,003	270,000	Yucaton.....	52,947	680,948
Jalisco.....	48,590	774,461	Zacatecas.....	30,507	356,024
Mexico.....	19,535	973,637	Tlaxcala (Territory)..	1,984	80,171
Michoacan.....	22,993	491,679	Colima (do.) ..	3,020	68,243
Nuevo Leon.....	16,688	133,361	Lower California (do.)	60,662	10,000
Cajacca.....	31,823	525,101	Federal district.....	90	200,000
Puebla.....	13,043	580,000			
Queretaro.....	2,445	184,161			
San Luis Potosi....	29,486	368,120	Total.....	829,916	7,661,520

SHIP CANALS AND RAILROADS.

THE IMPORTANCE OF ANOTHER RAILROAD CONNECTION WITH THE WEST.

It is, we believe, more than twenty-five years since, in making a comparison between canals and railways, we took the ground in *Hunt's Magazine* and other New York papers, "that railways were the better improvement of the age, and destined eventually to supersede canals, except in the case of the unique Erie." We were then advocating the construction of a railway from the Harlem Railroad to Albany, and were ridiculed for our pains, particularly in a lengthy report now before us, which emanated from a committee appointed by the Chamber of Commerce of New York, composed of those eminent and intelligent merchants in their days—Messrs. JAMES G. KING, N. WEED, and SIMEON BALDWIN. This report is now a curiosity, and reduced to short meter, arrives at the conclusion, "that as we had the Housatonic Railroad—through Connecticut and Massachusetts to Albany—for *winter* travel, and the noble Hudson for *summer* travel, we did not want a railway from New York to Albany." A *freight railway*, or one to carry freight, was not thought of. It was only a few years after, however, that the completion of the Western Railroad from Boston to Albany awoke our Rip Van Winkles, and led New York to project the Hudson River Road on the margin of the river, and the Harlem Railroad to Albany—two roads where we were ridiculed for proposing one a short time previous.

In the July number of *Hunt's Merchants' Magazine*, it is clearly shown by facts and figures, well applied, that our canals, as we predicted would be the case, are being superseded by our railroads, and that we do not now want a ship canal from the Mississippi to New York, by lakes Michigan, Erie, and Ontario, either for commerce or for defence. Such an undertaking might give some politicians fat jobs, but it will damage us greatly, by breaking up our Erie and Oswego canals just as we have got them finished, and are preparing with large boats for a navigation of seven feet by seventy, although we think a depth of even six feet (which it now is) will about use up all the water we can get into the canal on the *long level* at Rome in dry times.

But our object in writing at the present time was mainly to call the attention of New Yorkers, and, we will admit, to crow a little over the fulfillment of our former predictions, to the necessity of another railroad connection with the West, our present routes being overworked. For instance, look at the business done over the Pennsylvania Railroad, (their Central,) as appears by facts given in June number, page 499. This road is 365 miles long, (of which 318 miles is a double track,) cost \$21,806,852, on which they took in gross receipts from business done over it last year, \$10,143,738, being nearly 50 per cent of its cost! This immense business was done at a total expense of \$3,833,345 for operating the road, or say 38 per cent of its gross receipts. These receipts were about double the tolls the State of New York received during the year 1862, on all her canals. This is a startling exhibit of what railways can do, and shows what powerful industrial machines they are when well located and well managed. The P. and Reading Railroad took from 1843 to 1859 \$36,935,118, and the expenses were

\$15,792,911. Nett receipts in fifteen years \$21,142,277. Now the Pennsylvania Railroad has, we believe, 40 feet grades, and yet has done this immense business.

The receipts over the New York and Erie were about half this sum; so were the receipts of the New York Central, if we recollect rightly. The Erie has grades of 65 feet to the mile, the measure of its capacity, and the Central has 75 feet at its eastern terminus. The Rome and Watertown Railroad has 42 feet to the mile. It will soon be impossible for the Central Railroad to carry its freight. When the Oswego branch is finished it will have more than it can do. Under these circumstances, it is the duty of the merchants of New York, as well as those of the West, to look round them for another cheaper and shorter, if possible, channel than by Pennsylvania, or by the roads named to convey the tonnage from the West to the seaboard. As we have stated above, and as the article in your last number proved, no proposed ship canal can do it. We must look elsewhere for the route that will command the trade.

Chicago and the Western grain States already have the natural waters of lakes Michigan, Erie, and Ontario, and the admirable port at Oswego. We have now lines of railways from the West to Buffalo, and we can have a level and descending grade and line from that place to the county of Oswego. Here, the waters of Little Salmon Creek, from its summit in Amboy, New Jersey, flow westward, and the Little River, heading in the same town and same farm, drains eastward over a summit that is only 250 feet above the mills at Oswego, and the road may thus strike Rome in a direct line, from which point we have the descending valley of the Mohawk from Little Falls to the Hudson. In this way, for this crowded part of the line, we can thus have a quadruple track that can defy competition by any State in the Union. It is a line which New York must see is for her interest to take immediate steps to have examined and constructed. It has been a favorite project with the writer for many years. Now, as the Erie and Central railroads have nearly all the business they can do, and so must be the case with the Pennsylvania Railroad, the merchants of Chicago, Milwaukee, and the West, according to the doctrine of the *Merchants' Magazine* for this month, should hold a *railroad convention* instead of a ship canal convention to perfect a line of railways from Buffalo, Rochester, and Troy, as the best and *most profitable* project of the day.

J. E. B.

THE PUBLIC DEBT JULY 1, 1863.

THE following is a statement of the public debt July 1, 1863, derived from official sources:

INTEREST BEARING DEBT.

Four per cent temporary loan..coin	\$5,036,037 30	
Four per cent temporary loan....	23,023,258 19	
	<hr/>	\$28,059,295 49
Five per cent temporary loan.....	\$70,808,188 91	
Five per cent temporary loan.coin	6,450 00	
Five per cent bonds due 1865....	3,461,000 00	
Five per cent bonds due 1871....	7,022,000 00	
Five per cent bonds due 1874....	20,000,000 00	
	<hr/>	\$101,297,638 91
Six per cent bonds due 1868.....	18,323,591 80	
Six per cent bonds due 1881.....	69,547,800 00	
Six per cent bonds due 1882.....	185,604,141 26	
Six per cent Treasury notes.....	717,100 00	
Six per cent certifi's of indebtedn's	157,093,241 65	
	<hr/>	\$431,215,874 71
7 30-100 bonds due Aug. 19, 1864	52,931,000 00	
7 30-100 bonds due Oct. 1, 1864	86,989,500 00	
	<hr/>	\$149,920,500 00

DEBT NOT BEARING INTEREST.

Treasury notes past due.....	\$39,100 00	
U. States notes..	\$387,646,589 00	
Less am't in treas.	11,157,088 12	
	<hr/>	\$376,489,500 88
Fractional currency.....	20,192,456 00	
	<hr/>	\$396,721,056 88
Total debt July 1, 1863, as exhibited by the books of the Treasury Department		\$1,097,274,365 99
Total debt July 1, 1863, as estimated by the Secretary in report of December, 1862.....		1,122,297,403 24
		<hr/>
Actual debt less than the estimated debt by.....		\$25,023,037 25

RECAPITULATION.

Aggregate debt at 4 per cent interest.....	\$28,059,295 49
“ “ at 5 “ “	101,297,638 91
“ “ at 6 “ “	431,275,874 71
“ “ at 7 30-10 “	139,920,500 00
“ “ without interest.....	376,721,056 88
	<hr/>
Total debt July 1, 1863, as exhibited by the books of the Treasury Department.....	\$1,097,274,365 99
Total debt July 1, 1863, as estimated by the Secretary in report of December, 1862.....	1,122,297,403 24
	<hr/>
Actual debt less than the estimated debt.....	\$25,023,037 25

The interest required to be paid in gold coin on the public debt of the United States, as it stood July 1, 1863, and the interest stipulated to be paid in currency, stand as follows for the current fiscal year:

INTEREST PAYABLE IN GOLD COIN.

On four per cent deposits.....	\$5,036,000	\$201,440
On five per cent deposits.....	35,000,000	1,750,000
On five per cent funded debt.....	30,490,000	1,524,500
On six per cent funded debt.....	274,183,000	16,450,980
On 7.30 per cent Treasury bonds.....	139,920,000	10,214,160
Total interest payable in gold.....		\$30,141,080

INTEREST PAYABLE IN CURRENCY.

On four per cent deposits.....	\$23,023,000	\$920,920
On five per cent deposits.....	35,808,000	1,440,400
On six per cent certificates.....	157,093,000	9,425,580

Total interest in currency..... \$11,786,909

Principal of gold bearing debt.....	\$484,629,000
Principal of currency debt.....	215,924,000
Principal of United States circulation.....	396,721,000

Total public debt..... \$1,097,274,000

Interest in gold.....	\$30,141,080	
Interest in currency.....	11,786,900	\$41,927,980
Average rate of interest, 3.89 per cent.		

The customs revenue for the current year, receivable exclusively in gold, is estimated at \$70,000,000, while the interest on the funded and other public debt stipulated to be paid in gold, is, thus far, only \$30,000,000 per annum, and the entire interest on the public debt of all classes \$41,927,980.

CUBA AND THE UNITED STATES—DUTIES ON FLOUR AND SUGAR.

THE *Philadelphia Commercial List and Prices Current* learns from private sources that it is the intention of the Spanish Government in Madrid, at an early day, greatly to reduce the duty on flour imported into the Spanish colonies, with more especial reference to the extensive trade between the island of Cuba and the United States. The present tariff on flour in Cuba, it is well known, amounts almost to a complete prohibition of the importation of this article, and for this reason the trade in flour between this country and Cuba has always been exceedingly limited. As a set-off to this act of enlightened legislation, we learn that it is the intention of the Spanish Minister, under instructions from the home government, to apply to the United States authorities for a reduction of the present duties on sugar imported into America.

COMMERCIAL CHRONICLE AND REVIEW.

COURSE OF BUSINESS—FALL OF PRICES—DEPRESSION—GOVERNMENT STOCKS—CURRENCY—EXPENDITURES—APPROPRIATIONS—WAR BUSINESS—MASSACHUSETTS BANK COMMISSIONERS—ACCUMULATION IN BANKS—IMPORTS—CONSUMPTION OF GOODS—EXPORTS—BALANCE—GOLD MOVEMENTS—FALL IN PRICE—EXCHANGE—FEDERAL FINANCES—DEBT—PERMANENT INVESTMENTS—IMMENSE RESOURCES—FIRMNESS OF STOCKS—PRICES.

THE course of business in New York and the States generally has been one of contraction. The old regular orders for goods to supply the well-gauged regular demand for consumption in various parts of the Union, on terms of well defined credit, are no longer given, and a "hand to mouth" demand has existed for many months, gradually approaching a strictly cash basis—no one being disposed to hold stocks of goods. The fluctuations in values are such that no regular and safe calculation can be made, either upon the extent of the demand or upon the probable range of prices. Hence all business in excess of actual orders to be filled partakes of the character of a very hazardous speculation. The year commenced with rising prices, based on the very rapid depreciation of paper and a speculative demand for goods. These two elements reacted on each other. That the currency was rapidly depreciating was evident, and that goods were scarce, as measured by the usual rate of consumption, was equally apparent, so that dealers made haste to acquire stocks of goods. This movement naturally hastened the fall of paper as compared to goods. It was, however, soon discovered that the same influences killed also the demand for goods for consumption, since the high prices forced families very generally to reduce their rate of consumption. The expected demand did not therefore take place, and the speculation subsided. Since that time stocks of goods all over the country have continued to decrease even under the reduced demand from consumers, and, being disposed of on the cash basis, the paper money received for the goods has continued to accumulate at the financial centers, seeking employment in various ways. Prices, meantime, have undergone reaction, and in their fall have involved the trading community in losses that would under the old credit system have produced the most wide-spread panic and disaster. The current of money from shops to financial centers has enabled the government, through the machinery of its agents, to convert from \$100,000,000 to \$200,000,000 of paper into five-twenty stock, and has therefore ceased for the moment to increase the amount of paper outstanding—a circumstance which has helped the depression of values from the high points at the close of February. Holders of goods, under these circumstances, refuse to sell or to meet the market, being persuaded that the lowest point in the oscillation is reached. This state of affairs produces a very great depression in business transactions. The decline in the prices of produce has also a marked effect in reducing the purchasing power of the great mass of Western consumers of goods, who are food sellers, notwithstanding that it somewhat increases that of the city consumers of goods, who are food buyers, although this tendency is counteracted by the diminished

employment of labor to some extent. The general tendency is a more rigid dependence for business upon the vast expenditures of government. The scale of their expenditures is best gauged by the appropriations for the year and the actual outlay. These have been as follows :

Appropriations for the year, to July 1, 1863.....	\$990,971,545
Amount of debt, July, 1862.....	\$514,211,371
“ “ July, 1863.....	1,101,524,887
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Increase	\$587,313,516
Duties and taxes.....	90,000,000
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	\$677,313,516

The appropriations for the year are the sums authorized by various acts of Congress. The increase of debt and the sum of the customs and taxes represent the sum actually paid, being nearly \$2,000,000 per day. With this large sum the government has stepped in and become the great employer. The operation is thus described by the Bank Commissioners of Massachusetts: "At the breaking out of the rebellion it was feared that the business of the country would be entirely prostrated, and the banks, which make their gains out of the activity of trade, expected to be the greatest sufferers. Neither of these fears have been justified by the event.

* * * Seldom, if ever, has the business of Massachusetts been *more active* or *profitable* than during the past year. The war has brought into activity many mechanical employments for which there is little occasion in time of peace; for example, as the manufacture of arms and ordnance, camp and garrison equipage, saddlery and artillery harness, and military clothing and accoutrements. It has, also, greatly stimulated the manufacture of boots and shoes, and of woollen goods; while the subsistence of the army has furnished a constant and remunerative market for breadstuffs and provisions. There is hardly a branch of domestic industry which has not been actively employed. The cotton manufacture alone has been interrupted by the loss of the raw material, and has given less occupation to labor than usual; but there was never a time since this branch of industry established itself in New England, when the profits realized from it have been so considerable. * * * The necessity of transporting great bodies of troops from point to point along our seaboard, and of furnishing them subsistence, has called into the service of the government a vast fleet of transports, for the hire of which owners have received rates of compensation greatly exceeding the ordinary profits of commerce. Every steam vessel, capable of navigating either the ocean or harbors and rivers, has been thus employed, and many more, previously regarded as worn out, and no longer seaworthy, having been flimsily repaired, and made to pass through a hasty or corrupt inspection, have gone out laden with valuable property, or invaluable lives, to be wrecked or rescued, as the chances of the weather, or as skillful seamanship might determine. The shipyards, both public and private, have been worked to their utmost capacity, in the construction of iron-clad gunboats and other vessels of war; while machine shops, rolling mills, and foundries have been equally busy in building their engines, rolling their armor plates, and casting their guns. * * * The wants of the army have come in to make good the loss of the Southern market (for shoes,) and the government has been a liberal and sure, if not a ready

paymaster. Labor has been in great demand, wages have risen, and the trade is again in a high state of prosperity. Wealth has flowed into the State in no stinted measure, despite of war and heavy taxes. In every department of labor the government has been, directly or indirectly, the chief employer and paymaster. Vast contracts have been undertaken and executed with the use of no other credit than such as is based on government vouchers and certificates of indebtedness."

