THE

MERCHANTS' MAGAZINE

AND

COMMERCIAL REVIEW.

JANUARY, 1863.

SUGAR CANE, BEET ROOT, AND SORGHUM,

WITH REFERENCE TO THEIR CONSUMPTION AND CULTURE.

SUGAR, which enters so largely into the food of civilized people of the present day, and is so important an element of modern commerce, has only in the last two centuries begun to exercise a political influence, and, in some degree, bias the destinies of nations. The use of sugar in the East dates from time immemorial, but the barbarians of Western Europe acquired a taste for it only when the returning Crusaders brought it back among other of the marvels which they had encountered when invading the country of the Saracens. In the twelfth century the awakened demand had promoted traffic, and the Saracens introduced its culture into Rhodes, Cypress, Sicily, and the south of Spain. In the rich lands of Andalusia it found a genial soil, and became one of the elements of Spanish greatness, and it added to the commercial importance of the Portuguese. With the enterprise of those nations it passed into the Canaries and Maderias, and followed the fortunes of COLUMBUS to St. Domingo. Its culture there rewarded the labor of the planter in a manner to astonish even those who had been familiar with the rich yield in the fields of Andalusia. With the increased supply of sugar the market widened, and the people of Western Europe were yearly more anxious to purchase, while the increased prosperity that followed the discovery of America and the opening of the mines of precious metals, gave them the means to indulge in the luxury. From St. Domingo the culture was not slow in finding its way to the other West Indian islands and to the Spanish Main. The Portuguese introduced it into Brazil, and with a good supply of labor the product there reached some 75,000 tons per annum in the middle of the sixteenth century. The nations that had sought the American continent in search of gold, found their greatest source of wealth in the "sugar islands," of which St. Domingo remained the chief. The leading West-

ern powers were not long in coveting these possessions, and they changed hands frequently in the course of subsequent wars, through which, in the middle of the 17th century, England became possessed of Jamaica, there being then but three sugar works on the island. The severe labor of the cane-field demanded many robust laborers, and England undertook, in a treaty with Spain, to supply those laborers for a given number of years from the coast of Africa. The laborers did not seem to multiply, but were kept up by importation into the islands, from the rich soil of which they extracted that wealth which poured into the laps of Lisbon and Havre and London. The blacks of Africa were mostly purchased with the wares of Lancashire, and were, so to speak, wrought up with the soil of the West Indies into sugar, which swelled the volume of European wealth.

It was not until the middle of the eighteenth century that, under French rule, the first plantation was established in Louisiana; and when that great country became a part of the United States there were eighty-one sugar plantations there, which, in some degree, supplied the growing wants of the Western States. Up to that time the sugar used in Europe and America was cane sugar, drawn from the tropics, and its culture had spread into most of the known tropical regions of the earth. The market for sugar had become so extensive, and the people of Europe so accustomed to its use that it had become a necessity. When, therefore, the wars that grew out of the French revolution gave the supremacy of the seas to England, that power held the supply of sugar in her grasp, and Europe depended upon her for a supply, as it has latterly upon the Southern States for cotton. That accident of war, however, revolutionized the sugar trade in Europe. The great demand for the article stimulated invention, and the French Emperor offered a liberal reward for a substitute for cane sugar. A great number of substitutes presented themselves, but none proved successful except that made from beet root, and this, in the course of a few years, has become a rival to the cane sugar in the consumption of Europe. In France, particularly, the consumption of sugar is of three descriptions: that of cane, produced in the French and in foreign colonies, and beet root sugar made in France. The consumption of the latter in 1831, was 10,000 tons against 81,651 of cane. At present it is 120,000 tons against 80,000 tons of cane. In other words, the whole increase of the consumption of sugar in France has been derived from beet root. This mastery of the latter article over the former was attended by a long struggle between the opposing interests. At first beet root was protected against cane. They were then placed on an equality, and finally government favor leaned upon the side of cane sugar, without, however, staying the success of the beet root manufacture, which has spread into all the countries of Europe. The great success of the beet root culture led to numberless experiments upon other vegetables, in order to develope some still cheaper and more effectual method of producing the desired article, and these efforts were more or less successful. Chemistry distinguishes two leading sugars. That furnished by cane is found to be identical with that yielded by many other vegetables, such as certain trees of the palm family, the chestnut, the maple, Indian corn stalks, and many roots, of which the chief, in point of value, is the beet. The other sugar is contained in grapes, pears, apples, melons, and most kinds of fruit. This species of sugar (glucose) will not granulate or crystalize like that of cane; but it is made in considerable quantities

for certain uses, of which the most important is to mix with grape juice in those seasons when that fruit has less than the desired quantity for the production of good wine. The first mentioned sugar is that generally known to commerce. It is in the United States largely produced from the maple for home use of families. The production of it has in the last few years been greatly stimulated by the advanced price of all sugars. The quantity of maple sugar produced in the United States at the date of the last census was 34,252,436 lbs. Of this, one half was produced in the States of New York and Vermont. New Hampshire, Pennsylvania, Indiana, and Michigan produced nearly the remaining half. This sugar is manufactured from the forest trees, and cannot properly be called a culture which can be extended at will, although it affords large employment in the districts where it exists in winter months.

The attention of French science was devoted to the other vegetables which were likely to be available for the use of sugar boilers. The success of M. BRACONNET, of Nancy, at one time caused a great sensation. He had, by the aid of concentrated sulphuric acid, transmuted flax, hemp, certain woods, and straw into that description of sugar called "glucose," pound for pound. The news of this discovery, like that of PAINE'S invention to make illuminating gas out of water, set the public aghast. Sugar was to be within the reach of all, and the imagination found material for sugar in the strangest associations—old sails, ropes, furniture, and cast-off summer clothing were to be turned into frost-work for wedding cakes, into confectionary for the old and sugar plums for the young. Coffee was to be sweetened with straw and candy sucked out of old shirts. A practical turn was given to the expression, a "sweet sleep," since the linen sheets and the straw bed were both waiting transmutation into the sugar bowl; after having made sleep peaceful it was to make food palatable, and the fancy ran riot in the wealth of sugar that abounded, but only to be disappointed, since no valuable results have yet flowed from the experiments then considered so important.

There were also efforts to vary the objects of sugar culture. Melons and corn stalks were used with some success, but the yield of juice was not sufficiently large to be profitable. In 1851, M. DE MONTIGNY, French consul in China, had his attention drawn to the plants from which sugar in the North of China is extracted—*sorgho*, or *holeus saccharatus*—and he sent some of the seeds to his government. These were planted in Algiers and Provence, and subsequent experiments excited great hopes from the culture. The Toulon Agricultural Association subjected it to numerous experiments, from which it resulted that the plant was capable of producing a crystalized syrup that might rival that of the cane and the beet. The juice of the sorgho furnishes three important products: sugar identical with cane, alcohol, and a fermented drink analogous to cider.

The plant grown in France was said to be richer in saccharine principle than any known plant except the vine. Beet root contains 8 to 10 per cent of sugar, and sorgho 16 to 20 per cent, from which 10 per cent of pure alcohol could be produced. The refuse was regarded as very desirable food for cattle. On the strength of these researches the culture was greatly extended in France. On trial, however, on a large scale it was not found to answer expectations in respect to sugar. It was determined, nevertheless, that it could yield alcohol 30 per cent cheaper than

beet root, consequently it supplanted to some extent those factories which had devoted themselves to alcohol rather than to sugar, and they turned their attention exclusively to sugar.

The seeds of twenty-one varieties of the sorgho plant were received in 1854 at the Patent Office at Washington, and were distributed through the country for use. The peculiarities of the plant, its resemblance in appearance and habits to Indian corn, led to the inference that it would flourish in any region where that plant would thrive. This inference has been justified in the results. The plant is cultivated much in the manner of corn. It grows from 7 to 14 feet high, and, it is asserted, gives a heavier weight of fodder from the same piece of ground than any other plant. There are a great many varieties of it, the most conspicuous of which is the African, or imphee; but it is supposed that the apparent variation arises only from climate and location—that sorgho, imphee, broom corn, and dourah are all of the same origin, *andropogon sorghum*. There are, as in corn, many varieties, which require longer time to ripen than others, and those which mature at the earliest time are the most desirable, since it is requisite that the plants should fully ripen their seeds to produce granulating juice abundantly.

According to the last census, the production of sugar in each State was as follows:

States.	Cane sugar. hhds.	Cane molasses. gallons.	Sorghum molasses. gallons.	Maple sugar. pounds.	Maple molasses. gallons.
Alabama	108	81,694	67,172	543	.....
Arkansas	...	.....	.....	3,097	115,673
California	...	.....	100	....	.....
Connecticut	...	.....	395	44,259	2,277
Delaware	...	761	852	....	.....
Florida	1,761	435,890	.....	....	.....
Georgia	1,167	546,770	102,450	991	20
Illinois	....	.....	797,096	131,751	21,423
Indiana	....	.....	827,777	1,515,594	203,028
Iowa	....	.....	1,993,474	248,951	97,751
Kansas	....	.....	79,482	1,548	2
Kentucky	....	.....	365,861	380,941	139,036
Louisiana	297,816	14,535,157	.....	....	66,470
Maine	....	.....	.....	306,742	.....
Maryland	....	45	862	63,281	2,404
Massachusetts	....	.....	.....	1,006,078	.....
Michigan	....	.....	266,509	2,988,018	384,521
Minnesota	....	.....	14,974	370,947	21,829
Mississippi	244	3,445	8,207	99	.....
Missouri	....	22,305	776,101	142,450	18,289
New Hampshire	....	.....	.....	2,255,012	.....
New Jersey	....	36	360	3,455	8,088
New York	....	15	265	10,816,458	131,841
North Carolina	38	12,494	263,475	30,845	17,759
Ohio	....	.....	707,416	3,323,942	392,932
Oregon	....	.....	419	....	.....
Pennsylvania	....	.....	9,605	2,768,965	127,455
Rhode Island	....	15	.....	....	5
South Carolina	198	15,144	51,041	205	.....
Tennessee	....	294,322	485,828	117,359	6,754
Texas	690	388,937	115,051	69	3,600
Vermont	....	.....	.....	9,819,939	.....
Virginia	....	50	221,017	937,643	100,139
Wisconsin	283	.....	19,253	1,584,406	83,003
Total	302,205	16,337,080	7,176,042	38,863,568	1,944,299

The column of cane sugar is in hhds. of 1,000 lbs. each. The column of sorghum "molases" is very indefinite. It does not appear whether it is "juice," or "syrup," or "molasses." If it means juice, then it will be equal to 7,000,000 lbs. of sugar. If it means syrup, it is equal to 49,000,000 lbs. of sugar, which would be an enormous production. It is probable that it means syrup—giving a very satisfactory result. It would seem that Iowa was by far the largest producer. Nevertheless, it will be observed that considerable amounts of the Chinese sugar cane syrup were made in the Southern States—103,450 gallons in Georgia, 365,861 in Kentucky, 263,475 in North Carolina, 51,041 in South Carolina, 485,828 in Tennessee, and 115,051 in Texas.

The many advantages of the crop here have caused its culture to extend in the Western States, and in the last two years, when circumstances have given such high value to sugar, the production of sorgho syrup in Iowa, Illinois, and Indiana has been sufficient to interfere with the sale of other syrups. It will be seen that the estimated crop this year in Illinois is from two to 3,000,000 gallons, against only 797,000 in 1859.

Recently, in pursuance of an invitation from the Winnebago County Agricultural Society, a convention of the sorghum growers and manufacturers of the Northwestern States assembled at Rockford. The attendance was quite large, and the samples of syrup and sugar also exceeded in number and quality any previous exhibition ever made. There were a variety of opinions in relation to the seeds used in planting, and some inability to distinguish between imphee and sorghum, many thinking them to be identical. The convention finally adopted the following:

Seeing there are so many names given to the different kinds of cane, according to color and seed, or any other peculiarity, to have a more uniform designation we offer the following:

Resolved, That in the estimation of this Convention there are only three kinds of cane, viz.: Chinese sugar cane, having black seeds, growing a prong from two to seven inches long; the second or tufted variety, to be known as African; and the third variety, lately introduced, known as the Otaheitan, long heads, from seven to twelve inches in length, and from one to two in thickness.

There was much discussion in relation to the deterioration of seed. Some of the members asserted that they had used the seed several years in succession, and that it maintained its virtue; others that in the second year it lost its sugar; some of the members prefered sorghum, and others imphee. In some cases black imphee would not granulate, but yellow and sorghum would. It seemed to be a condition that the seeds must be quite ripe to granulate. The following facts seem to have been established by the debates: *First.* The fact was certainly established that there is no difficulty in growing the Chinese sugar cane, the imphee cane, and the Otaheitan in this latitude. *Second.* That the successful manufacture of either or all into syrup is a fixed fact. *Third.* That the granulation of these kinds has been successfully accomplished, specimens of sugar having been exhibited at the convention proving this. *Fourth.* Taking the evidence of Mr. CORY, of Indiana, whom we regard as a pioneer in the business, the Otaheitan will granulate and make handsome sugar beyond a peradventure. *Fifth.* That the seed from the Chinese sugar cane—which has been hitherto regarded as useless except for planting purposes—can be employed in feeding cattle, hogs, horses, &c., and also can be

successfully manufactured into a flour which makes a very toothsome griddle cake. It was offered in evidence, and not controverted, that an acre of cane would produce forty bushels of seed, and that that product was equal in fattening qualities to the same number of bushels of corn. *Sixth.* That the juice of the Chinese cane, and doubtless the other qualities, without cooking, can be fed to hogs, cattle, and horses with admirable fattening results; in fact, that in this respect, an acre of cane is equal to two or three of corn. This last is a very important feature, and should challenge the attention of stock raisers. *Seventh.* That the stalks, leaves, and heads will make an excellent quality of paper. *Eighth.* That the *bagasse* can be made to yield excellent manuring qualities, and can be prepared as a fuel, to the saving of large quantities of wood and coal in the season of syrup boiling. The report of the committee on sugars and syrups was as follows:

REPORT OF COMMITTEE ON SUGARS AND SYRUPS.

Your committee respectfully report that the following described samples are on exhibition, to which we have appended such information as we have been able to obtain:

One specimen of syrup by P. Woolworth, of Rockford, from cane that had been frozen. This was worthless, being spoiled by the frost.

H. Foote, of Winnebago County.—Five specimens of syrup. He has manufactured 1,800 gallons.

Sylvester and Daniel Scott, Winnebago County.—Thirteen specimens syrup. Have made 1,428 gallons. It took from eight to fourteen gallons of juice to make one of syrup. No clarifying done.

C. A. Huntington, Rockford.—Three specimens. Manufactured 1,600 gallons, at a cost of fifteen cents per gallon. Juice averages seven gallons to one of syrup.

C. Cory & Sons, Lima, Lagrange County, Ind.—Six specimens syrup, and five of sugar made from the Chinese cane, and two from Othaheitan cane.

L. Meacham, Du Page County.—Specimens of sugar made from sorghum. He cut the joints out of the cane before crushing.

J. M. Frink, McHenry County.—Eight specimens of syrup, of which two were from Chinese sorghum. He manufactured 1,085 gallons, at an expense of 11¼ cents per gallon. Eight cords of wood were consumed; men's labor at $1 25 per day, and team at $1. He used Gate's evaporator and made thirty gallons per day. He showed four samples of sugar from the Chinese cane. It has stood in the shock eight weeks. The syrup was two weeks in granulating.

V. R. Beach, Independence, Iowa.—Two kinds of sorghum syrup. Manufactured 2,600 gallons. Juice averaged seven gallons to one of syrup. Cost of manufacture seven cents per gallon. One of the specimens was from Jube Day, Independence, Iowa, and the other from Harvey B. Hatch, Independence, Iowa.

Danley & Davis, Winnegago County.—Three specimens of sorghum syrup. Made 1,800 gallons at a cost of 12½ cents per gallon.

Orlando Clark, Rockford.—Two specimens of syrup, one from early imphee. Obtained twenty-two gallons from one-tenth of an acre. Manufactured 180 gallons at a cost of ten cents per gallon.

D. S. Pardee, Winnebago County.—Six specimens of sorghum syrup and three of imphee syrup. Made 800 gallons at a cost of fifteen cents per gallon. Nine gallons of juice made one of syrup.

Henry Spaulding, Ogle County.—Five specimens syrup. Made 3 000 gallons, at a cost of ten cents per gallon. Counting wood $3 per cord, labor 75 cents

per day, and team $1 per day. Made from 75 to 100 gallons per twenty-four hours. Eight gallons of juice to one of syrup.

E. H. Seward, McHenry County.—Eighteen specimens of syrup, part sorghum and part imphee. Made 2,200 gallons at a cost of 10¼ cents per gallon. Average of thirteen gallons of juice to one of syrup.

Belcher, of Chicago.—Three samples of refined syrup.

Lewis Nichold, Winnebago County.—One specimen of syrup. Made 400 gallons. Averaged eight gallons of juice to one of syrup.

Almeron Dodge, Winnebago County.—One specimen syrup. Made 900 gallons. Average seven to eight gallons of juice to one of syrup.

Isaac Crisman, Sycamora, DeKalb County.—Six specimens of syrup. Made 3,000 gallons, at a cost of fifteen cents per gallon. His samples of white (or as some called it, yellow) imphee was the best. The cane of this had been frozen twice, and it was made into syrup October 25th. He got thirty-five gallons from twenty-four rods of land, with moderate stand of cane. It was manufactured at the rate of seven gallons per hour. The syrup stood forty-five degrees by the sachremeter. The cane grows thirteen feet high and does not fall down like sorghum. The syrup granulates easily. His white imphee yielded one gallon of syrup to four and-a-half of juice. Grown on rich loam. He showed four specimens of sugar. Made 1,000, or 1,200 pounds, and obtained eleven pounds to the gallon. He has the seed of the white imphee for sale.

P. W. Gates, Chicago.—Six specimens syrup. He could manufacture at a cost of four cents per gallon, when he made 1,000 per twenty-four hours. Juice averaged eight gallons to one of syrup. He showed a sample of sugar.

Charles Fletcher, of Rockford.—Five specimens. Made 1,300 gallons, at a cost of 11½ cents per gallon. Juice ranged from five to ten gallons to one of syrup.

B. B. Hovey, Winnebago County.—Two samples of syrup. Made 2,665 gallons, at a cost of nine cents per gallon; seven gallons juice to one of syrup.

J. M. Moss, Waverly, Iowa.—Seven specimens of syrup, and two of sugar. He made 2,763 gallons of syrup, at a cost of ten cents per gallon. The sugar was made from yellow imphee.

W. G. Cole, Rockford.—Two specimens of syrup. The yield was 105 gallons from one-half acre, made by Hall & Co.

A. T. Moss, Boone County.—One sample yellow imphee syrup. Made 1,200 gallons.

O. N. Brainard, Marion, Iowa.—Two samples sugar; one from sorghum and one from imphee. Made 1,200 pounds sugar, averaging twelve pounds to the gallon. He had three samples of syrup; made 3,600 gallons, at a cost of 5 8-10 cents per gallon. Juice nine or ten to one of syrup.

J. E. Youngman, Rockford.—Seven samples of syrup. Made 1,870 gallons, at a cost of 11½ cents per gallon. Juice averaged seven to one of syrup.

C. D. Roberts, Jacksonville.—Eight samples of syrup and four of sugar. Made 2,500 gallons of syrup.

Pope & Buckbee, Winnebago County.—Seven samples sorghum syrup. Made 3,500 gallons, at a cost of fifteen cents per gallon. Juice range from seven to one of syrup.

J. Milner, Rockford.—Three specimens of syrup. Made 150 gallons, at a cost of thirteen cents per gallon. Juice seven to one.

G. Anderson, Rockford.—Two samples syrup. Made 250 gallons.

M. Johnston, Rockford.—One sample syrup. Made 1,050 gallons, at a cost of twelve cents.

A. Heart, Winnebago County.—Two samples syrup.

N. Smedley, Boone County.—Three specimens syrup. Made 1,400 gallons, at

a cost of twelve cents per gallon. Juice averaged six and-a-half gallons to one of syrup. He had one specimen of sugar.

Your committee would respectfully report that they have spared no pains in examining the different samples of syrups on exhibition. From the good samples they set aside twenty-seven as ranking first among those exhibited; that as a matter of course there are among this lot, some of superior excellence and purity, but they are so numerous that your committee concluded to designate no one as worthy the claim of superior excellence. Certain it is that, judging from the samples, great attainments and advancement have been made within the last year in the manufacture of syrups; and with the necessary care and attention to the subject of manufacture, as brought before the Convention, will enable almost any one to manufacture a very palatable article of syrup. How far it will be practicable to manufacture for sale and export every one should be his own judge.

Among the sugars on exhibition, your committee would make especial notice of the following:

L. Meacham, of Will County.—Sugar partly refined, made from Chinese cane.

C. D. Roberts, Jacksonville.—Nine different samples, made of different kinds of cane, and from the mush state to the refined grain.

Cory & Sons, Lagrange, Ind.—Several different samples made from Chinese and Otaheitan canes.

J. C. Frink, McHenry County.—Four kinds, made from Chinese cane.

C. N. Brainard, Marion, Iowa.—Two samples in the crude state, made from the African and Chinese canes.

D. S. Pardee, Winnebago County.—Several samples from imphee, in the mush state.

Isaac Crisman, Sycamore County.—Three specimens from the different kinds of cane.

One sample of dark sugar, owner unknown.

J. M. Moss, Waverly, Iowa.—One sample made of the yellow cane.

All of which is respectfully submitted.

H. P. Kimball,
I. S. Hyatt,
A. F. Moss,
C. W. Murtfeldt,
E. H. Seward.

A committee reported that there were forty manufacturers in Winnebago County, who had made 50,000 gallons of syrup at an average cost of thirty cents per gallon.

It would appear that the culture has taken deep root in the North west, and that it is feeling its way towards an important interest. It will probably be found necessary, as in France, in relation to the beet root sugar, that the manufacturers should become entirely distinct. The farmers in confining their attention to the culture, may produce a profitable crop, which might find a ready market with manufactures of sugar in the neighborhood.

The discussions at the convention showed that very much depended upon the character of the soil in relation to the value of the juice. This peculiarity is the case in Mexico, where almost all the grains and vegetables which grow in that dry, clear climate, are remarkable for their extraordinary sweatness. The common corn-stalk abounds in saccharine matter to such an extent as to furnish the native population with molasses, which, although hardly as good as the inferior molasses of Louisiana,

might doubtless be much improved by a more perfect mode of manufacture than that adopted by the Mexican population. The molasses is purchased there by those who do not supply their own wants at a rate of $1 50 per gallon. The beet of New Mexico contains so unusual a quantity of saccharine matter, that the manufacture of beet sugar is said to offer strong inducements to gentlemen of enterprise and capital to embark in the business. The only sugar which is brought to Santa Fe now, is transported from the Valley of the Mississippi across a desert of nearly 900 miles in extent, and the cost of transportation increases its price about ten cents a pound, so that the most inferior kinds range from nineteen to twenty-five cents in value.