The New England States have indeed been peculiarly favored by reason of the war expenditures, and yet every State has been a receiver, so that these vast sums paid out by government have been the vivifying influence in all sections. It is true that, where the regular course of trade exists, the purchasers give back equivalents. Materials and produce are received in exchange, and the individuals employed reproduce by various industries the capital they consume. Where the government is the purchaser and employer, however, it pays in one medium—that is, its own paper—which is not absorbed or destroyed, but accumulates in large quantities, to be ultimately paid by taxation on industry.

The mode in which this paper accumulates is apparent in the quarterly returns of the New York banks, which show means as follows:

	Due banks.	Due depositors.	Notes on hand.	Cash items.	Loans.
December, 1859,	\$22,693,703	\$73,542,108	\$1,292,265	\$15,924,951	\$120,856,938
“ 1861,	24,126,988	91,474,817	879,042	17,040,100	127,087,003
March, 1862,...	30,430,134	89,789,110	1,764,070	19,865,119	98,536,943
June, 1862,....	41,848,781	112,197,068	7,699,166	32,701,487	118,318,378
September 1862,	50,395,734	142,398,012	22,270,248	36,174,337	96,201,023
March, 1863,....	44,674,237	167,904,358	21,309,207	47,959,826	111,126,942
June 23, 1863..	40,850,168	166,989,679	20,248,378	48,070,477	111,146,526

At the first two dates the banks paid specie. They then held of country bank balances, deposits, and notes, \$116,460,000, and their loans were \$127,000,000. At this moment the same items are \$226,800,000, an increase of \$117,400,000, while their loans have been reduced. The cash items or checks of other banks exchanged each morning at the Clearing House also largely increased, showing the increase of the stock and call-loan business, while commercial business, as seen in the column of loans, has retrograded. In the meantime between the, so to speak, consolidation of the war business and the uncertainty as to the great changes that peace will produce, commerce seems to become more circumscribed. The imports at the port of New York have been as follows for six months comparatively:

IMPORTS, PORT OF NEW YORK.

	Specie.	Free goods.	Entered for—		Total.
			Consumption.	Warehouse.	
January.....	\$101,906	\$2,413,649	\$8,741,227	\$4,482,794	\$15,739,676
February.....	213,971	783,561	7,372,539	3,657,775	12,037,846
March.....	123,616	1,328,806	11,461,572	3,454,530	16,370,524
April.....	107,061	1,328,216	9,493,830	6,456,208	17,385,315
May.....	197,217	710,021	7,980,281	5,437,404	14,324,923
June.....	109,997	780,963	6,328,581	5,377,885	12,597,426
Total 6 months	\$853,768	\$7,345,216	\$51,378,030	\$31,428,967	\$91,005,981
“ 1862....	512,555	14,210,027	46,645,529	23,683,322	85,050,433

The quantity of goods taken for consumption in the month of June was quite small, notwithstanding that through the decline in gold the expense of landing them were very much reduced. The same circumstan-

ces, however, restricted trade, since it induced buyers to hold back for lower prices. Importers, on the other hand, rather sent the goods to warehouse than meet those views. The decline in the price of exchange did not, however, operate against the export of produce to so great an extent as was anticipated, since the prices of produce fell in a corresponding degree. The figures were as follows:

EXPORTS, PORT OF NEW YORK.

	Specie.	Foreign.		Domestic.	Total.
		Free.	Dutiable.		
January.....	\$4,624,574	\$73,111	\$668,275	\$14,829,393	\$19,695,351
February.....	3,965,664	43,889	610,009	17,780,586	22,400,148
March.....	6,385,442	213,685	758,266	16,137,689	23,695,082
April.....	1,972,834	74,949	375,224	11,581,933	14,004,940
May.....	2,115,679	101,337	602,254	13,183,510	16,002,780
June.....	1,367,774	49,380	298,067	14,780,072	16,495,293
Total 6 months	\$20,631,967	\$556,351	\$3,312,095	\$87,793,188	\$112,293,601
" 1862....	27,976,351	318,336	2,550,203	59,005,313	89,850,263

The sum of the exports of produce, corrected by the average rate of the price of gold, would be \$63,000,000, and shows an advance balance on the six months' business. A good deal of gold went from San Francisco to Europe on New York account, however. The movement of specie and its price at the port of New York were as follows:

SPECIE AND PRICE OF GOLD.

	1862.		1863.			
	Received.	Exported.	Received.	Exported.	Gold in bank.	Prem. on gold.
January 3.	.....	442,147	.....	681,448	35,954,550	34½ a 34¾
" 10.	885,928	1,035,025	1,277,788	726,746	36,770,746	34 a 39
" 17.	.....	547,703	.....	1,380,247	37,581,465	40 a 49
" 24.	627,767	322,918	678,841	780,816	38,549,794	47 a 50¾
" 31.	.....	310,484	.....	1,331,027	38,894,840	48¾ a 60½
February 7.	854,000	976,235	301,860	1,277,000	38,243,839	57½ a 57¾
" 14.	614,146	1,156,154	359,978	1,152,846	38,426,460	53¾ a 59½
" 21.	759,247	934,512	.....	520,017	37,981,310	54 a 64
" 28.	741,109	510,774	285,394	1,377,016	39,512,256	71 a 72
March 7.	679,074	585,236	1,243,551	733,643	39,705,089	52½ a 53
" 14.	677,058	477,335	.....	3,540,550	36,110,085	54½ a 54¾
" 21.	.....	540,968	249,514	1,201,907	33,955,122	53 a 54½
" 28.	490,368	779,564	159,105	1,050,156	34,317,691	41 a 42
April 4.	581,293	673,826	250,778	473,385	34,257,121	53 a 54
" 11.	.....	1,505,728	250,728	607,059	35,406,145	46 a 52½
" 18.	617,279	693,436	217,602	153,487	36,761,696	52 a 53½
" 25.	635,546	1,151,300	256,604	629,855	37,175,067	47 a 51½
May 2.	410,804	712,275	.....	294,993	36,846,523	43 a 50½
" 9.	484,019	1,574,166	205,057	451,827	38,102,633	58½ a 47
" 16.	604,632	1,093,031	.....	661,996	38,556,552	49 a 49½
" 23.	501,204	938,032	258,570	438,745	38,544,865	43¾ a 49
" 30.	224,911	881,452	.....	279,994	37,632,634	44½ a 44¾
June 6.	553,035	1,647,299	318,066	411,483	37,241,670	46 a 46½
" 13.	352,391	1,990,327	.....	235,364	37,884,128	48 a 43¾
" 20.	612,461	3,156,988	.....	522,147	38,314,206	42 a 43¾
" 27.	393,212	3,094,101	187,032	134,432	38,271,702	46 a 46¾
July 4.	.....	2,647,060	.....	347,807	38,302,826	44 a 44½
" 11.	641,451	2,424,916	254,947	401,936	38,712,397	32½ a 32½
" 18.	441,179	1,846,023	.....	2,190,781	38,254,427	23 a 23½
Total....	12,362,359	33,448,994	7,293,803	21,999,910	.....	.....

Gold reached its highest price at the close of February, and during

three months fluctuated at about 50 per cent, as the point of paper depreciation. Through the month of June it varied from 44 to 50, and under news of the retreat of the Confederate army and the fall of Vicksburg it declined, until the great insurrection in New York, causing a renewal of disquiet, gave a further downward impulse to it, and it fell to 22½, at the same time that it caused large amounts to be shipped in the week ending July 18. These immense fluctuations in gold were very injurious to business. These influences upon the exchange market are seen in the following table:

RATES OF EXCHANGE.

	London.	Paris.	Amsterdam.	Frankfort.	Hamburg.	Berlin.
Jan. 3,	146 a 147½	3.85 a 3.80	56 a 56½	56 a 56½	49½ a 49½	98 a 98½
" 10,	149 a 152	3.72½ a 3.67½	56 a 58	57½ a 58½	50½ a 51½	99 a 100
" 17,	160 a 162	3.52½ a 3.45	60½ a 61½	61 a 62½	54 a 55½	108 a 110
" 24,	162½ a 163	3.50 a 3.45	61 a 61½	61½ a 62	54 a 54½	107 a 108½
" 31,	171 a 177	3.32 a 3.15	65½ a 66½	65 a 67	57 a 58½	114 a 117
Feb. 7,	169 a 173	3.30 a 3.25	65 a 65½	65 a 65½	57 a 57½	114 a 116
" 14,	170 a 171	3.32 a 3.27	65 a 65½	65 a 65½	56½ a 57½	119½ a 114½
" 21,	171 a 179½	2.20 a 3.12	67 a 68½	68 a 68½	59 a 60½	118½ a 119½
" 28,	185 a 188	3.10 a 3.00	67½ a 71	70 a 71	61½ a 62½	123 a 124
Mar. 7,	167 a 169	3.37½ a 3.30	64 a 64	65 a 66	55 a 55½	111 a 113
" 14,	168 a 171	3.35 a 3.30	64 a 64	64½ a 65½	55½ a 56½	112 a 114
" 21,	169½ a 171½	3.37½ a 3.27½	63½ a 63½	63½ a 64½	56 a 57	113 a 114
" 28,	157 a 161	3.57 a 3.47	61 a 62	61 a 62	53 a 54	107 a 108
April 4,	168 a 172	3.40 a 3.25	62½ a 63½	62½ a 64	55½ a 57	111 a 111
" 11,	158 a 162	3.55 a 3.45	61 a 62	61 a 62	53½ a 54½	106 a 108
" 18,	165 a 167½	3.37½ a 3.45	62½ a 62½	62½ a 63	54½ a 55½	108 a 110
" 25,	163 a 165	3.47½ a 3.50	61 a 61½	61½ a 62	53½ a 54½	107 a 108
May 2,	163 a 165	3.47½ a 3.42	61½ a 62½	61½ a 62½	53½ a 54½	107 a 108
" 9,	168 a 170	3.42½ a 3.32	62½ a 63	62½ a 63½	55½ a 56½	110 a 112
" 16,	162½ a 164	3.50 a 3.45	61½ a 62	61½ a 62½	54 a 55	107 a 109
" 23,	161 a 163	3.52 a 3.45	61 a 61½	61½ a 62	54 a 54½	107 a 108
" 30,	156½ a 158	3.62½ a 3.55	59½ a 60½	60 a 60½	52½ a 53	104½ a 106
June 6,	158½ a 160	3.57½ a 3.52½	59½ a 61½	60 a 60½	52½ a 53½	105 a 106
" 13,	156 a 161	3.55 a 3.47½	59½ a 61	60 a 61½	52½ a 54	104 a 107
" 20,	155 a 157	3.62 a 3.57½	58½ a 59	58½ a 59½	51 a 52	103 a 104
" 27,	159 a 160½	3.55 a 3.50	59½ a 60½	60 a 60½	52½ a 52½	106½ a 107
July 11,	143 a 146	3.95 a 3.85	54 a 54½	54 a 55½	47½ a 48½	94 a 96
" 18,	138 a 139	4.07 a 4.02	51½ a 52	50 a 52½	46½ a 46½	92 a 93

The operations of the Treasury have changed in character since the date of the last quarterly bank report in the foregoing table. The conversions of government money into five-twenty stock have been carried on to a certain extent. The government debt, July 1st, had increased to \$1,100,836,343, and of this amount \$407,854,456 is paper money; of the remaining \$693,000,000, \$400,000,000 is payable as follows:

Five per cents, January, 1865.....	Due in 18 months	\$3,461,000
Seven-thirties, August and October, 1864	12 "	139,996,950
Six per cents, average.....	6 "	156,835,241
Four and five per cents, deposits.....	10 days	94,770,702
Total.....		\$400,063,893

These figures of sums borrowed indicate the vast resources of the country, and the prodigality with which they have been placed to the service

of the government. No nation ever before poured out its means with such lavish hand. It is true that the loans do not take the shape of permanent investments, but are, rather, short loans to be paid at call. Thus the whole permanent debt consists of the following sums :

Due in 1871 and 1874.....	\$27,022,000
“ 1868.....	18,323,591
“ 1881.....	69,457,800
“ 5-20 year.....	182,414,401
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Total present debt.....	\$297,217,792
Old peace debt.....	60,189,406
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Total permanent war debt.....	\$237,028,386

This is the amount of permanent investments in the war debt. The prices of the government stocks have remained very firm :

PRICES UNITED STATES PAPER.

	—6's, 1881.—		5's, 1874.	7 3-10, 3 years.	1 year certif. Old.	New.	August demand notes.	
	Reg.	Coup.					Gold.	
January 3,..	96½	98	88½	102½	96½	...	34½ a	34½ 29
“ 10,..	97½	98	90	103	97	...	37½ a	38 35
“ 17,..	91½	91½	88½	101	95	...	49 a	46½ 43
“ 24,..	95	96	90	102	96	...	47 a	48½ 44½
“ 31,..	92½	94	86	101½	94	...	55 a	60½ 53
February 7,..	92	93½	85½	102	94	...	57½ a	57½ 55
“ 14,..	94	96	87½	102½	96	...	53½ a	53½ 51
“ 21,..	96½	97½	91½	103½	95	...	53½ a	64 62
“ 28,..	100½	102½	97	105½	98½	...	71 a	71½ 71
March 7,..	99½	100½	94½	105	98½	...	52½ a	53 53
“ 14,..	104½	104½	98	106½	100	...	54½ a	54½ 53
“ 21,..	103½	104½	96	107	100	...	54½ a	54½ ..
“ 28,..	104½	105	96½	106½	100	...	41 a	41½ ..
April 4,..	104½	105	97½	104½	99	...	53 a	53½ ..
“ 11,..	104½	105	97½	105	100½	...	46 a	52½ ..
“ 18,..	104	105	96	105	101	...	53 a	53½ ..
“ 25,..	105	105	96	106	102	99½	151½ a	151½ ..
May 2,..	105½	106½	97½	106½	102	99½	150 a	150½ ..
“ 9,..	106	107	97	106	101½	99½	152½ a	152½ ..
“ 16,..	108	108	97½	107	101½	99½	149 a	149½ ..
“ 23,..	108½	108½	97½	107½	101½	99½	148½ a	149 ..
“ 30,..	108	108	97½	107	101½	99½	144½ a	144½ ..
June 6,..	104	108½	99	107	101½	97½	146 a	146½ ..
“ 13,..	104½	108½	99	106	101½	98	148 a	148½ ..
“ 20,..	103½	108½	98½	106	101	98½	142½ a	143½ ..
“ 27,..	102	107½	98	104	100½	97	146½ a	146½ ..
July 11,..	104½	105	97½	106	100½	98½	132½ a	132½ ..
“ 18,..	104½	106	98	106½	101	99	125 a	125½ ..

JOURNAL OF BANKING, CURRENCY, AND FINANCE.

CITY BANK RETURNS.

LITTLE satisfaction can be obtained in examining the returns of our city banks from week to week; their regular business is so mixed up with government transactions that but few definite facts can be learned from these statements. For instance, the bank loans have now reached in New York city \$173,126,387, whereas before the war they were only about \$125,000,000. From such a statement as this one might suppose that business was now more active than ever before, and that the banks had discounted \$173,000,000 of good business paper. The question therefore naturally arises, is this so—of what is this column of loans made up? Suppose peace were to be declared to-day, could the banks realize on these loans so as to pay up their depositors and help their customers; for as soon as the fetters of war are removed, every cent of money that can be obtained will be needed and used by merchants in supplying the extraordinary demands of trade which must then arise.

But as we said before, from these weekly returns we get little satisfaction on these points. All they tell us is, that the New York city banks hold \$173,000,000 of loans, and that they have deposits to the amount of \$163,000,000. If, however, we go back to the quarterly returns in March, 1863, we find, that of the loans which were then \$180,000,000, about \$74,000,000 were government stocks. Probably the amount of government's is somewhat increased since that time, but even calling it the same and it leaves the ordinary business loans at less than \$100,000,000. Is this a safe position for the banks to hold? United States Government stocks, as a *permanent* investment, are as good as anything in the world; but can the banks afford to hold them, or do they intend as soon as peace returns to throw them on the market? Would not such a course break the market, ruin themselves, and injure the government? Is it not therefore their duty to themselves, the government, and their customers to work out of this position gradually, and *now* while they can do it without harm to any one?

We give below our usual returns brought down to the latest dates. The changes are unimportant. In New York and Philadelphia the circulation continues to decrease. It is very seldom now that one sees a New York city bill. The \$5,000,000 or \$6,000,000 they have out cannot be in circulation, but must be held mostly by parties who anticipate a decision adverse to the legal tender notes in our Court of Appeals in September. In case such a decision is made, these bank notes will of course have to be redeemed in specie:

NEW YORK BANKS.

NEW YORK BANKS. (*Capital, Jan., 1863, \$69,494,577; Jan., 1862, \$69,493,577.*)

Date.	Loans.	Specie.	Circulation.	Net Deposits.	Clearings.
January 3,	\$173,810,009	\$35,954,550	\$9,754,355	\$159,163,246	\$186,861,762
" 10,	173,816,010	36,770,746	9,551,563	162,878,249	249,796,489
" 17,	176,606,558	37,581,465	9,241,670	164,666,003	314,471,457
" 24,	179,288,266	38,549,794	9,083,419	168,269,228	298,861,366

Date.	Loans.	Specie.	Circulation.	Net Deposits.	Clearings.
February 7,	179,892,161	38,243,839	8,780,154	166,342,777	302,352,571
" 14,	173,103,592	38,426,460	8,756,217	167,720,880	265,139,104
" 21,	178,335,880	37,981,310	8,752,536	170,108,758	291,242,929
" 28,	179,958,842	39,512,256	8,739,969	173,912,695	340,574,444
March 7,	181,098,322	39,705,089	8,693,175	174,689,212	344,484,442
" 14,	177,875,949	36,110,085	8,657,016	172,944,034	307,370,817
" 21,	173,829,479	33,955,122	8,609,723	167,004,466	277,831,351
" 28,	172,448,526	34,317,691	8,560,602	163,363,846	281,326,258
April 4,	173,038,019	34,257,121	8,348,094	160,216,418	287,347,704
" 11,	170,845,283	35,406,145	8,178,091	159,894,731	264,468,080
" 18,	169,132,822	36,761,696	8,039,558	164,122,146	259,417,565
" 25,	171,079,322	37,175,067	7,555,549	167,863,999	258,654,781
May 2,	177,364,956	36,846,528	7,201,169	167,696,916	355,557,732
" 9,	180,114,983	38,002,633	7,080,565	163,656,513	367,560,731
" 16,	180,711,072	38,556,642	6,901,700	168,879,130	353,346,664
" 23,	181,819,851	38,544,865	6,780,678	167,655,658	380,304,748
" 30,	181,825,856	37,692,634	6,494,375	166,261,121	307,680,918
June 6,	182,745,080	37,241,670	6,341,091	162,767,154	289,757,539
" 13,	180,808,823	37,884,128	6,210,404	159,551,150	302,377,276
" 20,	177,083,295	38,314,206	6,120,252	157,123,301	259,483,221
" 27,	175,682,421	38,271,202	6,004,177	158,539,308	264,819,854
July 4,	174,337,334	38,302,826	5,998,914	158,642,825	267,785,773
" 11,	175,087,485	38,712,397	5,927,071	160,733,496	319,945,652
" 18,	173,126,887	38,254,427	5,880,623	163,319,544	251,168,769

BOSTON BANKS.

BOSTON BANKS. (*Capital, Jan., 1863, \$—————; Jan., 1862, \$38,231,700.*)

Date.	Loans.	Specie.	Circulation.	Deposits.	Due to banks.	Due from banks.
Jan. 5,	\$77,339,046	\$7,672,028	\$8,190,496	\$33,372,648	.....	.....
" 12,	77,427,173	7,751,000	8,373,000	33,063,800	17,006,000	13,520,000
" 19,	76,624,700	7,710,600	8,199,600	33,382,000	16,547,800	13,727,700
" 26,	76,354,000	7,710,700	8,008,500	33,847,000	16,311,700	13,958,000
Feb. 2,	76,496,800	7,685,000	8,865,000	34,076,800	16,889,000	14,490,000
" 9,	78,421,000	7,707,000	8,074,000	35,178,600	16,932,000	14,183,000
" 16,	78,431,000	7,794,000	8,001,000	34,903,000	17,070,700	14,095,500
" 23,	78,782,600	7,624,000	8,002,000	34,965,500	17,331,000	14,583,800
Mar. 2,	79,127,500	7,553,000	8,001,980	35,245,500	17,523,500	15,004,000
" 9,	79,274,700	7,582,000	8,225,000	35,215,000	17,340,400	14,446,500
" 16,	79,636,134	7,609,238	7,780,062	32,955,149	17,230,300	13,484,500
" 30,	77,935,000	7,572,600	7,593,800	31,604,500	17,074,400	11,601,300
April 6,	76,933,600	7,703,800	7,963,500	32,687,000	15,444,000	12,280,600
" 13,	74,551,013	7,812,895	7,762,915	32,494,822	14,557,000	12,947,800
" 20,	73,459,160	7,799,315	7,278,506	33,209,742	14,182,000	12,653,000
" 27,	73,558,000	7,838,800	7,040,000	32,781,500	13,303,000	11,966,700
May 4,	73,218,155	7,854,731	7,433,496	31,949,762	13,237,700	11,622,600
" 11,	73,062,789	7,847,849	7,688,233	31,309,985	13,147,000	11,800,000
" 18,	73,068,598	7,794,046	7,167,327	32,192,770	12,863,500	11,732,000
" 25,	72,874,000	7,777,000	7,011,700	33,000,000	12,787,000	11,748,000
June 1,	73,424,000	7,751,000	6,913,000	32,575,000	12,735,000	10,704,500
" 8,	73,592,000	7,738,557	7,030,286	31,723,285	12,626,700	10,874,700
" 15,	73,237,000	7,730,000	7,109,000	31,477,600	12,235,500	10,541,000
" 22,	73,351,000	7,697,000	7,344,500	31,355,800	12,504,600	10,914,700
" 29,	73,421,084	7,683,987	7,040,624	31,477,596	12,388,000	10,900,000
July 6,	73,548,918	7,744,827	7,473,800	31,509,263	12,233,000	10,891,000
" 13,	73,485,675	7,774,991	7,508,442	30,277,502	12,193,000	10,712,000
" 20,	73,421,000	7,684,000	7,401,500	29,287,000	13,802,000	10,154,600

PHILADELPHIA BANKS.

PHILADELPHIA BANKS. (Capital, Jan., 1863, \$11,740,080; 1862, \$11,970,180.)

Date.	Loans.	Specie.	Circulation.	Deposits.	Due to banks.	Due from banks.
Jan. 5,...	\$87,679,675	\$4,510,750	\$4,504,115	\$28,429,189	\$6,948,785	\$1,994,928
" 12,...	37,533,757	4,544,786	4,450,676	28,018,792	6,890,963	1,848,932
" 19,...	37,416,694	4,549,369	4,382,520	27,877,069	7,050,847	2,275,905
" 26,...	37,479,712	4,572,419	4,284,947	28,773,517	6,755,980	2,638,985
Feb 2,...	37,268,894	4,562,580	4,181,503	29,231,753	6,698,210	2,909,857
" 9,...	37,336,867	4,319,706	4,039,918	28,062,164	6,953,215	2,518,036
" 16,...	37,710,851	4,272,347	3,888,185	28,759,049	7,452,563	2,432,073
" 23,...	37,720,460	4,276,761	3,772,781	29,342,596	7,413,249	2,703,196
Mar. 2,...	37,901,080	4,267,626	3,696,097	30,178,518	7,188,670	2,758,852
" 9,...	38,603,871	4,249,035	3,608,870	30,679,259	7,100,258	2,499,139
" 16,...	39,260,028	4,247,817	3,534,880	30,549,587	7,476,603	1,939,449
" 23,...	39,458,384	4,247,688	3,295,862	30,106,135	7,418,482	1,935,014
" 30,...	38,937,612	4,311,704	3,369,194	29,171,283	6,504,758	2,158,007
Apr. 6,...	37,516,520	4,339,252	3,374,417	29,531,559	5,768,558	2,770,129
" 13,...	36,250,402	4,343,242	3,296,685	30,117,527	5,953,809	3,014,229
" 20,...	36,295,644	4,343,988	3,185,042	31,059,644	5,306,809	3,018,727
" 27,...	36,482,058	4,346,377	3,078,921	31,021,799	5,448,124	2,559,868
May 4,...	36,587,294	4,355,324	2,989,428	30,859,231	5,328,898	2,891,087
" 11,...	36,593,179	4,359,365	2,901,600	30,949,781	4,975,939	2,542,792
" 18,...	36,887,301	4,357,119	2,866,121	31,892,308	4,640,623	2,536,279
" 25,...	37,116,993	4,357,169	2,808,109	32,455,953	4,623,392	2,480,714
June 1,...	37,143,937	4,357,021	2,706,953	31,888,763	4,707,278	2,363,548
" 8,...	37,157,769	4,357,076	2,649,283	31,549,339	4,645,712	2,313,744
" 15,...	37,228,627	4,357,025	2,621,095	31,648,959	4,914,425	2,892,273
" 22,...	37,219,216	4,356,744	2,596,115	31,293,830	4,368,495	2,065,918
" 29,...	37,250,665	4,359,543	2,556,855	31,466,204	5,116,692	1,820,600
July 6,...	35,936,311	4,360,745	2,564,558	28,504,544	5,060,096	1,961,814
" 13,...	34,866,342	4,360,003	2,507,253	28,701,313	4,784,343	2,530,552
" 20,...	34,662,966	4,361,999	2,482,986	29,931,608	4,680,322	2,981,867

The following is a statement of the amount of United States legal tender notes held by the Philadelphia banks at the dates mentioned:

June 22.....	\$6,082,729
" 29.....	6,952,150
July 6.....	5,953,622
" 13.....	6,916,751
" 20.....	7,066,593

BANK OF ENGLAND.

The bank returns July 1st showed unusually important changes as follows:

Increase of securities.....	£3,734,056
Increase of active circulation.....	1,213,091
Increase of private deposits.....	2,464,743

In speaking of these changes the London *Economist* says "several circumstances have combined to produce them. First. There is the great movement consequent on the payment to the Hudson's Bay Company, which amounts to £1,500,000, and which, as the new capital is not raised, and the old one paid off, to a considerable extent must be borrowed from some one.

"Secondly. The public balances being unusually large, more than

£10,350,000, the ordinary advances from the bank at the close of the quarter are larger than usual.

"Thirdly. Several of the Indian railways have taken some large amounts for dividends.

"Fourthly. There is always a large increase of active circulation at the close of the quarter to pay salaries, &c."

The returns for the next week, July 8th, show the effect of the disbursements on account of dividends during the week.

The following comparative table will be of interest, affording as it does a view of the bank returns, the bank rate of discount, and the price of wheat in London during a period of three years corresponding with the date of our last returns July 8th:

At corresponding dates with the week ending July 8, 1863.	1861.	1862.	1863.
Circulation, including bank post bills...	£20,773,687	£22,504,490	£22,038,478
Public deposits.....	3,255,613	5,429,989	5,593,834
Other deposits.....	13,914,598	17,199,715	18,595,718
Government securities.....	9,616,202	10,952,679	11,046,888
Other securities.....	19,900,591	20,238,233	23,503,448
Reserve of notes and coin.....	6,166,804	9,889,877	8,094,089
Coin and bullion.....	11,674,299	17,055,537	14,824,969
Bank rate of discount.....	6 per cent.	2½ p. cent.	4 per cent
Average price of wheat.....	50s. 10d.	56s. 7d.	46s. 11d

Subjoined is our usual table with the returns brought down to July 8, 1863:

WEEKLY STATEMENT.

Date.	Circulation.	Public Deposits.	Private Deposits.	Securities.	Coin and Bullion.	Rate of Discount.
Dec. 17...	£19,932,360	£8,507,144	£14,033,994	£30,539,363	£15,031,658	3 pr. ct.
" 24...	20,150,398	8,654,499	14,306,497	31,346,731	14,870,795	3 "
" 31...	20,516,435	8,338,717	15,469,254	32,488,020	14,956,421	3 "
Jan. 7...	20,927,993	8,782,808	14,393,308	32,620,233	14,635,555	3 "
" 14...	21,018,849	4,280,730	16,772,732	31,165,075	14,102,169	4 "
" 21...	20,893,931	4,965,798	14,993,225	30,227,086	13,855,849	4 "
" 28...	20,771,236	5,416,863	14,414,763	30,238,865	13,611,823	5 "
Feb. 4...	20,709,154	6,351,617	13,352,237	29,997,233	13,692,136	5 "
" 11...	20,444,454	6,952,808	13,596,356	30,288,406	14,070,651	5 "
" 18...	19,916,496	7,413,275	13,769,276	29,890,503	14,589,222	4 "
" 25...	19,715,828	7,901,658	13,367,153	29,709,079	14,614,096	4 "
Mar. 4...	20,322,055	8,036,003	13,368,086	30,880,805	14,504,517	4 "
" 11...	19,801,665	8,673,399	13,282,605	31,096,327	14,328,178	4 "
" 17...	20,012,331	9,343,499	13,003,088	31,482,170	14,547,812	4 "
" 24...	20,136,276	10,364,471	12,742,282	31,896,338	15,025,274	4 "
Apr. 1...	20,965,228	10,107,041	13,172,090	32,775,752	15,141,755	4 "
" 8...	21,279,339	6,714,109	14,829,832	30,946,784	14,963,835	4 "
" 15...	21,326,320	5,769,278	15,013,391	29,974,677	15,229,237	4 "
" 22...	21,413,226	6,316,413	14,739,897	30,182,533	15,337,151	3 "
" 29...	21,452,800	7,178,312	13,606,939	29,994,349	15,343,492	3½ "
May 6...	21,376,999	7,241,739	13,122,087	29,718,602	15,141,760	3 "
" 13...	21,252,916	6,735,137	13,727,556	30,201,120	14,653,141	3 "
" 20...	21,268,315	7,610,278	13,983,654	31,484,315	14,529,451	4 "
" 27...	20,909,819	8,002,346	13,842,718	31,412,190	14,500,019	4 "
June 3...	21,009,392	8,779,387	13,896,450	32,339,044	14,425,553	4 "
" 10...	21,080,460	9,782,830	13,783,263	33,240,192	14,556,121	4 "
" 17...	20,655,473	9,882,135	13,904,506	32,750,953	14,850,156	4 "
" 24...	20,525,655	10,279,053	13,809,396	32,756,459	15,026,118	4 "
July 1...	21,738,756	10,356,373	16,274,739	36,490,515	15,080,271	4 "
" 8...	22,038,478	5,593,834	18,595,718	34,647,336	14,824,969	4 "

STATEMENT OF THE BANK OF KENTUCKY AND BRANCHES.