The supply of sugar in the United States was obtained mostly from Cuba and Brazil, but of late years the Louisiana crop has so progressed, that it now exerts a marked influence upon prices in the United States. The following table from official sources will show the quantities consumed in the United States, the quantity per head of the consumers, and the average prices in New York:

	Imported. tons.	Louisiana. tons.	Total tons.	Pounds per head.	Aver. price. cents.	Maple sugar. tons.
1831.....	44,178	35,000	79,178	13½	4	.....
1841	65,601	38,000	103,601	13¼	4½	16,385
1851	201,493	120,331	321,824	30	5½	17,126
1852	196,558	118,659	315,217	29	4⅝	15,000
1853	200,610	172,379	379 989	36¼	5½	13,000
1854	150,854	234,444	385,298	34	5	12,300
1855	192,607	185,145	377,752	31½	6½	14,500
1856	255,292	123,468	378,760	30⅜	8¼	14,500
1857	241,765	39,000	280,765	23½	9	17,000
1858	244,758	143,734	388,492	25	6¾	16,000
1859	239,034	192,150	431,184	26	7	17.000
1860	296,950	118,331	415,281	26½	7¼	19,431
1861	241,420	122,399	363,819	23½	6½	18,000
1862, 10 months.....	292,129	.....	292,129	28	10¼	20,000

This table describes the great fluctuation in the sugar market, caused by the failures of the Louisiana sugar crop in 1857. The sugar crop in that State in 1853 was very large, and as a consequence, aided by financial pressure, the price fell very low, encouraging consumption while it discouraged planters. In the following year a great decrease was manifest in the crops. Many of the planters had turned their attention to other crops, particularly cotton, which was more sure. The number of sugar houses was reduced from 1,481 in 1852, to 1,299 in 1855, and the reduction was progressive. As a consequence, there was a larger dependence upon the foreign sugar, and this increased American demand happened at a time when a disease broke out among the French vines, causing a demand for sugar for distilation, and the price rose all over the world, when in 1857 the Louisiana crop failed almost altogether. This was a fruitful cause of the financial revulsion in that year. The alarming state of affairs attracted the attention of Congress, which fitted out a vessel to procure fresh supplies of cuttings from Bahia, British Guiana, and for free distribution among the planters. The high price of sugar drew large quantities hither from countries not before known as sugar exporters, and a new article called melado, which has continued to form a portion of the sugar supply made its appearance.

The same circumstances gave an immense impulse to the maple sugar production. The winter of 1856–57 was one of the most favorable for the manufacture, and the high prices induced the farmers to labor indefatigably with the sap kettles, producing an unusually large result.

This state of the markets gave great effect to the efforts of the Patent Office, in extending the culture of sorgho. Expectations were, however, a little highly wrought, and resulted in some disappointment in respect of sugar, although much syrup was produced. The renewed efforts that have grown out of the circumstances of the sugar crop point to greater results, but the question will present itself whether sorghum is, after all, better than beet root. If an extensive experiment in sorghum in France, ended in a preference for beet root, it may turn out that the same root may ultimately be prefered here. The spread of the beet root culture in Europe has been very great. The production is now nearly as follows:

	No. factories.	Tons.
France	341	151,514
Belgium	31	101,000
Zollverein	251	10,000
Poland	49	18,191
Austria	261	111,204

This is a quantity very nearly equal to 800,000,000 pounds of sugar, which enters into the food of the people of Europe from the culture of beet root, to which the industry settled, after having experimented extensively in sorgho and other articles. The production in Poland is far in excess of local wants, and about ten per cent of the product is exported annually into Russia by way of Dantzic, duty free, in competition with cane sugar. It is obvious that those articles which best pay the grower, will ultimately be the source for the supply of sugar, and that condition is governed by the quantity of sugar that the paint will give per acre. It is evident that some plants may give more juice than others which, however, may stand thicker upon the land, and thus give more juice from the acre. In relation to cane sugar, a great increase of production has of late years taken place. Land formerly very productive ran down to a lower figure, but has recovered by the use of fertilisers. The British and French West Indies formerly gave 6,000 pounds to the acre. They will now not give 2,000 pounds. The Mauritius formerly gave 2,000 pounds to the acre, but by the use of guano, and the increased supply of Coolies from India, it has been brought up to 6,000 pounds per acre, and is in a high state of prosperity. The Brazil gives 5,000 pounds per acre; Cuba, 4,000 pounds; St. Domingo, 1,100 pounds, and in Louisiana, 1,000 pounds per acre is obtained in ordinary years. When the price of sugar is high these rates are remunerative. In Europe, however, an acre of land will give 20,000 pounds of beet root, sold to the manufacturers. These roots contain ten per cent sugar; eight per cent was formerly extracted, but improved processes obtain nine per cent, or 1,800 pounds of sugar per acre. The value of this sugar is tested in the price, and it brings nine cents per pound when the best cane sugar brings eight cents. The production of cane sugar is restricted by want of labor, but beet root sugar is not restricted in that respect, and may form a part of the regular labors of every farmer. The refuse is as valuable as that of sorgho.

In the convention above quoted, Mr. Clark stated that he got twenty-

two gallons of syrup from one-tenth of an acre, which would be 220 gallons per acre, at a cost of ten cents per gallon. If this gave 7 pounds of sugar to the gallon, the result would be 1540 pounds to the acre. Mr. J. H. SMITH, of Illinois, states that from an acre he produced 225 gallons of syrup, and from this he obtained 1,575 pounds of crystalizable sugar, being 7 pounds to the gallon. This, at ten cents per pound, is $157 per acre, besides 115 gallons of molasses. The prospect is, however, that the market for sugar in the United States will grow with great rapidity. It is remarkable in the above table that the weight per head used has increased from 13½ pounds in 1841, to as high as 36 pounds in 1854, when the price was low, and it has since mantained a high figure, but there is a large amount of Southern sugar, as well as maple, which works into the consumption of the West, and which does not appear in official reports. It is then obvious that the sugar consumed has been two-thrds imported, and one-third of Louisiana growth in ordinary years; but in 1854 the reverse was the case, when the crop then being large, so depressed prices that it was not profitable to import sugar. In the last year the Southern supply has been wholly wanting, and the importation has been large for the ten months, being equal to twenty-eight pounds per head for the 20,000,000 of Northern people, but it has sold at high prices, governed by the duty and the depreciation of paper. Thus, raw sugar in Cuba is 4½ cents per pound, the duty is 2½ cents per pound, making 7 cents, but the duty must be paid in gold, which is 33 per cent premium. This adds one-third to the duty, making it cost 7⅞ cents. The exchange to pay 4½ cents in Cuba is 147, which adds 1¾ cents to the cost, making it 9⅓ cents per pound, and the price in New York is 10 cents, or 150 per cent higher than in Havana. Under these circumstances, Northern sugar should succeed, but in its turn home-grown sugar as a manufacture must now pay the three per cent tax. This is small in proportion, since every pound of sugar now consumed at the North pays five cents tax, and when manufactured into confectionary three per cent more. Of this tax, 1¾ cents per pound is due to the currency or "green backs," on which the Secretary of the Treasury alleges he borrows without interest.

In France and most countries of Europe, local sugar has come to supplant cane sugar to such an extent, as to interfere with the government revenues. In the United States the same field is open to the Northern grower, whether the article adopted is beet root or sorghs.

A UNIFORM NATIONAL CURRENCY.*

BY A WESTERN BANKER.

NEARLY a year ago the Secretary of the Treasury in his annual report, proposed two plans for the issue of a uniform national currency.

The first plan proposed was substantially the one under which the demand notes had already been issued. The dangers arising from increasing the currency of the country by a national issue large enough to be of benefit to the country, were thus concisely stated:

"The temptation, especially great in times of pressure and danger, to issue notes without adequate provision for redemption beyond means, however carefully provided and managed; the hazard of panics, precipitating demands for coin, concentrated on a few points and a single fund; the risk of a depreciated, depreciating, and finally worthless paper money; the immeasurable evils of dishonored public faith and national bankruptcy; all these are possible consequences of the adoption of a system of government circulation. It may be said, and perhaps truly, that they are less deplorable than those of an irredeemable bank circulation. Without entering into that comparison, the Secretary contents himself with observing that, in his judgment, these possible disasters so far outweigh the probable benefits of the plan that he feels himself constrained to forbear recommending its adoption."

The principal features of the second plan were, "(1st) a circulation of notes bearing a common impression and authenticated by a common authority; (2d) the redemption of these notes by the associations and institutions to which they may be delivered for issue; and (3d) the security of that redemption by the pledge of the United States stocks, and an adequate provision of specie."

It proposed to create a national bank department, from which government notes should be issued to banking institutions, they depositing with the department a pledge of United States stocks to insure the prompt redemption of the currency. In other words, to establish a national bank department, similar in most respects to the present Bank Department of New York, and to offer "*inducements* to solvent existing institutions to withdraw the circulation issued under State authority, and substitute that provided by the authority of the Union. Thus, through the *voluntary* action of the existing institutions, aided by wise legislation, the great transition from a currency heterogeneous, unequal, and unsafe, to one uniform, equal, and safe, may be speedily and almost imperceptibly accomplished."

The report of the Secretary of the Treasury was prepared with the expectation then prevalent, that the rebellion was soon to be crushed, and the war substantially brought to a close by the midsummer following. Soon, however, the magnitude of the war became evident, the vast expenditure of nearly a million of dollars daily, made huge drafts upon the Treasury, and Congress saw that the urgent necessities of the government could not be supplied by the tardy action of banks, nor depend wholly on the sale of the bonds of the government. A general suspension of specie payments had taken place, and on February 25th, and July 11th,

* The Report of the Secretary of the Treasury for 1862 has appeared since this article was written.

1862, the Congress of United States passed two separate acts, authorizing the issue in the aggregate of three hundred millions of paper currency, which was made a legal tender by the terms of the law. Thus, the Congress of the United States, by the force of circumstances, or rather by the necessities of the government, speedily reversed the proposal of the Secretary of the Treasury; the second plan was postponed, and the first, which was thought to be the least desirable, was brought successfully into operation.

The second plan yet remains untried. Our present Congress, at its last session, passed by a very large majority the act of July 11th, 1862, which, in addition to the issue of $150,000,000 of legal tender notes, also provided that $35,000,000 of this issue should be in notes of small denominations, and also gave the Secretary of the Treasury authority to establish a government engraving establishment. Both of these provisions, though opposed by the bank interest, were enacted by a Congress largely composed of members interested in the banks of the different States which had heretofore enjoyed the monopoly of furnishing the paper currency of the country. There can be but little doubt, therefore, of the passage by the same body of an act establishing a national bank department, provided the administration in power shall recommend such action. We believe its adoption is demanded by the people, and that no time ever has or ever will again exist like the present to remedy the greatest financial evil of the times, which for the last fifty years has been a fruitful subject of discussion.

The circulation of the banks of the United States, according to the last official report in 1861, was about $203,000,000, as follows:

Eastern States	$45,000,000
Middle States	53,000,000
Southern States	40,000,000
Southwestern States	35,000,000
Western States	30,000,000
Total	$203,000,000

Which may be again thus classified:

Stock secured banks	$36,000,000
Chartered banks	90,000,000
Western banks discredited	22,000,000
Southern banks discredited	55,000,000
Total	$203,000,000

The charters of the State banks of Ohio and Indiana, and a large proportion of the safety fund banks of New York, together with other institutions, are to expire within the next three years.

The currency of the Northwestern States to the amount of $25,000,000 is either already retired, or is so discredited as not hereafter to circulate except in the immediate vicinity of its place of issue.

If to these amounts were to be added the currency of the States in rebellion, now hopelessly bankrupt, the aggregate would make a sum total of at least $100,000,000, or nearly one-half of the bank currency of the country.

The bank currency is therefore now less than at any time during the

last twenty years, and if the chartered banks are to expire with the limitation of their charters, only about one-half of the bank currency of 1861 will remain to undergo the gradual transition from a State to a national system.

The legal tender currency of the government has received a universal circulation. It is now fulfilling the function heretofore performed by gold and silver, which necessity has converted into articles of merchandise. It has been greedily received in the South among enemies, as well as in the North among friends, on the farthest frontier, and in the Pacific States where paper was never before recognized as money; it has been hoarded by the people and the army; and it has been held in reserve by the banks themselves, because it would redeem their own currency, and because they know it to be more reliable than their own issues. To one who has witnessed its popularity in the West, as well as the East, it is not surprising that $200,000,000 of this currency has been so readily absorbed, that $12,000,000 could not be obtained at the great commercial center a few days since, when required for government purposes. The legal tender currency, in spite of the speculations of gold in Wall-street and the high premium, (hereafter to suffer a decline as rapid as its advance, upon the triumph of our armies,) has been a success, and the people throughout the country, who are untrammelled by the influence of corporations and associations, desire that the remainder of the bank currency, whose average existence is less than the average life of a citizen, shall give place to a permanent government currency which shall be *safe, convertible, and uniform.*

Believing that the system already inaugurated is soon to be perfected, that our legislators will seek rather the good of the whole people than the interest of a few private corporations, and that the government is hereafter to control the currency as originally contemplated by the Constitution, we propose simply at present, to suggest a few of the practical details of the system, reserving other questions concerning a national currency, to which passing events have given a new interest, for future consideration.

1. The currency issued to the banks should be *safe.*

The plan of Secretary CHASE proposes to issue currency to parties only on the deposits of United States stocks. The parties by whom it is received are to be responsible for the currency issued to them; but it is not clear that the liability of the government is to extend beyond the value of the stocks. It is intended that the government shall control the issue, which shall be based on its own funds and at a rate to be fixed by itself.

It is said that the bonds of the United States, with its vast resources of every kind, are the best basis in the world for a currency. This we believe; and no matter how large the debt of the country may be at the close of the present rebellion, if the finances of the country are so managed that the interest on the debt is promptly paid, the bonds cannot depreciate largely in the money markets of the world. The government, by guaranteeing this currency, would merely reassert her intention at all hazards to provide the interest on her debt; and every argument that may be adduced to show her ability to meet promptly her liability, will serve only to strengthen the propriety of her guaranteeing the national currency. Such a guaranty would in fact only be a promise that the government, in

case of the failure of some corporation to whom she had issued notes, would purchase her own bonds at the rate fixed by herself. If the government should decline to guaranty such a currency, the issue of which she had assumed and controlled, it would seem to discredit its own funds. If, in addition to the security deposited, the government should insure the final redemption of all currency at par, no monetary crisis could ever shake the faith of the people in the notes. If a single bank should fail its currency would still pass from hand to hand, and there could hardly an instance occur in which the government, after having wound up the corporation, could be a loser. If losses should happen the abuses of the system would soon be corrected, and the increased faith of the people in the currency and the demand and appreciation of government stocks would much more than compensate for all such losses.

2. The currency issued to the banks should be *convertible*.

It is not sufficient that the government currency should be redeemed at the place of issue. Great abuses have already been the result of such laws. Remote points are sure to be selected as places of issue, and the discount upon bank notes becomes as varied as the currency itself. The great Eastern cities—New York, Boston, and Philadelphia—are the great centers of trade, and every bank and banker throughout the country always has funds on deposit at one of these points. The national currency should either be redeemed at one of those cities, or by agents at some one of the great cities of the country to be selected by the party issuing currency. The rate of redemption at the agency selected should be equal to the cost of transportation of bank notes from the place of the agency to the place of issue. This rate would vary from $\frac{1}{10}$ to $\frac{1}{4}$ of one per cent discount, and should never exceed the last named amount. Thus the whole currency of the country would be so nearly of a uniform value that it would be received by every bank from Maine to Minnesota. Statements made weekly or monthly by the different agencies in the large cities, giving the amount on deposit with them by the country banks for the redemption of currency, would at all times indicate the solvency and ability of the banks of the country; and the increased amount of deposits in the great commercial cities would insure this influence and cooperation in the organization of the national system.

3. The currency should be *uniform*.

If any man has the curiosity, or will take the trouble to study the statistics contained in either of the quarto volumes which are weekly published in all the large cities under the name of "Counterfeit Detectors," he will find that there are in existence nearly sixteen hundred different banks, and that from these banks are daily being issued more than *ten thousand* different kinds of bank notes, and that a large portion of these issues have been frequently copied and put in circulation by the counterfeiter and his copartners in business.

We have to-day, in every loyal State with the exception of California and Oregon, a currency issued and encouraged by sanctions of law, more than forty different banking laws, depending on the judgment, caprice, or iniquity of the Legislatures of thirty-four different States, and which are changed or repealed as often as pliant and plastic legislators can be moved or moulded by the influence of monied institutions or corporations, until

now both the banker and the bill-holder require a library of bank statutes to give them information which ought, by its simplicity, to be at all times on the tongue's end of every business man.

A foreigner or a stranger traveling through the country, at the hotel, in the railroad car, on the river or lake, by friend and foe, has offered to him in exchange for gold, slips of engraved paper similar in size, but as often worthless in value, as equal the sum they represent and promise to pay. In Massachusetts and New York the inconvenience is comparatively trifling, for the bank currency is composed of the issues of New England and Middle States; but in the West the people have suffered for years from the issues of almost every State in the Union, much of which is so irredeemable, so insecure, and so unpopular as to be known by opprobrious names rather than the money it pretends to represent. There the frequently worthless issues of the State of Maine and of other New England States, the shinplasters of Michigan, the wildcats of Georgia, of Canada and Pennsylvania, the red-dogs of Indiana and Nebraska, the miserably engraved "rags" of North Carolina and Kentucky, Missouri and Virginia, and the not-soon-to-be-forgotten "stump-tail" of Illinois and Wisconsin, are mixed indiscriminately with the *par* currency of New York and Boston, until no one can wonder that the West has become disgusted with all bank issues, and almost unanimously demand that such a currency shall be taxed out of existence, and give place to a uniform national currency.

The Secretary of the Treasury proposes a remedy for these evils. He proposes to issue currency to the different banking institutions of the country; but with the exception of the name of the corporation, there is no reason why all the notes of the same denomination should not be precisely alike. In place of the ten thousand different bank notes now issued, with thousands of devices, serving only to bewilder the holder, under this system we should have but *ten* bank notes, each with a distinct character of its own, with its vignette and its minutest die and engraving so familiar and expressive that no one need ever be deceived.

4. If the currency is to be safe, convertible, and uniform it must be so engraved as to guard against counterfeits and fraudulent alterations.

The statistics with regard to the counterfeiting of bank notes, if it were possible to collect them, would be more astounding than anything contained in the census reports. These frauds have been practised extensively for years, giving occupation to hundreds of people whose profits have steadily increased with the business of the country and the issues of the banks. Private individuals and corporations have been defrauded of fortunes in a single day, and the losses to the people during the last fifty years from such frauds can only be computed by millions of dollars. The hindrances to the business of the country from the difficulty in the detection of the multitude of fraudulent bank notes of itself is a sufficient reason for a change in the present system. The people who might soon learn to detect a score of fraudulent issues, have long since despaired of the hope of detecting thousands of such issues, and a "good judge of money" is as necessary as a book-keeper to every mercantile house, however diminutive may be its business.

A law already passed gives the Secretary of the Treasary "the power to cause treasury notes to be engraved, printed and executed in such form as

he may prescribe, at the Treasury Department in Washington, and under his direction, and to purchase and provide all the machinery and materials, and to employ such persons and appoint such officers as may be necessary for this purpose."

If a national bank department shall be established the bank note will then hereafter be engraved as well as issued from the Treasury Department. The most perfect machinery will be procured, and the most skillful workmen will be employed, and the greatest care will be taken to issue a national currency in the highest style of the art, and having its own peculiar and distinctive characteristic. The government will, undoubtedly, like the Bank of England, procure the manufacture of a bank note paper for its own exclusive use, thus supplying itself with a simple preventive which has never been a characteristic of currency in this country, and which for so many years has baffled all efforts at imitation in England. The minutest lines of the engravers, as well as the water marks in the paper, may have their well understood or secret meaning, rendering the frauds of the counterfeiter and the costs of the photographer nearly impossible.

* The alteration of bank notes of late years has been the most successful fraud of the counterfeiter. The bank note engraver, with a wrecklessness which ought not to be excused, furnishes to corporations bank notes of high and low denominations almost precisely alike. In numerous instances using the same die and vignette indiscriminately for the small denominations of one note, and for the large denomination of others, the engraver has destroyed much of the aid associations might have furnished in the detection of fraudulent alterations. The counterfeiter henceforth discards the costly and cumbrous machinery of the engraver. With only a pair of scissors, a few easily attained chemical substances, and a fine quality of glue, with nimble fingers, and clipping at pleasure, he transfers from one bank bill to another the die, the word, and the figure which indicate the denomination, thus in a few hours changing many an insignificant one or two to tens and fifties. Not only is the prominent die that denotes the denomination entirely abstracted and a new one replaced, but even the fine lettering of the border and the center with equal facility are exchanged. If the engraver stamps in large letters the denomination on the face of the notes, these letters are entirely obliterated from one set of notes and furnished to another not provided with the preventive. Black ink, red ink, green ink, large letters and figures, borders and stripes, although at first of good service, in the end seem rather to facilitate than to retard those unlawful practices.

Of the legal tender notes recently engraved for the Treasury Department, the chief vignettes of the one, the two, the fifty, the one hundred, and the one thousand dollar notes are each portraits similar in size and appearance, and the vignette of the two and the one hundred is the American eagle. The vignette of the two and the fifty is the same portrait of Alexander Hamilton, and the general appearance of the two notes is almost precisely alike, and alterations of these notes have already been announced.

To prevent such alterations, there exists a remedy simple, effective, and

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* For a former article on this subject see *Hunt's Merchants' Magazine* for July, 1853.

feasible, which we should be glad to see tested by the government in the first issue from the National Department. The bank teller detects the worst alterations from association, and if the chief engraving of a note is well remembered he will not be deceived. If, for instance, the vignette of the one dollar note is known *always* to be an engraving of the Monitor, the first glance at the engraving will convey to the mind its value, let the *apparent* denomination be what it may. In engraving a set or series of bank notes, the vignette and every engraving on the *one* dollar note should uniformly consist of *one* and only one prominent object, and the two, three, and five, in like manner, always of *two*, *three*, and *five* prominent objects, and no matter what these objects may be, if they are *always* uniform in bills of the same denomination, the poorest judge of money cannot be deceived with regard to their value. The portraits of the first five Presidents or Secretaries of the Treasury, of five gold dollars, and hundreds of other devices, may be so designed as to beautify the national bank note, and at the same time to indicate the denomination.

As the eagle is the sobriquet, the *nom de plume* of the ten dollar gold coin, an engraving of an American eagle should *always* represent the ten dollar note, and a device of a double-eagle should represent the twenty, while larger designs of public buildings or from historical paintings should *always* be found upon the notes of larger denominations. The border of the one dollar note should be narrow and its designs small, while those of the two, three, five, ten, and twenty should gradually increase in size, that for the fifty cover one-half of the length of the bill, and that of the thousand dollar note cover its whole extent; and every engraving, whether large or small, at the end or upon the border should indicate the denomination, until to alter a note will be to deface its whole appearance. With beautiful designs, thus gradually increasing in size, the engraver may produce a new series of bank notes, and by association hereafter prevent all alterations.

The first uprooting of the present system of the issue of bank notes by the different State Legislatures, and the establishment of the national system at Washington, which shall include the uniformity, the safety, and the convertibility of all currency, together with the certainty that hereafter the amount shall not exceed the debt of the general government, will form a new era in the history of the country. The blood which circulates through the whole system of finance will be comparatively pure; the machinery of business now retarded by friction, will buzz as under the influence of the most perfect system of lubrucation, and by its increased facilities, a large part of the cost of the present rebellion will be returned to the people during the next half century.