The following statement, under date of July 6, 1863, gives the condition of this bank:

RESOURCES.

Bills of exchange maturing and past due	\$1,576,409 13	
Notes discounted " " "	1,323,186 02	
Suspended debt in suit, notes and bills..	460,769 89	
126 bonds city of Louisville, 6 per cent, cost	94,750 00	
Loan to State of Kentucky.....	500,000 00	
U. S. stocks and of other corporations...	464,061 02	
Real estate for debt.....	102,982 20	
Assets of Schuylkill bank.....	112,348 47	
	<hr/>	\$4,634,506 73
Bank balances other than Eastern.....		1,357,744 58
Real estate for banking houses.....		81,250 97
Cash—gold and silver.....	867,187 52	
Notes of other banks and United States legal tender.....	770,989 00	
On deposit in Eastern banks.....	1,319,941 13	
	<hr/>	
Total.....	\$2,958,117 65	
Deduct seized and carried off by the rebels at Columbus, by order of Gen. Polk..	44,938 18	
	<hr/>	2,913,179 47
Total.....		\$8,986,681 75

LIABILITIES.

Capital stock.....		\$3,631,900 00
Contingent fund required by charter....	\$74,000 00	
Fund to cover bad debts.....	72,975 38	
Profit and loss after deducting dividend No. 51, and tax.....	424,331 66	
	<hr/>	571,307 04
Dividends unpaid.....	\$15,033 36	
Dividend No. 51, declared this day, three per cent and tax.....	112,326 80	
	<hr/>	127,360 16
Bank balances, including State Treasury.....	2,203,302 23	
Due depositors.....	1,395,166 32	
Circulation.....	1,057,646 00	
	<hr/>	
Total.....		\$8,986,681 75

A large proportion of bills of exchange and discounted notes belonging to our Southern and other branches is now past due and not renewed, in consequence, mainly, of the interruption of communication, the war, the occupation of territory by the rebels, and the general embarrassments of debtors who weretraders with the South.

BANKING ASSOCIATIONS ORGANIZED OR ORGANIZING UNDER THE UNITED STATES BANKING LAW.

The following is a list of banking associations organizing under the United States banking law :

	Names.	Capital.	President.	Cashier.
First National Bank,	New York . . .	\$200,000	S. C. Thompson,	J. Curphey.
"	Philadelphia ..	150,000	O. W. Davis,	M. McMichael.
"	Chicago	100,000	Edmund Aiken,	.....
"	Syracuse, N. Y.	100,000	E. B. Judson,	G. B. Leonard.
"	Cleveland, O. . .	100,000	G. Worthington,	S. W. Crittenden.
Second	Cleveland, O. . .	600,000	J. Perkins,	H. B. Hurlbut.
First	Dayton, O.	112,500	S. Gebhart,	G. B. Harman.
Second	Dayton, O.	100,000	J. Harshman,	D. C. Rench.
First	Fremont, O.	100,000	S. Birchard,	N. S. Miller.
"	Fort Wayne, Ind	100,000	J. D. Nultman,	W. B. Fisher.
"	Youngstown, O.	156,000	H. Manning,	J. S. Edward.
"	Ann Arbor, Mic.	75,000	T. Chapin,	C. H. Richmond.
"	Erie, Pa.	100,000	J. Spencer,	M. Sanford.
"	Stamford, Ct. . .	200,000	H. M. Humphrey,	C. W. Brown.
"	Springfield, Mss	150,000	J. Kirkham,	J. H. Appleton.
"	New Haven, Ct.	300,000	H. M. Welch,	W. Maulthrop.
"	Davenport, Io'a.	100,000	A. Corbin,	J. M. Gifford.
"	Lafayette, Ind.	250,000	M. L. Pierce,	David McBride.
"	Sandusky, O. . .	100,000	H. Moss,	H. O. Moss.
"	Carlisle, Pa. . . .	50,000	S. Hepburn,	W. W. Hepburn.
"	Richmond, Ind.	110,000	J. E. Reeves,	E. W. Yarrington.
"	Iowa City, Iowa	50,000	W. B. Daniells,	W. H. Hubbard.
"	Portsmouth, NH	100,000	W. H. Y. Hackett,	H. Lord.
Third	Cincinnati, O. . .	300,000	A. L. Mowry,	F. Goodman.
First	Aurora, Ill.	50,000	J. Van Nortwick,	Ira H. Fitch.
"	Tonawanda, Pa.	65,000	G. F. Mason,	N. N. Betts, Jr.

THE INCOME TAX.

IMPORTANT DECISION BY THE COMMISSIONER OF INTERNAL REVENUE.

Commissioner LEWIS, of the Internal Revenue Department, has just settled a number of highly important points with reference to the assessment and collection of the income tax. They are embraced in the following, to which the careful attention of all our readers is directed :

The income tax must be assessed and paid in the district in which the assessed person resides. The place where a person votes or is entitled to vote, is deemed his residence. When not a voter, the place where tax on personal property is paid, is held to be the place of residence. In cases of limited partnerships formed with the condition that no dividend or division of profits shall be made until the expiration of the partnership, each member of such firm will be required to return his share of profits arising from such business, for the year 1862, as had they so desired, a division of the profits could have been made. Gains or profits realized from the sale of property during the year 1862, which property was purchased before the Excise law went into effect, should be returned as income for the year 1862.

The executors or administrators of the estates of persons who died in the year 1862 should make return of the income thereof for the year 1862. A merchant's return of income should cover the business of the year 1862, excluding previous years. Uncollected accounts must be estimated. Physicians and lawyers should include actual receipts for services rendered in

1862, together with an estimate of unrealized or contingent income due to that year. Dividends and interests payable in 1862 should be returned as income for that year, no matter when declared.

Dividends derived from gas stock are taxable as income. Income derived from coal mines must be returned, although a tax has been previously paid on the coal produced. No deduction can be made because of the diminished value, actual or supposed, of the coal vein or bed by the process of mining. Rent derived from coal mines is income. Premium paid for life insurance shall not be allowed as a deduction in statement of income. Pensions received from the United States Government must be returned with other income subject to taxation. Old debts, formerly considered hopelessly lost, but paid within the time covered by the return of the income, should be included in this statement. Debts considered hopelessly lost on December 14, 1862, and due to the business of the year 1862 may be deducted from the profits of business. If subsequently paid, they must be included in the return for the year in which paid.

In order to give full effect to the proviso to the ninety-first section of the act of July 1st, 1862, respecting the tax on that portion of income derived from United States securities, it is directed that, when income is derived partly from these and partly from other sources, the \$600, and other allowances made by law, shall be deducted, as far as possible, from that portion of income derived from other sources, and subject to three per cent tax. No deduction can be allowed from the taxable income of a merchant for compensation paid for the service of a minor son.

A farmer, when making return of the total amount of his farm produce, shall be allowed to deduct therefrom the subsistence of horses, mules, oxen, and cattle used exclusively in the carrying on of said farm. The term "farm produce" is construed to include all productions of a farm of what nature and kind soever.

The account of stock sold by a farmer since December 31st, 1862, should not be included in the present assessment, but the profit realized thereby must be accounted for in his next year's return.

Where he has included in his return produce raised by him and fed in whole or part to stock subsequently sold, he must account for the gain realized by the feeding and selling of said stock. Where he has not included the produce so fed, he must return as profits the differences between the value of said stock on the 31st of December, 1861, and the amount realized for them. Fertilizers purchased by farmers to maintain their land in present productive condition will be considered as "repairs" in estimating incomes.

Interest should be considered as income only when paid, unless it is collectable and remains unpaid by the consent or agreement of the creditor.

Losses incurred in the prosecution of business are a fair offset to gains derived from business, but not from those portions of income derived from fixed investments, such as bonds, mortgages, rents and the like.

Property used in business and furnishing profits, when destroyed by fire, may be restored at the expense of those profits to the condition when destroyed. If insured, the difference between insurance received and amount expended in restoration will be allowed.

The increased value given to new buildings by permanent improvements will be charged to capital not income.

The contingent fund of manufacturing corporations made up during the

year 1862, and not distributed, should not be returned as part of the income of the stockholders.

The undisturbed earnings of a corporation made previous to September 1, 1862, whether the corporation is required to pay dividends or not, should not be considered as the income of the stockholders; nor should the corporation be required to make return of said reserved earnings as trustees, under section ninety-three of the Excise law.

The income of literary, scientific, or other charitable institutions in the hands of trustees or others, is not subject to income tax.

When a person boards and rents a room or rooms, the rent thereof in lieu of house, should be deducted from the amount of income subject to taxation.

Losses sustained in business since December 31, 1862, will not enter into the income assessment for 1862.

Interest on borrowed capital used in business may be deducted from income.

If a planter returns all his farm products, he will be allowed to deduct the actual expense of subsisting and clothing his slaves.

Legates are not required to return their legacies as income. There is a special tax on legacies of personal property in Section 111.

The income tax is assessed upon the actual income of individuals. Firms, as such, will not make returns.

The profits of a manufacturer from business are not exempt from income tax in consequence of his having paid the excise tax imposed by law upon articles manufactured by him.

As Bridge, Express, Telegram, Steam and Ferry Boat Companies of Corporations are not authorized by law to withhold and pay to Government any tax upon interest paid or dividend declared by them, all income of individuals derived from these sources is liable to income tax.

All persons neglecting or refusing to make return of income, except in case of sickness, are brought within the penalties prescribed by 11th section of the act of July 1, 1862, viz.: "An addition of fifty per cent to the amount ascertained by the Assistant Assessor upon such information as he could obtain, and a penalty of \$100 to be recovered for the United States, with costs of suit."

RAILROAD LANDS GRANTED TO MICHIGAN.

The General Land Office has just transmitted to the Governor of Michigan three certified transcripts of approved lists in favor of that State, to aid in the construction of railroads, as authorized by act of Congress, approved June 3, 1856:

1. List embracing $26,428\frac{77}{100}$ acres, being "sections in place," falling within the six-mile limits of the Bay de Noquet and Marquette Railroad.

2. List for $22,244\frac{71}{100}$ acres, as "indemnity," situated between the six and fifteen-mile limits of said roads.

3. List for $3,168\frac{72}{100}$ acres.

Total number of acres, $51,841\frac{59}{100}$.

STATISTICS OF TRADE AND COMMERCE.

COMMERCE OF NEW YORK FOR THE YEAR ENDING JUNE 30, 1863.

WE take from the *Journal of Commerce* the following comparative summaries of the commerce of this port. The total imports for June are about the same as for the corresponding month of last year. The following are the comparative figures :

FOREIGN IMPORTS AT NEW YORK FOR THE MONTH OF JUNE.

	1861.	1862.	1863.
Entered for consumption.....	\$1,825,563	\$7,278,953	\$6,328,581
Entered for warehousing....	3,245,504	3,874,127	5,377,885
Free goods.....	2,131,513	1,122,092	780,963
Specie and bullion.....	5,387,153	61,023	109,997
Total entered at port.....	\$12,649,733	\$12,336,195	\$12,597,426
Withdrawn from warehouse.	1,963,842	5,054,106	3,830,337

It will be seen that the warehousing movement has been reversed as compared with June of last year. Then, nearly \$4,000,000 were warehoused, and over \$5,000,000 withdrawn; while for the last month over \$5,000,000 were warehoused and less than \$4,000,000 were withdrawn. The following will show the comparative imports since January 1:

FOREIGN IMPORTS AT NEW YORK FOR THE SIX MONTHS FROM JANUARY 1.

	1861.	1862.	1863.
Entered for consumption....	\$31,991,257	\$46,645,529	\$51,378,030
Entered for warehousing....	28,672,040	23,682,322	31,428,967
Free goods.....	17,285,911	14,210,027	7,345,216
Specie and bullion.....	25,909,668	512,555	853,768
Total entered at port.....	\$103,858,876	\$85,050,433	\$91,005,981
Withdrawn from warehouse.	19,374,096	24,052,208	20,594,931

The month of June closed the fiscal year, and we now bring forward the relative totals for the last twelve months. The total shows quite a gain upon last year, but it is far short of the old years of prosperity:

FOREIGN IMPORTS AT NEW YORK FOR THE FISCAL YEAR ENDING JUNE 30.

	1861.	1862.	1863.
Entered for consumption....	\$106,706,066	\$68,908,508	\$109,216,485
Entered for warehousing....	54,498,323	36,082,510	53,233,076
Free goods.....	29,121,710	27,278,034	16,426,814
Specie and bullion.....	34,075,161	11,691,300	1,731,490
Total entered at port.....	\$224,401,260	\$143,960,347	\$180,607,865
Withdrawn from warehouse.	36,162,363	44,295,371	38,106,477

We make our usual division of the imports to show in what branches of the trade the greatest changes have occurred:

DESCRIPTION OF IMPORTS FOR THE YEAR ENDING JUNE 30TH.

	1861.	1862.	1863.
Dry goods.....	\$83,310,345	\$38,155,720	\$61,963,037
General merchandise.....	107,015,754	94,113,327	116,913,338
Specie and bullion.....	34,075,161	11,691,300	1,731,490
Total imports.....	\$224,401,260	\$143,960,347	\$180,607,865

IMPORTS OF DRY GOODS AT NEW YORK FOR THE YEAR ENDING WITH JUNE.

	1862.	1863.
Manufactures of wool.....	\$18,052,168	\$26,653,850
“ cotton.....	6,033,980	8,474,908
“ silk.....	8,139,932	13,412,250
“ flax.....	4,328,781	10,012,580
Miscellaneous dry goods.....	1,600,859	3,409,449
Total imports.....	\$38,155,720	\$61,963,037

As the trade in each of the last three years has been affected by our domestic troubles, we have thrown together the corresponding totals since 1850, which will be found very interesting as showing the progress of this branch of commerce for thirteen years:

IMPORTS OF FOREIGN DRY GOODS AT NEW YORK.