The fact that one-half of the currency of the Union is now discredited, that the present exigency and needs of the government will justify the taxation of all bank notes now in circulation, and that the people in the midst of the derangements of the times are more than ever anxious for a change, make the present the time when the Congress of the United States should place under the control of the government, the issue of all bills of credit, as was originally contemplated by the Constitution.

THE CURRENCY.

BY A. W. STETSON.

"THE currency" is a subject of vast importance; but, woven and interwoven as it is, into the whole fabric of social organization and life; its alluring prospects, tempting offers, and seductive charms, often beguile the unwary, while its varied and complicated effects insiduously lead reflective minds to form erroneous opinions in reference to it.

There are, however, some facts relative to paper currency which are well established by past experience. 1st. History records the fact that paper money has been tried in almost every country, and has in every instance and everywhere produced mischief. 2d. That neither State nor Bank has ever had the unrestricted power of issuing paper money without abusing that power. 3d. That no authority, however absolute, can ever succeed in fixing the general ratio of value. 4th. That the expansion of the volume of a national money, whether of metal or paper, is sure to be followed by a dilution of its value. Yet, notwithstanding these generally admitted truths, the issue of paper money by government in emergencies is absolntely indispensable and justifiable to prevent much more disastrous results, provided it is placed under proper restrictions and limitations.

Our able Secretary of the Treasury, under the force of circumstances beyond his control, was obliged to recommend and to issue paper money to a limited amount; but now, as is evident from the whole tenor of his report, sagaciously discerning the disastrous tendency of a further issue, wisely recommends a resort to other methods for raising a loan. Secrery CHASE says, clearly and emphatically, that "a further issue would be as injurious as it would be easy;" the addition of so vast a volume to the existing circulation would convert the currency into a positive calamity. Its consequences would be a large diminution of exports, inflation of prices, increase of expenditures, augmentation of debt, and ultimately disustrous defeat of the very purposes sought to be attained by it."

Never were more truthful words uttered, or words more worthy of the thoughtful consideration of the American Congress. Nothing is more essential to the welfare and prosperity of any country than a well regulated and uniform volume of currency. Let the currency be disturbed by inflation or diminution, and a violent dislocation of money prices, of stocks and commodities will inevitably occur. The whole fabric of society is shattered, and people's ideas of value become confused and deranged, whereby knavery obtains advantage over honest simplicity, the debtor over the creditor, and the rich over the poor. When we say paper money is depreciated, what do we mean?

As I understand it, we mean it has fallen in real value, from a fair and nearly uniform standard of value.

The acknowledged standard, the world over, is a metallic currency, not only because of its intrinsic worth, but because of its uniform and almost invariable value as compared with any other commodity. How is it with

paper? It has no inherent value, and is only worth the amount of that commodity for which it is exchangeable. No one will pretend that any legal enactment can make a piece of paper worth a dollar. The Continental dollar always passed for a dollar for the first issue, until it took one thousand to buy one of gold. So that however great may be its depreciation, an intangible standard of value never changes its name.

Now, as a paper dollar is only a nominal dollar, so long as it is the legal tender and currency of the country, it must and will *pass* for a nominal dollar; therefore, if we wish to ascertain the fair estimate of its value, we must calculate it by the value of the articles which we can exchange for it, or in comparison with gold and silver, the universally conceded standard of value.

Before entering upon the subject of depreciation, I desire to say that I am not one of those who would depreciate the currency from any personal, political, or theoretical motives; but, as a firm friend and supporter of the government, confident in its stability and eventual ability to meet all its obligations, I wish to express my convictions relative to the currency, in order to elicit the precise truth, and bring out the facts prominently before the public. If, owing to the present issues of paper, the currency has been inflated and consequently depreciated, the people ought to know it, even if it *should* affect their national pride. It is vastly better to admit the fact of depreciation, if it be so, than be deceived ourselves, and attempt to deceive others; for, instead of hugging the delusive phantom of legal fiction, admiring the beautiful proportions of the magnificent bubble, and crying for more, we should then promptly and cordially sustain our sagacious Secretary in his endeavor to prevent the larger issue of paper money by the government, and frown upon all legislative action which would interfere with, and destroy the monetary equilibrium.

That the depreciation of paper is, as many assert, *wholly* owing to the inflation of the currency by the over issue of legal tender notes, I deny; but that a large portion of it arises from that cause, I fully believe.

The Hon. Secretary in his able report, labors to prove that the currency has not been much inflated, in consequence of the demonetizing of gold; but his figures do not justify his conclusions.

For instance, he makes the increase in the volume of the currency, after deducting the gold, about $22,000,000. Whereas, if we include the increase of bank deposits, which constitute a part of the currency, and which, as the Secretary says, answer very many of the purposes of circulation, we have an increase of the currency, amounting to $102,000,000, viz.:

	1861.	1862.
Circulation.....	$130,000,000	$167,000,000
United States currency.	15,140,000	210,104,000
Specie	210,000,000	210,000,000
Deposits.....	264,000,000	344,000,000
	$619,140,000	$931,104,000
Deduct specie.....		210,000,000
		$721,104,000

Showing and increase in the volume of the currency of 16½ per cent, which in connection with other causes, viz.: the fear of further issues, and the lack of confidence in the power and stability of the government to fulfil its contracts, have operated silently, but forcibly, in causing the gradual depreciation of paper, and consequent rise of gold.

Our currency may be compared to a sea of values which has no outlet, excepting that which may be formed hereafter by public confidence in funding it into 5-20 United States bonds; consequently the more that flows into it, the *higher* prices will rise, on all values, until the equilibrium is restored, and the prices of all commodities are brought to the new level.

I maintain that this inflation acts quite uniformly on the prices of all commodities or values, entirely irrespective of, yet in conjunction with the law of supply and demand. For instance: take the two articles of cotton and pork. The law of supply and demand has operated upon these articles conversely. Cotton has advanced from ten to sixty-eight cents per pound, while pork has declined to $2 50 per barrel.

Now, I hold that the depreciation of the currency is represented not only in the enhanced price of cotton, but also in the present price of pork. For in consequence of the immense supply of pork, and the very limited demand—arising from the Southern market being cut off, and other causes—the price of pork would have been much lower than it now is, had it not been upheld by the depreciation of a paper currency—and cotton instead of selling at 68 cents, would be selling at about 50 cents.

Let us see: We are a producing country—cotton, wheat, flour, corn, and pork are among our exports. Yet, notwithstanding this fact, these commodities are relatively 30 per cent higher *here* than in England. That is to say—a laboring man in England can buy our production very much cheaper than we can—simply because our legal dollar is a depreciated dollar, and passes nominally for more than its relative worth. When we approach the real truth, we shall perceive that these productions move out of the country at their *real* value, and not at their *fictitious* value, as measured by an inflated or depreciated currency. What that depreciation is, cannot be accurately stated, because the depreciation is not fixed and permanent in its character, but liable to fluctuation from various causes. I am of the opinion, however, that although the premium on gold may not measure the exact depreciation of the currency, it will be found to bear a close approximation to it.

It is said that gold is demonetized, and is become an article of merchandise, subject to the ordinary fluctuation of supply and demand, speculation, &c. If this assumption is strictly true, why is it that the rise and fall of the premium on gold invariably affects the price of all our exports and imports?

As far as I am informed, no one article of merchandise can, or does produce that effect upon every other—therefore I think the assumption false.

How does depreciation affect our imports? Coffee, tea, molasses, sugar, spices, fruits, and hides—which enter into ordinary consumption—are not only subject to an additional duty, which is cheerfully paid, but in addition to that, consumers are obliged to pay the full premium on gold—the most, if not all of which is the actual depreciation of the currency.

This depreciation is not exhibited in the prices of commodities alone, for if we take up the stock list, we shall find the same reality there.

For instance: It will be noticed that government stocks have held at about par, while the prices of nearly every other tangible security have been greatly enhanced.

Hence, we see that government stocks have *virtually* depreciated, otherwise they would have advanced *pro rata* with other prime securities.

The government paper dollar, legalized, will pass, of course, for a nominal dollar; but when exchanged for any commodity, its actual or real value comes into consideration, and *not* its legal character; therefore, if we are obliged to pay a larger price for any value in consequence of its legal character, that amount is really the amount which paper has depreciated.

Gold has its intrinsic worth, and no more; any premium which buys it is therefore properly chargeable to the depreciation of paper at the time of the transaction.

The variability and fluctuation of the value of our currency is owing, in a measure, to the same causes which affect the government stocks; and when confidence is fully restored, the immediate effect would be the funding of legal tender, a decline in the premium on gold, a rise in government stocks, and a general fall in the prices of all stocks and commodities. Then we shall have a return to a sound, healthy, and permanent circulating medium, which is of such immense advantage to society. Now, it is the duty of all to strengthen the finances of the government by every means in their power, and to oppose strenuously any further issue of legal tender notes, which have the tendency to create confusion, disorder, and disaster.

THE ATLANTIC TELEGRAPH AND THE WESTERN COAST OF IRELAND.

REPORT ON THE DEEP SEA SOUNDINGS TO THE WESTWARD OF IRELAND—MADE IN H. M. S. "PORCUPINE," IN JUNE, JULY, AND AUGUST, 1862.

In the October number of the *Merchants' Magazine* we refered to the fact that the British steamer Porcupine, (sent out to take a new line of soundings along the Irish coast in the route of the great Atlantic cable,) had returned to Plymouth. We now have the following report as the result of its labors. Although the soundings are not numerous, yet it is thought they are sufficiently so to set at rest the imagined difficulty of the precipitous character of the approaches from the sea bed to the western coast of Ireland, and to prove therefore, that a cable may be laid there so as to gain the deep bed of the Atlantic by an easy descent:

BELFAST, *September 30th*, 1862.

SIR: The Atlantic Submarine Telegraph Company having requested the Lords Commissioners of the Admiralty to have some deep soundings taken off the western coast of Ireland, principally to ascertain whether the apparent sudden dip in the soundings from 550 to 1,750 fathoms, found by Commander DAYMAN in the year 1857, in the parallel of 52° 15′ N., extends further north or south, and to endeavor to seek out a more gradual slope into the bed of the ocean, their lordships were pleased to direct that the Porcupine, then fitting at Devonport for the survey of the North Sea, should be dispatched on this service.

The Porcupine is a paddle steamer of 130 horse-power and 380 tons. She was manned by a crew of forty-nine officers and men, and was fitted with a donkey engine for heaving in the line; also with five light iron reels, three large for the deep sea line, and two small for cod line, capable of holding 2,000 fathoms of line each. From these reels the line was run off when sounding, and reeled on them by hand, as it was hove in by the donkey engine. The Porcupine was also supplied at Devonport with 10,000 fathoms of the ordinary deep sea line and 13,000 fathoms of cod line, made expressly for deep sea soundings, with an ample supply of sinkers and weights, and the Bulldog and other apparatus for bringing up the bottom; JOHNSON'S and HEARDER'S pressure gauges, to show the depth, were also supplied, as well as metallic and ordinary deep sea thermometers to test the temperature. At Galway a further supply of 10,000 fathoms of Messrs. NEWALL'S cod line was received on board, besides 11,500 fathoms of a smaller and less expensive line. The weight per 1,000 fathoms, with the breaking strain of these sounding lines, was as follows:

Lines.	Fathoms.	Weight. lbs.	Breaking strain. cwt. lbs.
Ordinary deep sea	1,000	230	6 63
Newall's cod	1,000	56	3 14
Laid twine	1,000	17½	0 100
Marline	1,000	29	0 100
Mackerel	1,000	26	0 100

The lines were marked in the usual way, viz., blue at 50 fathoms, white at 100 fathoms, and red at 1,000 fathoms.

The soundings were always taken from the bow of the vessel. With the main and mizen sheets out we had no difficulty in keeping her head to wind; and an occasional easy turn ahead sufficed to keep her bow directly over the descending lead.

The principle of using a small line and heavy weight for obtaining the depth was that adopted. I believe it to be the only means at present known for obtaining the true depth.

When using a heavy line, such as the ordinary deep sea line, the difference of interval after the weight strikes the bottom is not sufficiently marked to enable one to say confidently when it is down, particularly should there be any sea, and none of the instruments we were supplied with, whether of rotatory character, like WALKER'S, or those depending on compression, as JOHNSON'S and HEARDER'S pressure guages, give any results that can be at all relied on.

The cod line supplied by Messrs. NEWALL, of Gateshead, is an admirable line for this purpose. The weight was sometimes brought up by it from great depths. On one occasion it raised a 64 pound weight from a depth of 1,750 fathoms; but as the whole quantity out is frequently sacrificed at each sounding, the expense becomes a serious consideration when the soundings are required near each other; and I found the lighter and much less expensive lines answer equally well in smooth water, where the depth of water alone was required.

The strongest line we had for bringing up a specimen of the bottom, with the instruments for testing the temperature and pressure, was the ordinary deep sea line. If, as it sometimes happens, the weight does not detach itself, this line would prove unequal to the strain, and at some sudden heave of the sea would break away, losing all our instruments.

The simplicity, cheapness, and certainty of action of the cup lead, of from 56 pounds to 75 pounds weight, renders it an invaluable instrument in depths under a thousand fathoms, bringing up a good wine glass full of the bottom at each cast. It may be used either with the cod or ordinary deep sea line. In greater depths when a specimen of the bottom was required, we used the Bulldog machine.

To save time, the two operations of determining the depth by a small line, and sending down the instruments for scientific purposes, were carried out together, an officer being stationed at each line to time the marks in their passage over the gunwale. A deep sounding, when the instruments were to be recovered, would occupy from two to four hours.

Having made these preliminary observations, I may now proceed with the progress of the voyage.

Having swung ship for compass deviation, I sailed from Plymouth Sound on the 22d of June, and on the 24th commenced our examinations, in pursuance of your orders, at the 100 fathoms line on the 51st parallel of latitude. The deep water valley crossed by Commander DAYMAN ninety miles west of Valentia, was found to extend to this parallel, as we had 1,180 fathoms in its deepest part, and 375 fathoms on the bank outside it. From the depth of 1,000 fathoms in this depression, the Bulldog machine brought up a bivalve shell embedded in the soft clay.

On crossing the bank to the westward, we passed from a depth of 710 fathoms to 1,550 fathoms in a distance of seven miles. Although this

increase of depth seems so great, if the incline is gradual, of which we have no evidence to the contrary, it amounts to but 12 feet of dip in 100 feet horizontal, or about 1 in 8.

To the westward of this we dropped our lead on the position of a reported vigia (the Brazil Rock) and obtained 2,350 fathoms, and here the deep sea line being unequal to the strain broke, taking with it all our instruments attached.

With reference to this and other vigias in this part of the ocean, I may observe that we frequently passed balks of timber, covered with barnacles and sea weed, having somewhat the appearance of a rock awash.

Carrying out the system of sounding laid down for me in your orders, in the parallel of 51° 35′ we passed from 1,440 to 930 fathoms in a distance of 2.7 miles, or a little under 19 feet of dip to 100 feet horizontal, and this is the steepest incline we have met with.

The unsettled weather we experienced frequently interrupted our work, and on the 8th of July, having expended our coals, I ran into Galway to replenish, and obtain a fresh rate for our chronometers.

We were detained here by continual gales until the 21st, when the weather moderating we again sailed, carrying out a line of soundings with us; but had scarcely arrived on our ground, when the weather became more severe than ever, and on the morning of the 24th, while lying-to in a heavy gale, we had the misfortune to twist our rudder-head off. This compelled us to return to Galway for repairs, and in the absence of the proper means for effecting them, we were delayed there until the 6th of August. During this time and indeed throughout the whole of our cruize, the weather was very unsettled, occasioning a great loss of time.

On the 8th of August we were enabled to sail from Cashell Bay, where, on leaving Galway, I had gone for shelter. Carrying out a line of soundings on the parallel of Slyne Head, at the distance of 120 miles to the westward of it, we crossed the tail of a bank of 82 fathoms, coarse gravel. This being entirely new, I have named it the Porcupine Bank. It will be of use to vessels bound to Galway from the westward as a means of ascertaining their position by the lead. The bottom both to the northward and southward is deeper, being composed of fine dark sand, while the bank is composed of gravel and coarse sand.

August 10*th*, in latitude 53° 30′, longitude 15°, found the current from a boat moored to the bottom S. E. $\frac{1}{2}$ S. 0.5 knot, which agrees with that shown by our reckoning for the last two days. Numerous pipe fish, some with ova attached, were swimming on the surface; some of these were preserved.

August 11*th*.—Our soundings this day taught us that in the parallel of 54° 10′, the Irish Bank does not extend so far to the westward, and that Rockal is probably a separate bank.

August 12*th*.—Weather again unsettled, with a heavy sea. Having determined the N. W. limit of the Irish Bank, bore away towards the tail of the Rockal Bank, sounding at intervals in from 1,500 to 1,200 fathoms, shoaling as we approached the Rockal Bank.

August 14*th*.—At noon observed Rockal with several fishing vessels near it. There being too much sea to do anything in the vicinity of the rocks, hove to for the night.

August 15*th*.—Got observations for latitude and longitude; found the current setting with flood tide N. by E. 0.8 knot. The weather having

become fine with only a moderate swell, sent a boat with a party to land on the rock; but the sea broke so heavily round it that the officer in command thought it would be imprudent for them to do so. One of the party, Mr. JOHNS, the boatswain, succeeded in getting a footing, but not at the part where the summit is accessible.

The fishery is in the vicinity of the rock; but this very remarkable peak of a submarine mountain standing, as it does, in solitary grandeur above the ocean surface, is not unworthy of some attention in this report.

Rockal is in latitude 57° 35′ 53″ N. by meridian altitude of sun; longitude 13° 42′ 21″ W., mean of A. M. and P. M. sights, four chronometers, sea horizon. The rock has an elevation of 70 feet above the sea, is about 250 feet in circumference at its base, and is composed of a coarse granite.*

The summit of the rock, sharp pointed and whitened by birds, can only be gained from its N. E. side, and landing is at all times difficult, for it is steep on all sides. On the N. E. side, however, is a small detached rock, called Haslewood Rock, uncovered at half tide, with 30 fathoms of water between it and Rockal, from which it bears N. E. by N. a cable and a half distant.

Helen Reef, bearing S. 79° E. two miles from Rockal, has about 6 feet water over it at low water. It is so called from a vessel of that name that was wrecked on it, and is very dangerous. The situation of it is generally shown by its breakers, but towards high water and in very fine weather, it only breaks at long intervals. From being small and steep to, there is then nothing to indicate the approach to it. To avoid it keep Rockal clear of a W. by N. bearing. There is a safe passage between it and the rock.

The lowest estimate that was formed of the range of the tide, (judging from the appearance of the rock,) was 6 feet; but this seems large for a tide wave in mid ocean. PURDY'S *Atlantic Memoir* presumes to discredit the existence of any danger near Rockal, but is mistaken.

From Rockal we steered for the Irish coast. When nearly midway between it and the Irish Bank, we obtained one sounding of 1,660 fathoms, and found the current here from a boat moored to the bottom S.E. by E. ½ E., one knot.

From the edge of the Irish Bank I carried a line of soundings into Enis Head, and then proceeded to Valentia for coals. On receiving which, having carried out my instructions and effected the object of our cruise, I returned to Cork for further orders, getting a few soundings by the way.

In the course of our observations we found the donkey steam engine and the light iron reels for running the line off very serviceable, indeed indispensably necessary to our success. The Bulldog machine fully answered the purpose of bringing up a large quantity of the bottom, but we could not always get the weight to detach. On one occasion, too much line having been paid out, the bight got between the jaws of the nipper and prevented its closing; this lost us our specimen, but it affords another illustration of the line going straight down on the weight, and the consequent absence of any under current.

In carrying out this service I received every assistance from the officers

* Specimens have been sent to various museums in Ireland.

on board, who all united their best endeavors to bring our cruise to a successful termination.

With reference to the principal object of our inquiry, that of finding a more gradual slope into the bed of the ocean, I consider that our soundings clearly prove that the general dip of the bank presents no difficulty whatever to laying a cable either from Valentia or Loop Head, or any other part of the west coast of Ireland between Bantry and Blacksod Bays, that may offer facilities for securely landing and working it.

Much pains were taken by sounding at short intervals to discover if anything like a precipice existed. Our steepest incline shows a difference of level of 3,060 feet in 2.7 miles, or about 19 feet in 100 feet. On the parallel of 51° 20′ we have a dip of 7,680 feet in a distance of fourteen miles. The intermediate soundings give no evidence of a precipice; but a mountain of this height on the land would present an imposing appearance, with perhaps some steep escarpments.

On the adjacent coast of Ireland we have precipices of 2,000 feet in height within half a mile of the shore. However these may have been caused, whether by the continued action of the Atlantic waves at their base, or by the erosive power of glacial or atmospheric agencies operating on their slopes, it is certain that the submarine mountains are not exposed to this action, or to any denuding process whatever. But it is more probable that any inequalities in them arising from original formation have been filled up by the gentle depositions of the soft clay that we found everywhere covering their slopes.

On examining the soundings the slope will be found to vary from 6 to 19 feet dip in 100 feet horizontal, a dip that cannot possibly strain or injure the cable. The knowledge of this fact will, I trust, remove one of the supposed difficulties in the way of laying it, and help to forward the successful realization of this great national undertaking.

I am, &c.,

R. Hoskyn, *Master and Surveyor.*

Rear-Admiral Washington, F.R.S., &c., *Hydrographer.*

ABSTRACT OF THE EXPERIMENTS MADE WITH THE PRESSURE GAUGES AND DEEP SEA THERMOMETERS FROM THE SOUNDING LOG.

June 25th.—In 1,000 fathoms water.
Board of Trade min. ther., No. 49, registered 44°.
Johnson's metallic ther., No. 8, 37°.
Johnson's pressure gauge, did not act, the stopper had not moved.
Hearder's pressure gauge, all the mercury ran out of the legs into the tube, probably from its having capsized on the bottom.

June 27th.—In 2,350 fathoms.
Board of Trade min. ther., lost by line carried away.
Johnson's metallic ther., lost by line carrying away.

July 22d.—In 200 fathoms.
Johnson's pressure gauge, did not act.
Board of Trade min. ther., registered 54°.

Johnson's metallic ther., No. 9, 49°.
Board of Trade min. ther., 50.5°.
Johnson's metallic ther., No. 9, 48.5°.

August 10*th.*—In 540 fathoms.
Hearder's pressure gauge, the mercury was all disjointed, some in outer tube, no result.
In 820 fathoms.
Hearder's pressure gauge, lost by line parting.
In 1,500 fathoms.
Board of Trade ther., No. 18, registered 59°.
In 1,550 fathoms.
Johnson's metallic ther., No. 9, 31°.

August 11*th.*—In 1,540 fathoms.
Hearder's pressure gauge, No. 2, on coming up the short leg registered 750 fathoms; the long leg was full; in a few minutes after coming up the short leg fell to 1,000 fathoms.

August 12*th.*—In 690 fathoms.
Hearder's pressure gauge, No. 2, on coming up the short leg registered 1,200 fathoms; the long leg was full: shortly afterwards the short leg registered 1,425 fathoms.