	Value imported.		Value imported.
1850-51.....	\$64,613,747	1857-58.....	\$67,317,736
1851-52.....	57,221,062	1858-59.....	93,549,083
1852-53.....	79,192,513	1859-60.....	107,843,205
1853-54.....	92,389,627	1860-61.....	83,310,345
1854-55.....	62,918,443	1861-62.....	38,155,720
1855-56.....	85,898,690	1862-63.....	61,963,037
1856-57.....	92,669,088		

The above shows that if we except last year, we must go back over ten years to find another total as small as for the year just closing. Some will regard this as an evidence of prosperity, on the old high tariff theory that when more goes out of a country than comes back, then the balance of trade is in our favor.

The revenue from customs shows a relative loss, the total gain in receipts being far less than the comparative gain in the dutiable imports. We annex the total for the month, for six months, and for the fiscal year:

REVENUE FROM CUSTOMS AT NEW YORK.

	1861.	1862.	1863.
In June.....	\$885,062 41	\$4,664,927 19	\$3,738,934 06
Previous five months..	9,700,272 54	20,398,460 89	20,104,143 91
Total in six months.	10,585,334 95	\$25,063,388 08	\$23,843,077 97
Total fiscal year....	28,223,137 16	36,193,034 43	51,033,806 61

The exports of produce and merchandise from New York in June, show a gain of about 50 per cent in the nominal value over the corresponding total for last year:

EXPORTS FROM NEW YORK TO FOREIGN PORTS DURING THE MONTH OF JUNE.

	1861.	1862.	1863.
Domestic produce.....	\$10,270,430	\$10,048,832	\$14,780,072
Foreign merchandise (free) ..	648,482	43,368	49,380
Foreign merchandise (dut'ble)	903,877	372,561	298,067
Specie and bullion.....	244,242	9,867,614	1,367,774
Total exports.....	\$12,067,031	\$20,332,375	\$16,495,293
Total exclusive of specie..	11,822,789	10,464,761	15,127,519

The shipments of specie are far less than for June of last year, that total being the largest of any similar month in our history. The following will show the relative exports from New York during the last six months :

EXPORTS FROM NEW YORK TO FOREIGN PORTS FOR SIX MONTHS FROM JANUARY 1ST.

	1861.	1862.	1863.
Domestic produce.....	\$61,477,439	\$59,005,373	\$87,793,188
Foreign goods (free).....	1,685,329	318,336	556,351
Foreign goods (dutable)....	3,438,463	2,550,203	3,312,095
Specie and bullion.....	3,249,438	27,976,351	20,631,967
Total exports.....	\$69,850,669	\$89,850,263	\$112,293,601
Total exclusive of specie..	66,601,231	61,873,912	91,661,634

We also bring forward our totals from the previous July—as the month of June completes the United States fiscal year. The total for the year is the largest ever on record. The previous year was the highest point then reached, and this exceeds that by upwards of \$50,000,000, without reckoning the gain in specie.

EXPORTS FROM NEW YORK TO FOREIGN PORTS FOR THE FISCAL YEAR ENDING JUNE 30TH.

	1861.	1862.	1863.
Domestic produce.....	\$118,189,873	\$128,763,929	\$177,967,406
Foreign goods (free).....	2,224,564	787,954	3,091,863
Foreign goods (dutable) ...	6,111,228	4,315,699	5,663,275
Specie and bullion.....	23,860,857	28,966,163	52,092,637
Total exports.....	\$150,386,522	\$162,830,745	\$238,815,181
Total exclusive of specie..	126,525,665	133,867,582	186,722,544

These statements have been waited for with much interest, as many are much interested in making up the balance of trade with a view of anticipating the course of exchange. We furnish the figures and leave the deductions to others. The imports are valued by an arbitrary standard, which, in most cases, is a little below the specie basis. The reports of produce and merchandise have been reckoned by their paper or purchasable value. The total of each is taken from the sworn entries at the custom-house, and in this sense the figures are official, and must therefore agree exactly with the government returns.

It has occurred to us as a matter of no little interest to make an examination into the relative business by American and foreign vessels, to see how

far the trade under the Federal flag has been affected by our domestic troubles, and the consequent "perils of the sea." We find that the change has been very important, as shown in the following comparison between the entire business of the year 1859 and the year 1862, at this port:

FOREIGN COMMERCE OF 1859 AND 1862 AT THE PORT OF NEW YORK.		
	In American vessels.	In foreign vessels.
Imports from foreign ports.....	\$139,505,156	\$104,549,748
Exports to foreign ports.....	75,471,927	63,274,900
Total trade of 1859.....	\$213,977,083	\$167,824,648
Imports from foreign ports.....	\$66,856,292	\$106,630,141
Exports to foreign ports.....	83,321,296	133,094,774
Total trade of 1862.....	\$150,177,588	\$239,724,915

The totals here given are made up in a different method from the regular monthly summaries, and give the trade by arrivals and departures instead of the trade by entries at the custom-house. This will explain the discrepancies in the returns; but this record is also official, and more convenient for reference. It shows a very great change in the business of the port. In 1859, the commerce by American vessels exceeded that by foreign vessels to the amount of \$44,000,000. In 1862, this was reversed; and the commerce by foreign flags exceeded that by our own flag to the amount of \$89,000,000. A considerable part of this change must be owing to the greater employment of American ships as government transports; part of it is also due to the fact that much of the importing business is done by the steamers, now all under the foreign flag; and still another reason for the change may be found in a covering transfer of vessels to a foreign flag for convenience and safety. But after making every allowance for these influences, it must be evident that the fear of depredations on our commerce, by the Confederates and privateers, has driven a large portion of our foreign trade to neutral vessels. We believe that the change here set forth has been greater than was generally expected, and we shall be surprised if it does not attract the serious attention of our Chamber of Commerce. It may be that the head of our Navy Department realizes these facts, and is making vigorous efforts to protect the commerce under our flag; but there has been at times an appearance of indifference at Washington, which, to those who are vitally interested in these changes, seemed quite inexplicable. At any rate, the shipowners cannot be too earnest in calling attention to this important statement.

PETROLEUM FROM JANUARY 1ST TO JUNE 30TH.

The wonderful growth of the petroleum trade may be best understood by an examination of the following table, showing the amount exported the first half of the years 1861, 1862, and 1863. This table is prepared by the editor of the *Philadelphia Coal Oil Circular*, a very reliable publication.

The daily production of oil in the Pennsylvania districts is from five to six thousand barrels. The subsidence or cessation of old wells is almost invariably contemporaneous with the striking of new ones, of greater or lesser capacity, so that the average daily flow remains unchanged. Drilling is prosecuted without intermission in almost every direction, and

new sources of oil are likely to be discovered almost any hour. Many of the large wells have, however, fallen off largely in their yield, frequently affected by proximate wells, whose flow seems to appreciate in proportion.

The stock of oil on the creek is not accumulating to any great extent, unless it be at the mouth. This latter is not, however, on the market, but is awaiting a rise in the Alleghany River for shipment to Pittsburg. It is, moreover, to a great extent already contracted for to Pittsburg refiners. The tankage capacity on the creek is vast, but, as yet, many of the tanks remain empty. At the "new well" oil is taken away as fast it as flows from the ground, teamers frequently being compelled to wait awhile, until the first receiving tank shall have accumulated a sufficient quantity from which to fill their empty barrels.

The demand for oil at the wells is active, and prices are decidedly firm. On the creek oil brings readily \$3 50 @ \$3 75, some holders asking \$4. Empty barrels are quickly taken at \$3. The stock of "empties" is, however, much larger than has been generally reported, both at Titusville and at the wells. Teaming is firm at \$1 the barrel. Oil delivered on the cars at Titusville, in barrels, finds a ready market at \$8. Buyers at these quotations are at present more numerous than sellers.

PRICES CURRENT OF ACTUAL SALES OF CRUDE AND REFINED PETROLEUM IN NEW YORK EACH MONTH DURING THE FIRST HALF YEAR OF 1863.

	Crude.	Refined.	Refined, bond.
January 31st.....	22½ @ 25	39 @ 47½	36 @ 40
February 28th.....	22 @ 22½	40 @ 45	35 @ 40
March 28th.....	21 @ 21½	37 @ 40	30 @ 35
April 25th.....	22½ @ 24	42 @ 46	32½ @ 37½
May 30th.....	25 @ 27½	48 @ 52	40 @ 43
June 27th.....	30 @ 31	60 @ 65	50 @ 51

The following is the table referred to above:

EXPORTS OF PETROLEUM FROM THE UNITED STATES DURING THE FIRST HALF YEAR OF 1863, 1862, AND 1861.

	1863.	1862.	1861.
Acapulco.....galls.	700	....	....
Africa.....	3,870	345	85
Alicante.....	18,000	....	....
Antwerp.....	1,482,593	127,234	101
Argentine Republic.....	13,850	2,540	1,600
Arroyo, P. R.....	500	....	....
Australia.....	416,904	210,940	41,953
Bahia.....	6,000	....	....
Barbadoes.....	33,335	1,090	....
Belgium.....	125,174	....	....
Bombay.....	7,000	300	....
Bordeaux.....	....	200	594
Brazil.....	89,143	15,942	250
Bremen.....	899,633	21,770	2,125
British Guiana.....	14,692	5,941	400
British Provinces.....	80,925	1,000	....
Buenos Ayres.....	32,000	1,000	....
Calcutta.....	5,000	1,000	....
Callao.....	21,000	....	....

	1863.	1862.	1861.
Canary Islands.....	....	160	....
Cape Good Hope.....	8,500	2,000	....
Cape Town.....	1,000	....	....
Cape Verde.....	10	....	....
Cardenas.....	30,210	....	....
Central America.....	....	2,059	....
Cette.....	....	2,700	....
Chili.....	41,440	16,800	....
China.....	15,314	1,000	200
Cisplatine Republic.....	99,145	3,389	100
Cienfuegos.....	410	....	....
Constantinople.....	3,500	....	....
Cork.....	749,948	170,411	....
Cuba.....	297,401	205,328	30,065
Dieppe.....	46,000	....	....
Dominica.....	200	....	....
East Indies.....	200	250	....
Falmouth.....	389,108	....	....
Fayal.....	3,990	....	....
Flores.....	467	....	....
France.....	650,643	....	....
Genoa.....	140,753	....	....
Gibraltar.....	178,312	117	....
Glasgow.....	188,807	18,206	11,915
Grangemouth.....	287,272	....	....
Hamburg.....	963,177	118,997	2,740
Havana.....	44,562	....	....
Havre.....	930,093	391,618	4,010
Hayti.....	16,997	3,097	100
Honduras.....	940	....	....
Ireland.....	110,400	....	....
Jamaica.....	1,000	....	....
Kingston.....	4,492	....	....
Kurachee.....	2,000	....	....
Laguayra.....	8,480	....	....
Leghorn.....	31,449	....	....
Lisbon.....	3,600	....	....
Liverpool.....	3,912,818	1,656,893	11,680
London.....	2,129,699	1,102,877	16,376
Malaga.....	120	....	120
Marseilles.....	672,470	51,735	125
Martinique.....	195	60	....
Matanzas.....	5,331	....	....
Mauritius.....	1,000	....	....
Mayaguez.....	2,050	....	....
Mexico.....	36,199	3,456	200
Montevideo.....	48,849	....	....
New Grenada.....	84,773	14,232	....
New Zealand.....	7,180	....	....
Oporto.....	2,139	....	....
Otago.....	3,500	7,850	....

	1863.	1862.	1861.
Palermo.....	49,475	3,990	....
Pernambuco.....	1,620	....	....
Ponce, P. R.....	1,540	....	....
Porto Rico.....	41,336	18,184	1,200
Port Elizabeth.....	250	....	....
Port Spain.....	4,924	....	....
Queenstown.....	91,391	126,450	....
Rio Janeiro.....	70,997	4,100	....
Rotterdam.....	482,159	18,091	....
Rouen.....	65,003	....	....
San Andreas.....	50	....	....
San Blas.....	10	....	....
Sandwich Islands.....	....	2,400	....
Scotland.....	570,913	....	....
Shanghai.....	250	....	....
Smyrna.....	5,710	....	....
South America.....	....	300	....
St. Jago.....	1,120	....	....
St. Jago de Cuba.....	2,380	....	....
St. Johns, P. R.....	9,435	....	....
St. Lucie.....	150	....	....
St. Thomas.....	3,819	....	....
Stockholm.....	....	41,460	....
Surinam.....	505	....	....
Trinidad.....	1,480	....	....
Turk's Island.....	42	180	....
Venezuela.....	12,223	204	....
West Indies (British).....	65,907	16,743	88
“ “ (Danish).....	31,929	3,135	....
“ “ (Dutch).....	4,751	1,850	....
“ “ (French).....	6,757	950	....
“ “ (Spanish).....	....	9,103	....
Total gallons.....	17,056,049	4,335,389	130,683

WOOL IN MICHIGAN.

The Detroit *Free Press* gives the following well prepared summary of all the wool purchased, carded, or manufactured in Michigan for 1862 and 1860:

ON THE LINE OF THE MICHIGAN CENTRAL RAILROAD.

Counties.	1862.	1860.	Increase.
Cass..... pounds	44,556	40,988	3,568
Calhoun.....	637,864	337,921	299,883
Kalamazoo.....	300,209	231,241	68,968
Jackson.....	733,737	366,494	267,243
Washtenaw.....	965,585	697,544	268,941
Van Buren.....	35,256	16,363	16,892
Berrien.....	49,263	38,462	10,841
Total.....	2,776,409	1,831,031	935,396

ON THE LINE OF THE MICHIGAN SOUTHERN RAILROAD.

Counties.	1862.	1860.	Increase.
St. Joseph.....pounds	210,778	160,822	49,956
Branch.....	200,962	158,127	42,835
Hillsdale.....	289,047	266,718	22,335
Lenawee.....	670,327	664,189	6,138
Monroe.....	88,487	58,058	20,426
Total.....	1,459,601	1,307,914	141,690

ON THE LINE OF THE DETROIT AND MILWAUKEE RAILROAD.

Kent.....	168,483	Genesee.....	331,381
Ionia.....	198,828	Oakland.....	463,616
Clinton.....	20,245		
Shiawassee.....	202,644	Total.....	1,404,197
Brought by wagon to Detroit.....pounds			373,245
Brought by vessels to Detroit.....			17,049
Carded and manufactured in the several counties..			180,779
Macomb County and St. Clair.....			359,623
Total.....			929,714

SUMMARY OF THE WHOLE RETURNS.

Wool in pounds on line of Central Railroad.....	2,766,409
“ “ Michigan Southern Railroad.....	1,459,601
“ “ Detroit and Milwaukee Railroad.....	1,404,197
“ “ all other sources.....	929,714
Grand total.....	6,559,921

THE COAL TRADE.

The coal trade to July 11th sums up as follows, compared with last year :

	1862.	1863.
Philadelphia and Reading Railroad.....	998,769	1,554,645
Schuylkill Canal.....	377,938	333,385
Lehigh Valley Railroad.....	381,927	687,907
Lehigh Canal.....	216,256	243,966
Scranton, South.....	361,891	436,175
Scranton, North.....	147,404	152,397
Pennsylvania Coal Company.....	114,324	183,303
Delaware and Hudson Company.....	111,187	261,697
Wyoming, South.....	126,967	172,480
Wyoming, North.....	14,101	21,400
Broad Top.....	144,535	152,786
Shamokin.....	79,938	110,659
Treverton.....	30,070	30,130
Sh. Mt., H. T.....	40,824	24,144
Lykens Valley Coal Company.....	24,988	16,524
Total.....	3,171,119	4,381,598
		3,171,119
Total increase in 1863 up to July 11.....		1,210,479

From the above we see that there has been an increase of 1,210,479 tons of coal this year as compared with the same period in 1862.

This immense surplus cannot, under any circumstances, be absorbed by the government in furnishing supplies for the navy, or in meeting increased exigencies of manufacture. It is doubtful whether a much larger amount is required for the former purpose than was taken last year, when our steam naval armament was upon nearly as extensive a footing as at present; and we all know the consumption for manufacturing purposes, owing to the suspension of our cotton mills, has largely fallen off this season. In fact, this increased production is not so much owing to an increased demand as to the greatly enlarged facilities for mining, of a mechanical description, which have lately been carried into effect; and hence the pretended danger of a scarcity of this commodity is merely one of the customary expedients got up by trade combinations to keep up prices, when in the natural course of events they would be certain to fall.

The truth undoubtedly is, there was much danger of an over-production in this branch of industry, and the supply was considerably ahead of the demand when General Lee marched his army across the Northern border—without, however, in any manner threatening the mining interest, as he had plenty of “other fish to fry.” Hence with a stock on hand which would otherwise, at this season, have speedily brought down the market—which retailers throughout the country were daily expecting, and for which they were persistently holding off instead of laying in their supplies—this raid furnished the mining combination a most opportune pretext for suspending operations for awhile, and playing a bold game of bluff by pretending to shut down upon the trade. By this artifice they expected to accomplish the triple purpose of preventing too great an accumulation of stock, of keeping prices up when they ought to go down, and of inducing the trade to bite sharply and buy freely when the embargo was removed.

How far they have attained these ends the public well know. The stocks of retailers, who have been disappointed in securing their customary supplies at reasonable rates, are generally very low, and consumers are obliged to pay the highest rates of last winter. The official bulletin of the combination which announces the re-opening of the market in Philadelphia, also promulgates their gracious permission for dealers to purchase cargoes at former prices, with the *addition* of the advanced freight charge from the Schuylkill mines over the Reading Railroad. But why this advance in freight? To be sure it has been made sometimes in former years on the plea of protecting dealers who bought their supplies early in the season, at higher prices than are current in midsummer. But, this year, those who laid in their stocks early are the fortunate ones, and need no protection. We think, however, there must be a better time coming. With such an increase in supply there certainly can be no danger of scarcity, and prices must take a tumble as soon as that fact becomes apparent.

JOURNAL OF MINING, MANUFACTURES, AND ART.

MANUFACTURERS OPPOSITION TO THE INCOME TAX.

WHY is it that all the world goes to Chicago to hold conventions? The manufacturers feeling themselves aggrieved by the income tax have lately been there, held a convention, passed resolutions, and gone home. Western members of the craft were not very largely represented, as they are probably but slightly affected by the provisions of the internal revenue law.

As to the resolutions passed they are certainly plain spoken, and to the point. The Secretary of the Treasury is by them politely requested to suspend the operation of the objectionable provision till the assembling of the next Congress. Such a request as this, must be based, we suppose, upon the assumption that the imposition of the tax is purely a mistake, made through the inadvertence of the last Congress, which its successor will hasten to rectify—that the framers of the law could not, in their superabundant wisdom and well-known regard for this branch of our national industry, have intended to tax the *profits* of manufacturers, after having heavily taxed the manufactures themselves; but, through carelessness, left the statute open to such a construction.

The following is the decided answer that the Department returns to the resolutions:

*Treasury Department, Office of Internal Revenue, }
Washington, June 15, 1863. }*

SIR: Yours of the 11th instant, addressed to the Honorable Secretary of the Treasury, with accompanying note from Hon. Mr. CHANDLER, your own letter to the Manufacturers' Convention, and the resolutions of said Convention, have been received and forwarded to this office. In reply, allow me to express my profound gratification at the lucid manner in which you demonstrate the justice of the law.

Rest assured that the law is not considered by this office in the light either of a mistake or an accident, and that its provisions will be neither explained away, nor its operations suspended.

Very respectfully,

EDWARD MCPHERSON.

E. B. WARD, Esq., *Detroit.*

We think another convention will now be in order, and would suggest that all taxpayers be let in, for we apprehend that manufacturers have less reason to complain than falls to the lot of many classes of business men under this tax-reduplicating dispensation. Indeed, the farther removed from the point of consumption any class may be, the lighter its burdens, as a general thing, under the practical workings of the system; so that those who stand at the source of supply, whence the stream of taxation swells and gathers strength in its downward course, are really least affected by it. Like importers under the tariff system, whose individual contributions to the pub-

lic revenue seem to be enormous only at first sight, the manufacturers are really the most disinterested persons in the community so far as the tax upon their products is concerned. There is not even a division of this tax between the producer and consumer; but the whole of it, both specific and ad valorem, is invariably added to the prime cost of the manufactured article, and ultimately falls either wholly upon the consumer, or is partially shared by the retailer—who of all others should be exempt from any portion of it, since he stands in the gap between the government and his customers and guaranties to them that the former has no lien upon his goods, and that all excise duties accruing upon them have been honestly paid.

The income tax complained of is really the only government charge in any shape which touches the pockets of manufacturers; and the public treasury will undoubtedly derive a considerable revenue from this source, as their profits have been enormous during the year past. With a tariff which shuts out foreign competition, and gives them a virtual monopoly of the home market—such as this great interest has always sought for and at last obtained—it seems to us, so long as the government must needs rely in a great measure upon the productive industry of the country for support, that a class so peculiarly favored, in the abundance of their prosperity, will not generally object to rendering this simple *quid pro quo* in the present emergency of our national affairs. If they seek to evade it, it is to be feared their example may have a bad influence upon other classes, less interested, perhaps, in sustaining the government.

LEATHER CLOTH.

On the subject of leather cloth the London *Times* has the following:—
“The recent continuous increase in the price of leather has naturally directed the attention of practical chemists to the best methods of perfecting the imitations which, under the name of leather cloth, are now so largely used as substitutes for leather itself. The improvement in this branch of manufacture has been so steadily progressive that the original standard taken for imitation—the American leather cloth—has been long since surpassed, and it is, perhaps, not too much to say that the art of making artificial leather has now attained a perfection which promises to make the imitation a better, and, though cheaper, a more valuable article than that which it imitates. Among the many new processes and inventions shown in the late Exhibition, there was no lack of English representative of this rising branch of manufacture, striving to displace the American fabric. Nearly all these, however, were too much like the Transatlantic article to be successful. With its merits they reproduced its grave defects—the liability of the varnish to crack, the colors to fade, and the material itself to wear out fast as compared with real leather. One series of specimens, however, in this class attracted a good deal of attention, though they failed to attract a medal. These specimens were shown by Mr. SZERELMY, a gentleman well known for his most curious chemical discoveries in hardening wood, stone, and paper; and, to the present time, the most successful of all the many competitors for preserving the House of Parliament from further decay by indurating the surface of the stone with a fluid silica, which, it is asserted, renders the stone beneath perfectly indestructible. The leather cloth of

Mr. SZERELMY has grown in reputation, till it now promises to become a most important manufacturing discovery, since, while the cloth thus prepared possesses all the best attributes of leather in great strength and durability, it has other and special advantages of its own, which even the advocates of the famous virtues of leather have never claimed for it—namely, complete impermeability to water, a flexibility and softness equal to a woollen fabric, and a cheapness which makes its cost one-third that of real leather. Thus, a good calf-skin costs from 10s. to 14s., and yields leather for three or three and-a-half pairs of boots; whereas six square feet of the calf-skin leather cloth yields materials for five or six pairs of boots, and costs only about 4s. 6d. Such an important difference and saving as this ought to satisfy any inventor; but even more than this is claimed for the 'panonia,' in its capability of being produced in any quantity at a few days' notice, and in sizes only limited to the size to which the fabrics can be woven, on which the composition is laid. The nucleus of a factory has been established at Clapham, where the leather is now made, and where a company is about to construct large works, and carry on the manufacture on the most extensive scale. The fabric used in the manufacture is entirely according to the kind of imitation leather wished to be turned out. Thus 'moll'—a very thick, soft kind of cotton fabric, made at Manchester—is preferred for calf-skin; fine calico or linen for waterproof material for macintoshes, siphonias, etc., as perfectly waterproof as india-rubber itself; and alpaca, silk, cloth, or common cotton for boots and shoes, bookbindings, harness, carriage-furniture, and all the thousand purposes to which real leather is applied. What the composition of the pigment is which in a few hours changes common cotton into a substance like enamelled leather, and only to be distinguished from the real article by its non-liability to crack, and its greatly additional strength, is of course a strict trade secret. The mode of manufacture, however, is simple. The fabric to be converted into leather, silk, alpaca, or whatever it may be, of any length or width, is merely wound on rollers beneath a broad knife-blade, which by its weight presses in and equally distributes the pigment previously placed upon it. A hundred yards may thus be done in a single minute, and in this most simple application the whole manufacture begins and ends, except that three coats of the pigment are necessary to perfect the leather, and an interval of twenty-four hours must elapse between the application of each. During this period the sheets are carried to a drying-house heated to a temperature of 94°, and where they are hung like oil-cloth, according to the order in which they arrive, the last comers displacing those which have completed their time, and are ready for their second coat. Thus the manufacture never stops, and three days suffice to complete 'hides' of any length or breadth to which fabrics can be woven. For imitations of morocco or other marked leathers the long sheets are simply passed, when finished, through iron rollers, which indent them in any pattern required. For enamelled leather the enamel is applied after the third coat by hand-labor, which, though slower, of course, than that of machinery, is nevertheless rapid enough to cover the sheet in a very short time. The enamel, when dry, is infinitely superior to any description of patent leather. It is, perhaps, scarcely necessary to state that the pigment which transforms the cotton into leather is capable of being tinted to any shade that may be wanted of red, green, brown, black, blue, yellow, etc., and that whatever are the ingredients of the composition no admixture of india-rubber or gutta percha forms part of it, inasmuch as the leather cloth, when

complete, even when folded and exposed to considerable heat, is entirely free from the tendency to stickiness, which has been the great objection to all waterproof material."

HOW TO PROTECT THE BOTTOMS OF IRON SHIPS OF WAR.

Since the application of iron to shipbuilding numerous preparations have been invented to protect the bottoms of iron vessels against shell-fish, seaweed, etc., but without effect. All that science has discovered in the way of liquid coating was applied to the bottoms of the Great Eastern, Warrior, Black Prince, and Defense; yet at the end of six months they were all very foul, one of them so much so that her speed, compared with that obtained on her first experimental cruise, was diminished a couple of knots. We have been as unsuccessful on this side of the Atlantic Ocean. A few months since, says the *Commercial Bulletin*, one of our new steamers, after a brief cruise, was docked at Charlestown, and below the water-line her bottom was literally covered with large oysters and other shellfish. That some persevering genius may yet discover a proper preparation to protect the bottoms of iron ships, is not impossible; but in the mean time it would be well to consider what can be accomplished with the means at our disposal. Experience has clearly demonstrated that iron ships are not adapted for foreign stations, because they require to be docked and cleaned twice a year; and docks are scarce both in the East Indies and South America, with which we have extensive commercial intercourse, and where vessels of war are always required. For foreign stations, therefore, we must have wooden vessels or iron vessels with their bottoms covered with wood and coppered in the usual style.

An intelligent shipowner who has paid considerable attention to naval affairs, states that iron vessels of war might be covered below the water-line with three inches thickness of oak, having a thick layer of felt between it and the iron, the whole fastened and set up with screw-bolts on the inside. This planking, sheathed with copper in the usual style, would be a sure protection against barnacles, etc. It would also make the vessel more compact and stronger, without affecting her buoyancy. The cost would be considerable, but as cost in our navy has always been a matter of secondary importance, when a desirable object was sought to be obtained, we do not suppose that it would interfere in this case.

The Cunard steamers, though planked with English and African oak six and-a-half inches thick, are also sheathed with American elm, three and-a-half inches thick, and are coppered over all. Such planking is stouter than that on any of our ships of war, and shows that the addition of sheathing does not impair the efficiency of the ships. The expense has not interfered in the case of the Cunard steamers, nor ought it to be taken into consideration in our own vessels of war. To avoid misapprehension, it is proper to state that the iron vessels of the Cunard line are not sheathed with wood; but as they trade between ports where dry docks are plentiful, it is not necessary, for they can have their bottoms cleaned every voyage if required.

COMMERCIAL REGULATIONS.

DECISIONS OF TREASURY DEPARTMENT UNDER THE TARIFF ACT OF JULY 14, 1862.

THE following decisions have been made by the Secretary of the Treasury, of questions arising upon appeals by importers from the decisions of collectors, relating to the proper classification, under the tariff act of July 14, 1862, of certain articles of foreign manufacture and production entered at the ports of New York, etc.:

ADDITIONAL INSTRUCTIONS.

Treasury Department, May 21, 1863.

Collectors and others are informed that this Department concurs in the decisions of the courts, that charges for transportation of goods from the interior of the country by railroad or water carriage, incurred prior to the time of exportation, cannot be added to the value of the goods for the purpose of establishing their dutiable value.

All costs and charges incidental to the shipment, such as port charges, drayage, commissions, export duty, etc., etc., (except marine insurance,) should be added to the value of any goods, wares, or merchandise in the principal markets, to fix their dutiable value.

The usual and legal rate of commissions on merchandise from Great Britain has been decided in the United States Circuit Court at New York (BREDT et al vs. SCHELL, collector) to be $1\frac{1}{2}$ per centum, and that of commissions on merchandise from Continental Europe, except Paris, (see same case,) to be 2 per centum. In this decision the Department also concurs.

MANUFACTURES OF COTTON.

Treasury Department, June 1, 1863.

SIR: MESSRS. SHARP, HAINES & Co. have appealed from your decision assessing certain rates of duty on their importation of "ginghams and printed cottons," per ship "Oswingo," from Liverpool, which were entered at your port on the 16th February, 1863.

I am of opinion that, under the first sub-division of section 10 of the tariff act of July 14, 1862, the following rates are proper, and should be charged, viz.:

"On manufactures of cotton, etc.," not exceeding 100 threads to the square inch, etc.: Unbleached, $1\frac{1}{4}$ cents per square yard; bleached, $1\frac{3}{4}$ cents per square yard; printed, etc., $2\frac{1}{2}$ cents, and 10 per cent ad valorem.