August 16*th.*—In 1,600 fathoms.
Board of Trade ther., No. 18, 51°.

August 29*th.*—In 400 fathoms.
Johnson's pressure gauges, Nos. 1 and 2, did not act.
Repeated the experiment—they did not act.
Hearder's pressure gauge, short leg registered 950 fathoms, long leg, 300 fathoms.

Every injunction of the inventors for using these instruments was strictly complied with by Mr. Davis, who took great pains to secure their efficient working.

Johnson's metallic thermometer appears to give good results.

I think the reading of the Board of Trade thermometer is sometimes vitiated by the index not retaining its position.

Johnson's pressure gauge never seemed to be in the slightest degree affected by pressure. Is it not possible that the water may pass freely round the cork without moving it? If the plug is forced into the tube with the finger, instead of compressing the water passes it.

Hearder's pressure gauge is of no practical use in its present form. The liability to fall on its side on the bottom, will always interfere with its results.

R. Hoskyn.

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In all cases in the following soundings the bottom was found and the depth fairly measured; but where the line parted in coming up, the sounding being lost, the character of the bottom could not be ascertained.

Date.	Latitude. ° ′	Longitude. ° ′	Depth. Fathoms.	Nature of soundings.
June 25,	50 44.5	11 36.5	900	Drab colored sandy mud.
"	50 55	11 52	980	Stiff sandy clay.
"	50 56	12 6	1000	Stiff sandy clay.
"	50 57	12 20	1080	Sandy clay.
"	50 58	12 40	1120	Line broke from strain, 1050 fms.
"	50 59	13 0	1180	Sandy clay.
"	51 0	13 22	1175	Sandy clay.
26,	50 59	13 30	930	Sandy clay.
"	51 3	14 46	510	No indication.
"	51 4	15 6	710	Sp. sand.
"	51 4	15 19	1550	Line parted—no bottom found.
27,	50 56	15 21	1900	Line parted at 1,000 fathoms.
"	51 9	15 59	2350	On site of Brazil Rock—a good up & down sound'g—lost at 2,250 f.
"	51 19	15 32	2050	Line parted at 1,900 fathoms.
"	51 19	15 15	1750	Good up & d. snd'g—lost at 1,000 f.
28,	51 25	15 15	1550	No indication.
"	51 35	15 19	1440	Clay.
July 2,	51 52	15 22	1200	Line parted at 1,000 fathoms.
"	51 51	15 21	1250	Line parted at 1,150 fathoms.
"	51 50.5	15 31	1450	Sandy clay—snd'g unsatisfactory.
3,	51 57.5	15 17	1250	Parted at 1,000 fathoms.
"	52 8	15 30	1240	Sandy clay.
6,	52 21	15 31	1570	Sandy clay.
"	52 18	15 15	710	Sandy clay.
"	52 19	15 2.5	570	Sand.
23,	52 58	15 8	1050	Line parted.
"	52 58	15 20	1470	Sandy clay.
Aug. 10,	53 22.5	14 45	820	Line parted at 700 fathoms.
"	53 22	15 0	1500	Sandy clay.
"	53 40	15 4	1550	Sandy clay and stones embedded. Greenstone & basalt ang. $\frac{1}{2}$ in. sq.
"	53 40	14 47	1300	
11,	53 39	14 46	1220	Line got into nippers.
"	53 53.5	14 14	900	Muddy sand—parted at 800 fms.
"	53 59	14 25	1540	Sandy clay & stones—lost at 1400 f.
"	54 0.5	13 58	1120	Sdy cly. Bank recedes E. Rockal is probably on a separate bank.
12,	54 8	13 25	1350	Sandy clay.
"	54 6	12 50	690	Sandy clay.
"	54 16	13 6	1580	No specimen—line parted.
"	54 39	13 44	1500	Line parted at 1,400 fathoms.
13,	55 14	14 42	1300	Line parted at 1,280 fathoms.
"	55 33	14 40	1220	Line parted at 1,050 fathoms.
"	55 53	14 38	800	Sandy clay.
16,	55 31	12 11	1660	Mud.
17,	54 20	12 44	840	No specimen.
"	54 20	12 23	1380	Drab colored sandy mud.
"	54 20	12 7	980	Sandy clay.
28,	52 40	15 38	1750	Sandy clay.
"	52 45	15 15	1120	Sand and shells.

ENLARGEMENT OF THE ILLINOIS AND MICHIGAN CANAL.

BY J. D WEBSTER.

JACKSON, TENN., *November* 28, 1862.

To the Hon. Secretary of War, Washington, D. C.:

SIR: I have the honor to report that, in compliance with the request of the President of the United States and the Hon. I. N. ARNOLD, of the House of Representatives, and under leave granted by the War Department for that purpose, I have made such inquiries and examination as my time permitted, in relation to the practicability, cost, and military and commercial advantages of opening a passage for gunboats and armed vessels from the Mississippi to the lakes, by improving the navigation of the Illinois River and enlargement of the Illinois and Michigan Canal.

Knowing that the subject had been previously discussed, in able and eloquent speeches and reports, and that plans and estimates had been submitted to Congress, I thought it best, in the first place, to examine the estimates, and ascertain upon what evidence they were founded.

The authors of these plans and the estimates, Messrs. WILLIAM GOODING and JOHN B. PRESTON, are respectively the Secretary and Engineer of the Illinois and Michigan Canal; and in the office of that work, at Lockport, Illinois, I found the data which they had used, an examination of which, with full information as to their sources and preparation, satisfied me that, for the purposes of their report, no further surveys were necessary.

The work naturally divides itself into three portions, and, taking the order in which they were presented to me, the first of these divisions is the Illinois River from its mouth to La Salle, the terminus of the present canal.

The survey of this portion was made by competent engineers, under instructions of the above named gentlemen and by authority of the State of Illinois. The maps and profiles have every mark of care and skill, and the surveys were made under circumstances to secure the greatest accuracy. This survey is the foundation of the plans and estimates for the improvement.

The mode proposed, (and obviously the proper one, I think,) is by dams and locks. The whole distance is 220 miles, and the fall a little less than twenty-eight feet, or an average of one and-a-half inches per mile. Seven dams and locks are proposed. Fewer than these might be made to answer the purpose, but by adopting this number, the water can be raised throughout this entire distance to the required height of affording a channel capable of passing steamboats and vessels drawing six feet without overflowing any valuable lands. Greater strength and security can also be more readily given to the dams, as they will be of less height, than would be necessary with a smaller number. The effect upon the river will be to keep its bed always *covered* for its full width, instead of being as now, alternately covered and exposed. While the occasional overflowing of the contiguous low lands will hardly be increased to a perceptible degree. It is not anticipated that this state of things will be injurious to the health of the adjacent country. On the contrary, it is thought that this constant fullness of the bed of the

river will be beneficial, in that respect, and that the fears, which have been entertained in some quarters, of ill effects will not be realized.

The second of the divisions in the ascending order is that part of the Illinois River between La Salle and Lockport.

This has not been surveyed with reference to the proposed work. Its general character and average width are, however, well known. The lockage is precisely given by the present cause, which runs nearly parallel with, and not far from the river. So that we have data sufficiently full and accurate for arriving at a very close approximation to the cost of the improvement. A survey will be necessary to determine the location of the dams and locks, and the precise quantities of masonry. But this cannot materially vary the aggregate of the calculations already made.

We come now to the third division extending from Lockport to Chicago. There it is proposed to follow the line of the present canal, enlarging it to the dimensions of a ship and steamboat canal, 160 feet wide, and 7 feet deep. The original surveys for the existing canal appear to have been made with minuteness and accuracy, and are yet available for estimates of the cost of the proposed enlargement. There are, however, a few points upon which there may be some liability to error.

Most of the material excavated from the present canal yet remain on its banks. Of course that lying on the side toward which the enlargement is to be made must be removed. It has been assumed in estimating that this material was deposited one-half on each side. This may prove not strictly true.

Again, the amounts of the different kinds of material to be excavated for the enlargement, are not known with absolute exactness. But the estimate, in this particular, are based upon careful notes, taken during the progress of the work on the present canal, and the particular observations of one of the gentlemen named above, and are probably very near the truth.

It is not determined what quantity of earthy sediment may have settled in that portion of the canal which was originally executed upon the deep cut plan. Whatever it may be, it is of a character to be readily and cheaply removed by the improved machinery now in use for such purposes.

These qualifications of the exact correctness of the estimates are not, in my view, of much importance, but I thought it better to mention them in order to make as plain an exhibit as possible of the grounds upon which they are based.

I have no doubt that in the main these estimates are reliable; much beyond what is usual in similar cases. Care has been taken in regard to the points on which there may be some doubt, to err, if at all, on the safe side. Messrs. GOODING and PRESTON have been for years deeply interested in this subject, and have studied it carefully. They have all the advantages of a minute acquaintance with the localities in question, and great experience in construction on this very ground. They are well known as engineers of acknowledged skill and ability, while their character for integrity, puts them above the suspicion of willingly misrepresenting in any particular.

Having them, (those plans and estimates,) I am well satisfied that we have before us the means of forming a correct judgment of the "practicability and cost" of the proposed work.

I therefore append hereto the estimate submitted to Congress by the committee on military affairs of the House of Representatives in their report

of the 20th of February last. I am fully of opinion that the plan is judicious and the estimates reliable. Perhaps some addition ought to be made on account of the high prices of labor and supplies likely to rule for some time to come—the rates on which the estimates were made being those of the past year.

The estimate of thirteen millions three hundred and forty six thousand eight hundred and twenty-four dollars ($13,346,824) may be fairly regarded as the pecuniary measure of the practicability of the work, executed on the plan, cutting down the summit level of the canal so as to draw the needed supply of water directly from Lake Michigan, and maintain a uniform width of 160 feet.

Two other plans have been proposed and estimated for. The first is to make the canal 100 feet wide, with recesses on each mile 160 feet wide, to enable steamers to pass. The estimate for this is eleven millions five hundred thousand dollars, ($11,500,000.)

The other plan is to make the canal 160 feet wide, but omit cutting down the summit, and supply the water from the Calumet, Des Plains, and DuPage rivers—any deficiency (which is almost sure to exist some portion of every season) to be supplied by pumping engines and wheels from Lake Michigan. For this the estimate is nine millions two hundred and ninety-two thousand four hundred and forty-four dollars ($9,292,444.) The difference of cost in these plans arises from the different modes proposed of constructing the enlarged canal, the river improvement remaining the same in all.

The saving effected by adopting any other plan than that of cutting down the summit to the whole depth proposed, seems so unimportant compared to the magnitude and importance of the work, and the mode on the most liberal scale proposed so much superior on all accounts, that I omit the detailed estimates for the others. I earnestly hope that, if the government should determine to execute, or even to aid the work, the largest scale proposed may be sanctioned. Anything less than that would mar the fair proportions which should throughout characterize so important an improvement.

Pumping to supply the summit level is but an expedient, subject to the constant expense and liability to derangement of the machinery by which it is effected; while to pour directly into this great channel the abundant waters of the lakes will make a vital union, instead of an uncertain artificial connection between the two great systems of internal navigation.

The great military advantages, not to say absolute necessity of a communication between the Mississippi and the lakes will appear from a very cursory consideration of the subject. A foreign power holds in its grasp means of access for a fleet of light draft gunboats to the lakes. We have but one small armed vessel, and the Detroit River and Straits of Mackinaw are almost entirely undefended by fortification. Who can compute the amount of disaster and injury which might any day befall our lake commerce and cities in case of war with that power? How many months of time, and how many millions of dollars would it require to build and equip a fleet suitable to the emergency? And where on the lakes are the ship yards sufficiently defended in which to build our fleet? It is painful to think how vulnerable we are in this direction. Our weakness and danger are obvious to the dullest apprehension.