Not exceeding 140 threads to the square inch, etc.: Unbleached, $2\frac{1}{2}$ cents per square yard; bleached, 3 cents per square yard; printed, etc., $3\frac{1}{2}$ cents, and 10 per cent ad valorem.

Exceeding 140 threads to the square inch, etc.: Unbleached, $3\frac{3}{4}$ cents per square yard; bleached, $4\frac{1}{4}$ cents per square yard; printed, etc., $4\frac{1}{2}$ cents, and 10 per cent ad valorem.

Exceeding 200 threads to the square inch, etc.: Unbleached, 5 cents

per square yard; bleached, $5\frac{1}{2}$ cents per square yard; printed, etc., $5\frac{1}{2}$ cents, and 10 per cent ad valorem.

It appears you have conformed to these schedules and rates in assessing the duty upon the importation of Messrs. SHARP, HAINES & Co., and your decision is hereby affirmed.

S. P. CHASE, *Secretary of the Treasury.*

WM. B. THOMAS, Esq., *Collector, Philadelphia, Penn.*

IRON CABLES OR CABLE CHAINS.

Treasury Department, June 1, 1863.

SIR: I have had under consideration the appeal of Messrs. WILLIAM AYMAR & Co. from your decision assessing duty, at the rate of 2 cents per pound, on certain "chains" made of wire of a diameter of one-half inch and over, under section 3 of the tariff act of July 14, 1862.

The appellants allege: "These chains are not in the form of cables, and are not imported for this use, being made of iron of much higher cost than ever used for cables, and being cut up and sold by us for cranes, pits, inclined planes, and various purposes (other than for cables) where great strength is required.

"We contend that the rate of duties on this class of chains is fixed by the act of March 2, 1861, section 7th, fourth clause of which fixes the duty, viz.: on chains, trace chains, halter chains, and fence chains made of wire or rods, one-half of one inch diameter and over, $1\frac{1}{2}$ cents per pound. Act of July 14, 1862, directs that one-fourth of one cent additional per pound be levied on chains under the aforesaid classification, making the present duty $1\frac{3}{4}$ cents per pound on chains one-half inch and upwards, etc."

The tariff act of March 2, 1861, imposes a duty on iron cables or chains, or parts thereof, $1\frac{1}{4}$ cents per pound. The act of July 14, 1862, levies additional duty of three-fourths of a cent per pound, making together 2 cents per pound; and at this rate, and under this classification, you assessed the duty on the chains in question.

The experts have decided that the goods under consideration are "iron cables or cable chains," and fit and suitable for cable purposes by description, size, and standard of quality; and if not to be used for cable purposes as applied to ships and vessels, as alleged by the importer, it can make no difference in the assessment of duty that in this particular importation they are to be devoted to other objects.

Your decision is hereby affirmed.

S. P. CHASE, *Secretary of the Treasury.*

HIRAM BARNEY, Esq., *Collector, &c., New York.*

PINE HEADINGS.

Treasury Department, June 2, 1863.

SIR: N. J. MILLER has appealed from your decision assessing duty, at the rate of 35 per cent, under section 13 of the tariff act of July 14, 1862, on certain "pine headings" imported by him, and claims "the free entry of the same as a product of lumber of the Province of New Brunswick, unmanufactured in whole, except by saws, and a hole formed by a bit for the purpose of inserting a dowel to hold the small pieces together of which the head is composed; no instrument or machinery having been used in making the heading, except a saw and bit."

By Treasury Regulation, article 921, under the reciprocity treaty between the United States and Great Britain, concluded June 5, 1854, "Articles of wood entered under these (timber and lumber) or any other designations, remain liable to duty under the existing tariff if manufactured in whole or in part by planing, shaving, turning, splitting, or riving, or any process of manufacture other than rough hewing or sawing."

The admission on the part of the appellant that holes are bored and dowels inserted, very clearly establishes that the "pine headings" in question are governed by the above-quoted regulation, and consequently subject to duty at the rate of 35 per cent under section 13 of the tariff act of July 14, 1862, which imposes that duty on "manufactures of wood, or of which wood is the chief component part not otherwise provided for."

Your decision is hereby affirmed.

I am, very respectfully,

S. P. CHASE, *Secretary of the Treasury.*

JEDH. JEWETT, Esq., *Collector, Portland, Maine.*

CIGARS.

Treasury Department, June 4, 1863.

SIR: Mr. GEORGE S. HUNT has appealed from your decision assessing duty, at the rate of \$1 per pound, and 10 per cent ad valorem, under section 1 of the tariff act of July 14, 1862, on certain cigars imported by him in the bark "St. Jago," from Havana, and claims that the cigars in question cost in part \$19 and in part \$20 per thousand, and are entitled to entry as cigars valued at over \$10 and not over \$20, and are subject to a duty of eighty cents per pound, and ten per centum ad valorem.

It appears by the invoices that the dutiable charges are not included in the prices named. These charges, however, together with the export duty, and the usual charge for commission, must be added to the total amount of the invoice, in order to ascertain the true valuation.

According to this rule, the cigars in both instances are properly valued at over \$20 per thousand.

Your decision is hereby affirmed.

I am, very respectfully,

S. P. CHASE, *Secretary of the Treasury.*

JEDH. JEWETT, Esq., *Collector, Portland, Maine.*

BARK OF THE CORK TREE.

Treasury Department, June 1, 1863.

SIR: JOHN S. BLAKE has appealed from your decision assessing duty, at the rate of 30 per cent, on certain "bark of the cork tree," unmanufactured, imported by him, per Italian bark "Anonimo," from Palermo, and claims "it to be free."

Under section 8 of the tariff act of July 14, 1862, "Corkwood unmanufactured" is liable to duty at the rate of 30 per cent ad valorem.

Corkwood is the usual and well-known name for cork tree bark, and in commercial parlance is so understood. It has been so described in invoices and entries at the custom-houses for many years, including the case in question.

Your decision is hereby affirmed.

S. P. CHASE, *Secretary of the Treasury.*

J. Z. GOODRICH, Esq., *Collector, &c., Boston, Mass.*

LEAD PENCILS.

Treasury Department, June 4, 1863.

SIR: MESSRS. BEROLZHEIMER, ILLFELDER & Co. have appealed from your decision assessing duty, at the rate of \$1 per gross, under section 8 of the tariff act of July 14, 1862, on certain "lead pencils" imported by them, and claim to enter them at 30 per cent, "according to the 22d section of the tariff act of March 2, 1861, and section 23 of the tariff act of July 14, 1862."

The article of "lead pencils" is specially provided for under section 8 of the act of July 14, 1862, and subjected to duty at the rate of \$1 per gross.

Your decision is therefore affirmed.

I am, very respectfully,

S. P. CHASE, *Secretary of the Treasury.*

HIRAM BARNEY, Esq., *Collector, &c., New York.*

ROCK SALT.

Treasury Department, June 12, 1863.

SIR: MESSRS. S. THOMPSON'S Nephews have appealed from your decision assessing duty at the rate of 18 cents per 100 pounds on certain "rock salt" imported by them from Liverpool.

The appellants claim that the "salt in question is a mineral in its crude state, and should be admitted to entry, under section 20 of the act of March 2, 1861, at 20 per cent ad valorem."

The article in question is salt, and the existing law makes no discrimination as to kind, whether course or fine, rock or lump. It is true, as alleged by the appellants, that the 20th section of the act of March 2, 1861, fixes a duty of 20 per cent ad valorem on mineral substances in a crude state, *not otherwise provided for.*

The tariff act of August, 1861, section 1, provides a duty of 12 cents per 100 pounds on "salt in bulk;" to which the act of July, 1862, section 7, adds, "on salt in bulk," 6 cents per 100 pounds.

Your decision is hereby affirmed.

I am, very respectfully,

S. P. CHASE, *Secretary of the Treasury.*

HIRAM BARNEY, Esq., *Collector, &c., New York.*

CERTAIN COTTON ENTERED MARCH 3, 1863, AND DUTY PAID ON THE SAME DAY.

Treasury Department, June 22, 1863.

SIR: MESSRS. F. SKINNER & Co. have appealed from your decision assessing an additional duty of 10 per cent on certain East India Cotton "as the product of a country beyond the Cape of Good Hope imported from a place this side of the Cape of Good Hope," which arrived from Liverpool on the *3d day of March, 1863*, and on which the duty was paid *on the same day.*

Section 2 of the act of Congress entitled "An act to modify existing laws imposing duties on imports and for other purposes," approved March 3, 1863, reads: "And be it further enacted, That section 14 of an act entitled 'An act increasing temporarily the duties on imports, and for other purposes,' approved July fourteen, eighteen hundred and sixty-two,

be, and the same hereby is, modified so as to allow cotton and raw silk, as reeled from the cocoon, of the growth or produce of countries beyond the Cape of Good Hope, to be exempt from any additional duty when imported from places this side of the Cape of Good Hope, for two years *from and after the passage of this act.*"

This question has heretofore been decided by me, and in accordance with that decision the claimant is entitled to be relieved from the imposition of the additional 10 per cent duty on the cotton imported, and you will be governed accordingly.

S. P. CHASE, *Sec. of the Treasury.*

HIRAM BARNEY, Esq., *Collector, New York.*

BUTTON STUFF; ENTERED BY MISTAKE, AS SILK LASTING.

Treasury Department, June 26, 1863.

SIR: MESSRS. MALTBY, MORTON & Co., of Waterbury, Conn., have appealed from your decision assessing duty at the rate of 40 per cent on certain "silk lasting" imported by them, claiming to pay a duty of 10 per cent, the goods being punched, and "and only suitable for manufacture of buttons exclusively."

The appellants allege that they entered the goods in question as "silk lasting," as invoiced, in ignorance of the fact that they were "punched, and suitable for the manufacture of buttons exclusively," though so ordered by them.

The appraisers returned the goods in question as being punched "and only suitable for the manufacture of buttons."

As these facts are admitted by you, I am of the opinion the parties should be allowed to enter the goods in question at 10 per cent duty, the rate fixed by the act of July 14, 1862, on button stuffs.

I am, very respectfully,

S. P. CHASE, *Sec. of the Treasury.*

HIRAM BARNEY, Esq., *Collector, New York.*

LOOKING-GLASS PLATES.

Treasury Department, July 2, 1863.

SIR: MESSRS. A. HANLINE & SON have appealed from your decision assessing duty at the rate of 35 per cent on certain "looking-glass plates," imported in the brig "New Orleans" from Bremen, and returned by the appraisers as "cylinder glass silvered," and classified by you under the 9th subdivision of section 12 of the tariff act of July 14, 1862, which reads:

"On all articles of glass, cut, engraved, painted, colored, printed, stained, silvered, or gilded, not including plate glass silvered, or looking-glass plates, thirty-five per cent ad valorem."

The appellants claim to enter them under the 12th subdivision of same section, which reads as follows:

"On all cast polished plate glass silvered, or looking-glass plates, etc."

I am of opinion that the term "looking-glass plates," as used in the 12th subdivision, means any kind of silvered glass used as looking-glasses, although not in fact plate glass, and that MESSRS. A. HANLINE & SON are entitled to enter their importation at the square foot duty, as claimed by them.

S. P. CHASE, *Sec. of the Treasury.*

HIRAM BARNEY, Esq., *Collector, New York.*

DECLARATION OF DESCRIPTION OF GOODS.

Treasury Department, June 26, 1863.

Sir: The following question has been presented to this Department:

If goods are erroneously described in the invoice, and an importer, in good faith, makes his declaration on entry from such invoice, is he to be held liable to pay the rates of duties prescribed for the goods as declared, or the rates attaching to the goods as imported.

Under the law the declaration of an importer as to the value of any goods, wares, or merchandise is binding upon him, but the effect of a declaration as to description or name of any goods, wares, and merchandise is not indicated in any act of Congress, except in cases of attempted fraud.

The law contemplates the exaction of duties on goods, wares, and merchandise actually imported, as classified in the tariffs.

If, therefore, upon actual examination of any imported goods, wares, or merchandise, they are found not to correspond with the description or name as stated in the invoice, and that such difference is the result of accident or mistake, and without any intent to defraud the revenue by evading the payment of the legal duties or otherwise, I am of the opinion that the proper rates of duties to be assessed and paid are those attaching under the law to goods actually imported, and you will therefore be governed accordingly.

S. P. CHASE, *Sec. of the Treasury.*

HIRAM BARNEY, Esq., *Collector, New York.*

DRIED FLOWERS AND MOSS.

Treasury Department, June 30, 1863.

SIR: MESSRS. HAUPT BROTHERS have appealed from your decision assessing duty at the rate of 40 per cent ad valorem on certain dried and prepared natural flowers and moss, in bunches and bouquets, and claim to enter them in part, as bouquets of dried flowers, at 20 per cent; and in part, dried flowers and moss, in bunches, at 10 per cent, and state "Our claim to have the rates for our goods in accordance to our entry for the same rest on the tariff. In the alphabetical order you will find—

"Flowers, artificial.	40 per cent.
"All others not otherwise provided for.	10 per cent."

Section 8 of the tariff act of July 14, 1862, levies a duty of 40 per cent ad valorem "on feathers and flowers, artificial and parts thereof, of whatever material composed, not otherwise provided for, etc."

The goods in question are natural flowers, dried and prepared, and can therefore no longer be considered, in view of the law, as natural flowers, their character as such being changed.

The experts are united in the opinion that a sufficient accessory of *art* is apparent in the construction of these flowers to give them an artificial character, and that, consequently, by force of the 20th section of the act of 1842, they are liable to duty at the rate of 40 per cent, as most resembling artificial flowers in the use to which they may be applied.

Your decision is hereby affirmed.

S. P. CHASE, *Sec. of the Treasury.*

HIRAM BARNEY, Esq., *Collector, New York.*

WOOL FROM MEXICO—PENAL DUTY, ETC.

Treasury Department, July 1, 1863.

SIR: MESSRS. M. ECHEVERRIA & Co. have appealed from your decision "exacting an additional duty of \$226 67, and a penal duty of \$1,524," on certain wool, imported by them in the British brig "Veteran" from Matamoras, Mexico, alleging "that the appraisement in question is erroneous, and was made on insufficient and erroneous evidence, and on erroneous judgment of value, and we claim that the invoice value of the goods is correct."

In this case the invoice value of the wool was raised by the appraisers; the importers called for a re-appraisement; and duties were levied in accordance with said re-appraisement, *which is final under the law.* (Section 17, act of 30th August, 1842.)

Your decision is hereby affirmed.

S. P. CHASE, *Sec. of the Treasury.*

HIRAM BARNEY, Esq., *Collector, New York.*

WOOLEN RAGS, FROM CANADA.

Treasury Department, July 1, 1863.

SIR: MR. THEO. O. DUDLEY has appealed from your decision assessing duty at the rate of 10 per cent ad valorem on certain woollen rags imported by him from Canada.

Under the reciprocity treaty between the United States and Great Britain, concluded June 5, 1854, "rags," the product of the British Colonies, are entitled to free entry.

As the term is used without qualification, I am of the opinion it must be held to embrace every description of "rags," provided it be established that they are the product of the British North American Provinces.

Your decision is hereby overruled.

S. P. CHASE, *Sec. of the Treasury.*

P. M. CRANDALL, *Collector, Rochester, New York.*

Treasury Department, June 16, 1863.

SIR: I have considered your report of the 6th April on the claim of Messrs. CAMPBELL & THAYER, for drawback of duty exacted under the 14th section of the tariff act of July 14, 1862.

The 4th section of the act of August 5, 1861, provides that "there shall be allowed on all articles wholly manufactured of materials imported, on which duties have been paid, when exported, a drawback *equal in amount* to the duty paid."

In all previous drawback laws where restrictions were intended to be imposed, such restrictions have been expressed in the text of such laws. There being no such restrictions in the several drawback laws at present in force, I am of the opinion that the parties are entitled to a drawback of the whole amount of duties paid by them on the importation, subject to the usual deduction, and you are hereby authorized and instructed to allow the same.

I am, very respectfully,

S. P. CHASE, *Secretary of the Treasury.*

HIRAM BARNEY, Esq., *Collector, &c., New York.*

MERCANTILE MISCELLANIES.

POSSESSION OF THE MISSISSIPPI BY THE UNION FORCES.

VICKSBURG was occupied by the Union forces under General GRANT, July 4, 1863, and Port Hudson was occupied by General BANKS and the army under his command, July 9th, 1863. The surrender of these two places has given the United States control of the Mississippi, and trade between the West and New Orleans can be again, in a great measure, resumed.

But the chief value of these victories consists in the fact that, by reason of them the States in rebellion have been greatly reduced in extent and resources. Thus, so far as land is concerned, it will be found that the Confederacy is now cut into two equal parts, as the following figures will show :

	Square miles.	Area of Texas	237,504
Area of Arkansas	52,198		
Area of Louisiana	41,255	Total	330,957

That is the territory cut off. The following is what remains :

Alabama	50,722	Virginia (two-thirds)	41,000
Georgia	58,000	Tennessee (one-half)	22,800
Mississippi	47,156	Florida (two-thirds)	40,000
South Carolina	29,385		
North Carolina (four-fifths)	40,600	Total	329,663

From the above it will be seen that there are about 330,000 square miles in each section.

Then, too, on the question of resources, the following statement of the live stock and certain agricultural products of Texas, Louisiana, and Arkansas in 1860, will be found of interest :

LIVE STOCK.

	Arkansas.	Texas.	Louisiana.	Total.
Horses . . number	101,249	320,621	79,068	518,938
Mules	44,158	63,000	92,259	199,417
Cows	258,873	598,086	130,672	887,631
Oxen	70,944	172,243	61,008	304,195
Other cattle	318,355	2,733,267	329,855	3,381,477
Sheep	202,674	783,618	180,855	1,167,147
Swine	1,155,379	1,368,378	642,855	3,166,612
Value	\$43,061,805	\$52,892,934	\$24,751,822	\$120,706,561

CERTAIN AGRICULTURAL PRODUCTS.

	Arkansas.	Texas.	Louisiana.	Total.
Ginned cotton bales	367,985	405,100	722,268	1,494,803
Tobacco lbs.	999,757	98,016	40,610	1,137,373
Rice	215	25,670	6,455,017	6,480,902
Oats bush.	502,866	988,812	65,845	1,557,523
Indian corn	17,758,665	16,521,593	16,205,857	50,486,114
Rye	77,869	95,021	12,789	185,679
Wheat	955,298	1,464,273	29,283	2,428,854
Molasses galls.	.....	388,937	14,535,157	14,924,094
Sugar hhds.	.....	590	297,810	298,456

From these figures we see that this section raises one quarter of the cotton crop of the United States, and furnishes almost the entire Southern supply of sugar and molasses, while its live stock has been during the war an unfailling resource to the Confederacy.

But perhaps a greater loss than any other that the Southern cause has suffered by reason of the late victories, is the contraband foreign trade that has been carried on across Texas through the Mexican ports. This can now be stopped.

GREAT NAVAL FEAT.

The proximity to our shores of the pirate Alabama, prevented us a few weeks since from duly reporting the accomplishment of a naval feat unparalleled in the constructing history of the United States army. It was nothing less than the building of an iron-clad vessel-of-war for the the protection of the coast of California, and the subsequent separation of her different sections, and their shipment for San Francisco. Had the Alabama and the Tacony been aware of the fact they would probably have watched the vessel carrying the iron-clad; but even then they would find her minus some of her most important parts, which were sent overland. The name of the iron-clad is Comanche. She was built by the Messrs. SECOR, of Jersey City, Senator RYAN of California, being one of her chief contractors.

The process of taking a ship apart was never attempted in this navy before, and was eminently successful in this case, every bolt being put in its place before a single particle of the hull was taken down. When the different portions of the work of building were finished, the Comanche, resting on the stocks in Jersey City, presented the appearance of an ERICSSON battery almost ready for service. Rear Admiral GREGORY inspected the hull before its separation, and reported to the Navy Department the complete success of the experiment. Orders to take the vessel apart were then issued by Mr. BIRKBECK, who superintended the construction of the ship, and the thing was no sooner said than done. A vessel was then chartered to carry the divided battery to Mare Island Navy Yard, where her guns will be mounted and her commission filled in the service of the United States of America.

The following is a brief description of the Comanche: Extreme length over armor, 200 feet; extreme length of boat proper on water line, 190 feet; length outside of stern and stern posts, 159 feet; extreme beam over armor, 46 feet; breadth of beam of boat proper (mould,) 37 feet 8 inches; depth of hold amidships, from top beams to skin, 11 feet 10 inches; crown of deck amidships, 5 inches; shear of deck measured on gunwale, 12 inches; distance from stern to extreme end of boat proper, 10 feet; distance from stern to extreme end of armor forward, 16 feet; distance from stern post to extreme end of boat aft, 20 feet 3 inches; distance from stern post to extreme end of armor aft, 25 feet.

The keel is of the best quality flange iron, three-quarters of an inch thick butted and strapped every six feet, and hollowed out four inches deep and eighteen inches wide, forming a "water limber;" the fore and aft vessel straps are three-quarters of an inch thick, eight inches wide, and thoroughly fastened with four rows of seven-eighths inch rivets. The fore and aft center keelson is formed of plates 62 inches wide, one-half inch thick, and 71½ inches long, and well bound with angle iron.

Around the outside of the vessel, and in plane with the hip portion of the hull, there is a horizontal armor shelf, 46 inches amidships, diminishing by a fair line to 32 inches wide near the ends.

The side armor, which is fastened to the wooden bulwarks, is composed of five courses of plates, measuring five inches in thickness. The armor extends $3\frac{1}{2}$ feet below the water line all round the vessel, projecting 3 feet 8 inches beyond the hull.

The turret is 21 feet internal diameter, 9 feet high, and composed of 11 plates in thickness, which measure together 11 inches through. These plates are applied in 20 sections, and join vertically, in such a manner that there is only one joint at any one place. The top of the turret is formed of wrought iron plates, one-half inch thick, resting on forged beams and railway bars, placed 3 inches apart, inside the turret. In the center of this plating is a circular aperture 6 feet in diameter, over which the pilot-house of equal diameter is placed.

The engines consist of two cylinders 40 inches in diameter and 21 inches stroke combined in one piece and supported by a strong frame cast in one piece, firmly secured to the wrought iron keelson. The blower engines and blowers are of greater size than those of the Monitor, and instead of being placed in the engine-room are applied under the turret for the purpose of drawing down the cold air through the turret roof and forcing it into the boiler room and other parts of the vessel.

Two boilers on Martin's plan are attached, of 10 feet face, 9 feet 3 inches high, and 12 feet 6 inches long, with 3 furnaces in each. The propeller is made of cast iron, 12 feet in diameter and 15 feet pitch.

CALIFORNIA GUNPOWDER.

The Santa Cruz powder mill is the work of a joint stock company, composed of capitalists residing in San Francisco, who have invested so far \$100,000 for its completion.

The site comprises 150 acres. The water is brought by flume 2,200 feet, then by tunnel, through hill, of 1,200 feet—300 of which is done. Fall of water 54 feet. Power calculated to be 376 horse-power. The amount of water flowing, sixty-two and one-half millions of gallons every twenty-four hours. The machinery will be driven by six central discharge wheels. The machinery in the cooper shop will be driven by steam power. The buildings will be 25 or 30 in number, of which there will be the coal house, for charcoal purposes; the refinery, for refining saltpetre; the pulverizer, for preparing the charcoal and brimstone; the wheel mills, for grinding the powder; and coining mill, for graining the powder; the press house, for pressing the powder; the glazing mill, for glazing purposes; the dry house, for drying powder; the dust house, for sifting and separating the different sizes of powder; the pack house, for packing purposes; the cooper shop, for making kegs. The balance of the building will be used for store-houses and other minor purposes.

The charcoal will be burnt from the willow and alder growing contiguous to the mill site. The saltpetre will be imported in a crude state from Calcutta, and refined at the mill. The sulphur will be brought from the lower country in a crude state, and will also be prepared at the mill.

PRICES IN NEW YORK AND RICHMOND.

The following interesting table has been compiled in one of the public departments at Washington:

	Average price in New York.		Average price in Richmond.		Pro. diff. as 100 to
Bacon, per lb.....	5½ @	7¼	\$1 45 @	1 50	2.289
Hams, per lb.....	10 @	11½	1 55 @	1 60	1.465
White beans, per bush.....	\$3 30 @	3 40	18 00 @	20 00	567
Butter (good,) per lb.....	21 @	22	1 75 @	2 00	872
Beeswax, per lb.....	45 @	46	2 00		439
Corn, per bush.....	65 @	72	9 50 @	10 00	1.423
Adamantine candles, per lb.	19 @	22½	4 50 @	5 00	2.289
Coffee, per lb.....	29 @	35	3 75 @	4 00	1.201
Dried apples, per bush.....	1 65		10 00 @	11 00	636
Peaches, per bush.....	2 86 @	3 08	15 00 @	16 00	522
Flour, per bbl.....	5 40 @	9 00	31 50 @	35 00	462
Flaxseed.....	2 40 @	2 50	7 00		286
Hay, per 100 lbs.....	80 @	90	8 00 @	10 00	1.059
Hides (dry,) per lb.....	19 @	23	1 55 @	1 60	750
Lard, per lb.....	9½ @	10	1 50 @	1 55	1.584
Leather (sole,) per lb.....	27 @	29	3 50 @	3 75	1.295
Leather (upper,) per lb.....	32 @	34	5 00 @	5 50	1.591
Lime, per bbl.....	1 00		10 00		1.000
Molasses, per gal.....	34 @	43	8 25 @	8 50	2.175
Oats, per bush.....	70 @	76	5 50 @	6 00	788
Potatoes (Irish,) per bush ..	60 @	90	10 00 @	15 00	1.666
Peas, per bush.....	1 00 @	1 05	12 00 @	15 00	1.317
Rye, per bush.....	1 02 @	1 05	7 00		671
Rice, per lb.....	5½ @	8½	18 @	20	276
Timothy seed, per bush.....	2 00 @	2 25	7 50		353
Clover seed, per bush.....	4 48 @	5 18	24 00 @	25 00	507
Salt, per bbl.....	2 50		126 00		5.040
Sugar, per lb.....	10½ @	15	1 50 @	1 60	1.216
Wheat, per bush.....	1 08 @	1 32	6 50 @	7 00	562
Whisky, per gallon.....	45 @	46	25 00 @	35 00	6.593

Cotton in Richmond, 50 @ 55 cents per pound; in New York, 57 @ 90 cents—proportion as 100 to 140.

Thus on \$1 articles the average price is greater in Richmond than in New York, as 100 to 1.314.

VALUABLE AND IMPORTANT DISCOVERY IN CONNECTION WITH THE BIBLE.

The New York correspondent of the *Boston Journal* thus refers to a copy of the New Testament written within 200 years after the birth of Christ:

Much has been said of late concerning the *Codex Sinaiticus*, one of the oldest manuscripts of the Greek Scriptures, discovered a few years since by Prof. TISCHENDORF, in the monastery of St. Catherine, on Mount Sinai. A portion of it was published by him, in lithographed *fac simile*, in 1846. The whole has now been published under the patronage of the Emperor of Russia. A verbal *fac simile* of the New Testament, with the Epistle of

Barnabas, and fragments of the Shepherd Harmas, has been received at the rooms of the American Bible Union. It belongs to the age of the celebrated Vatican manuscript, with which it agrees in its essential characteristics.

The famous professor to whom the discovery of this valuable work is due is a Russian. He set out on a tour of philosophical discovery. He came to the Monastery of St. Catherine, and found in the possession of the monk, under the shade of Mount Sinai, this ancient and important manuscript. He tried in vain to get hold of it. On his return to Russia, he enlisted the patronage of his illustrious master, the emperor, on his behalf, and by his order made another tour, which was a successful one, for he brought away the long sought and valuable prize. It was immediately put to press, and under the authority of the emperor, was printed word for word. It is one of the oldest versions in the world. It runs back to within 200 years of the time of our Saviour. It would seem to settle the question about the Epistle of Barnabas, as that epistle makes a part of the New Testament as thus found. The form of the letters fixes the time the book was written.

This copy, which I have seen, is an exact reprint of the original. Fifty copies of the work are to be photographed, with every blot, stain, and mark found in the original. This will be sent by his imperial majesty to the principal libraries of the world.

NEW RATES OF POSTAGE IN THE UNITED STATES, JULY 1, 1863.

In our July number we gave the new Postage Act complete. The following will be found to be a complete summary of the changes made by it in the rate of postage: Letters are unchanged; but when prepaid, as heretofore, will be delivered free, without any fee to carriers.

NEWSPAPERS, QUARTERLY IN ADVANCE, CLASS NO. 2, TO ANY PART OF U. S.

	Weekly.	Semi-weekly.	Three times a week.	Six times a week.	Seven times a week.
Four ounces or less.	5c	10	15	30	35
Over 4, not over 8 oz.	10	20	30	60	70
Over 8, not over 12 oz.	15	30	45	90	\$1 05
Over 12, not over 16 oz.	20	40	60	\$1 00	1 40

The papers six times a week have heretofore been called daily, but those having a Sunday issue are now the dailies. The above are the rates per quarter, but may be paid yearly in advance, if preferred.

TRANSIENT MATTER, CLASS NO. 3.

Unsealed circulars—	Cents.
One and not over three to one address.	2
Over three, not over six.	4
Over six, not over nine.	6
Over nine, not over twelve.	8
Miscellaneous packages.	Unbound. Books.
Not over 4 oz. weight.	2c 4
Over 4, not over 8 oz.	5 8
Over 8, not over 12 oz.	6 12
Over 12, not over 16 oz.	8 16

In this class of unbound miscellaneous packages will be placed proofs, manuscripts for books, cards, samples, cuttings, roots, and all other similar articles allowed in the mails.

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AND
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