How different would be the state of the case if we could at once transfer our fleet of gunboats, now doing such good service on the ocean and the

gulf to the lakes. We might then in comparative safety and freedom from anxiety, set about those further means of defense which the lake region so much needs. Now, we are almost defenseless. Then we could defend our harbors and cities, or taking the offensive, threaten those of the enemy, or fight him on fair terms.

For the accomplishment of these desirable ends our fleet of river gunboats now in use is entirely unsuited, as they could not live an hour in rough weather on the lakes. Can there vessels be built which can pass through the proposed canal, and yet be capable of doing good service on the lakes? Upon the answer to this question of course will depend the utility of the proposed work in regard to the defense of the lakes.

Not only can vessels be built which will answer these conditions, but a fleet of them already exists. Acting Rear Admiral D. D. PORTER, commanding Mississippi Squadron, in answer to my inquiries on this subject says: "That a canal and locks of the dimensions contemplated will pass nearly every large, light gunboat we have in the navy, or that would be built for lake or sea service. Any vessel drawing eight feet can be lightened to six and-a-half by taking out her battery, coal, and stores." He then names several boats of both the river and sea going class which could pass through the canal, adding, "and some fifty vessels of their class." This, I take it, is satisfactory on this point, about which some good friends of the project had entertained doubts.

It may be observed also, in reference to the present river gunboats, that although they are unable to encounter successfully the waves of the great lakes, it will yet be very useful to be able to take them for repairs, up to the workshops at Chicago, and other towns along the line.

It is difficult to imagine a stronger case of military utility, not to say necessity, than is presented in this relation of the proposed communication to the defense of the lakes. Argument can hardly add to the force of the simple statement of the facts.

Not only would any fleet of gunboats when built be doubled in value, but the vast resources of the lake country in oak and fine timber and iron be available for further increasing the number. Besides the lessons which the ship builders of the lakes have learned under the necessity of adapting their vessels to the comparatively shallow harbors of these waters, and uniting carrying capacity with light draft, will be found of service in this connection. Their skill when called into exercise by the government, will combine the timber of the shores of Lakes Michigan, Huron, and Erie, and the tough iron of Lake Superior, into vessels able to carry the flag of the nation with honor to the torrid regions of the Gulf.

Look a moment also at the great facilities which this route will offer for the transportation of troops, supplies, and munitions of war when needed. The saving of water, over railroad transportation, and of large boats over small ones, is well known. It has been often exhibited in the most striking manner during the present war.

A few words seem to be demanded on the more general view of the subject. Its bearings upon the commercial, manufacturing, and agricultural industry of the country. The subject is so vast that I almost hesitate to say anything about it in the parting way in which other pressing duties will oblige me to do.

The great lakes and the Mississippi river are among the grandest features of the geography of the globe. Their names are at once suggestive of

commercial and agricultural wealth and national greatness. No such system of internal navigation exists elsewhere in the world. The most careful and accurate statements of their present uses for commercial purposes are truly wonderful, while the magnificent future to which enlightened enterprise may lead, tasks the strongest imagination. The Mississippi system of navigable waters is variously estimated at from 10,000 to 20,000 miles. Its numerous ramifications penetrate a country of unrivalled fertility and in many parts abounding in the useful metals. On the lakes we have a coast of 3,500 miles. Their commerce is estimated at the value of $400,000,000, "in articles of prime necessity, to the inhabitants of Eastern States and to our foreign commerce." That of the Mississippi in peaceful times is supposed to equal this. It is the union of these two mighty systems that we contemplate in the proposed improvement.

For this purpose no other route exists comparable to the line now proposed, in the economy of cost of the improvement, or in general utility. It is one of nature's highways, one of the lines which she marks out for the guidance of the great emigrant movements of the race, and by which topography foretells the march of empire. The aboriginal savage traveled by instinct, and now educated intelligence can find no better place for completing and uniting lines of travel and traffic embracing half a continent.

From what has been we may foretell what will be. When the present disorder shall have passed away, the interchange of products between the Northern and Southern States will be resumed. The cotton, sugar, and tobacco of the South will seek its market throughout the Northern States and Canadas, and in return the North will send its wheat, corn, pork, beef, and the various articles of manufacture, which it can so readily provide. This great commerce will gravitate to the cheapest channels. "Look a moment at the capacity of the canal and river improved as proposed," says Mr. GOODING in a recent letter. "It is believed that a boat or barge, built something like our canal boats but cheaper, would usually carry the freight instead of the steamer itself. But suppose our present canal boats be used; twelve of them carrying over 70,000 bushels of grain, with less than five feet draft of water, could be locked through one of our contemplated locks at one lockage, occupying perhaps fifteen or twenty minutes. A powerful steam-tug, such as is used for towing ships from the mouth of the Mississippi to New Orleans, would easily tow such a fleet of boats. It will therefore be apparent that were much less than one-half the old prices paid for freight it would pay enormously with this improved navigation." This gives certainly a very striking view of the facilities for transportation which the improvement will offer.

Consider, too, that these facilities will be *constant* through the seasons of navigation, not fluctuating, as is usual now, between flood and drought. The present season has been one of unusually good navigation in the Illinois river. The result is remarkable. With the report of the House of Representatives, heretofore referred to, was submitted an estimate of tolls, etc., for the five years proposed to be occupied in the construction of the canal, which can be so carried on as not to interfere with the navigation. The tolls for the first year are put down as likely to be the same as for the year 1861, viz: $218,000, and for the second at $230,000. I am informed that the tolls received up to a recent period, during the present season, exceeded those of the last year up to the same time by $40,000, and the receipts for the full season of navigation will not be less than $260,000,

and would have been from 25 to 30 per cent greater if there had been canal boats to do the business

The uncertainty of navigation in past years, owing to the liability of low water in the Illinois river, has discouraged boat-building, and the supply of boats is unequal to the demand. These facts point to the most favorable results to follow, upon making the navigation constant throughout the season, along the whole line from the Mississippi to the lake, to say nothing of the great increase which must inevitably follow the completion of the enlargement, affording so much greater capacity and economy. Cheaper transportation attracts a larger amount of freight and increases the revenue even at reduced rates of toll, as is shown by the Erie Canal. The two parts of the work are necessarily dependent upon each other, or rather the canal enlargement and the river improvement make but one work. It will not be worth while to make the one without the other.

It is stated that the tolls on the Erie Canal for 1861 were $3,800,000. It cost $40,000,000, and is 352 miles long. This proposed improvement is 316 miles long, of greater capacity than the Erie, and can be completed for $13,346,824. From a fair comparison of the two works, what may be expected of this? It will draw trade from down the Mississippi, from the Rocky Mountains, by way of the Missouri and the Yellowstone. The whole of the western half of the Mississippi system will be naturally tributary to it. While in turn it will pour through its capacious channel the merchandise and manufactures of the East. If, then, the present contracted canal, ninety-six miles long, and without facilities for doing all the business offered in a season of good navigation yields $260,000, may we not firmly expect that when the whole line of 316 miles is opened on the proposed scale, reducing the cost of transportation in proportion, it may yield five time that amount?

Or, if the work should cost $13,500,000, the interest on its cost would be $810,000. Taking the tolls to be derived from the enlarged work, shortly after completion, at only four times what they are for the present year, the amount would be $1,040,000, which would pay the interest and loan—$230,000 per annum, for repairs and superintendence, etc.

Surely this may be considered altogether within bounds, when we look at the growth of the country now going on, and the additional stimulus which such a work would give.

The country which will seek this route for its commerce has hardly commenced its agricultural development; hardly one acre in ten is under cultivation, and in large portions not one in a hundred. The want of facilities for transporting produce now represses the growth of this region, by tending to reduce the price of its products below a remunerative point. The East is directly interested in this matter. Any considerable reduction in the cost of transportation here would cheapen the food of every operative in the Eastern manufactories, and tend to draw from Europe the skilled laborers we so much need.

Another point is worth mentioning—the effect of such a work in increasing the assessable value of property in the region more directly affected by it. Of course nothing very definite can be arrived at in this direction. Analogy may help us as to some approximation to the amount. One of the projectors of the Erie Canal estimated its effect in this way, in five years, at full $400,000,000; and the differences between the two cases are all in favor of that under consideration. In the vast region communi-

cating almost immediately with this line, nearly the whole of the land is capable of profitable cultivation, and only waits increased means of transportation to be brought rapidly into use. But is the work *national*, so that Congress may rightfully execute it? A glance at the map will furnish a sufficient answer. Let the eye follow up the Mississippi, and crossing over to the lakes, dwell a moment upon the line of this work. How little labor and expense will suffice to effect a union between these two great systems of water? As the observer looks and thinks, the greatness of the idea will more and more open upon him. Its military and commercial bearings will develop into vaster proportions, till he will see that nowhere is there a work to compare with it in importance, except perhaps the projected canals across the Isthmuses of Darien and Suez.

All of which is most respectfully submitted by your obedient servant,

J. D. WEBSTER,
Col. 1st Reg't Ill. State Artillery.

Estimate for a ship and steamboat canal from Lake Michigan to the Illinois river, and the improvement of the Illinois river to the Mississippi river; the canal to be 160 feet wide on the bottom, sides protected with stone walls 10 feet high; the canal and river locks to be 350 feet long and 70 feet wide, with depth of water sufficient to pass steamboats and vessels drawing six feet of water; the canal to be supplied with water from Lake Michigan.

Chicago to Lockport, 29 miles:

The estimated cost of earth and rock excavation on the summit level from Chicago to Lockport, with walls on both sides 10 feet through the earth, is	$7,092,700

Lockport to La Salle, 67 miles:

The estimated cost of canal to Lake Joliet, and short canals at sixteen locks, walled on both sides; also six stone dams, 600 feet long, eleven canal and five river locks, each 350 feet long and 70 feet wide—making 138 feet of lockage between Lockport and La Salle—is	4,031,092

La Salle to the Mississippi river, 220 miles:

The cost of seven tree and crib dams, 900 feet long, the cribs to be filled with stone and stone abutments; also seven stone locks 350 feet long and 70 feet wide, with entrances protected, and insuring a depth of water on all bars to pass the largest steamboats and vessels drawing six feet, will be	1,045,000
Add for bridges, right of way, engineering, contingencies, etc.	578,032
Total	$13,346,824

THE MARINER'S COMPASS—IRON SHIPS.

THE Jury at the International Exhibition on Ship Equipments, etc., in speaking of the mariner's compass, observe with satisfaction the progress generally made in the construction of this invaluable instrument. This is progress, they very properly remark, in the right direction; for, with the increasing use of iron in ship-building and fittings an efficient compass is imperative, and thorough efficiency cannot be secured without the greatest care in details and delicacy of manipulation.

In 1851 the laws and general principles affecting the compass in iron ships were professionally unknown. They had seriously engaged the attention of a few leading men of science, and so far back as 1839 the present Astronomer Royal of England had made an extended series of experiments by the desire of the Lords Commissioners of the Admiralty in the iron merchant ship "Rainbow." The resulting abstruse investigations did not receive then the attention they merited, though a tentative mode of adjusting the compass published in 1840, by Mr. AIRY, became the basis of a system of compensation since generally adopted in the mercantile marine.

The rapid increase of iron-built ships subsequent to 1851, and the consequent appreciation of compass disturbances produced numerous plans; some for detecting the deviations without the aid of astronomical or other well known observations, others for correcting the deviations by peculiar arrangements of magnets, and even appliances for isolating the compass from the effects of local attraction appeared; many of these plans resulting from an imperfect knowledge of the laws and mode of action of magnetism were undoubted failures.

The melancholy loss of the iron emigrant ship "Taylour," with a great number of her crew and passengers, on the east coast of Ireland, in the early part of 1854, was traced in the main on the official inquiry to the changes of the ship's magnetism, or the imperfect action of the compasses which had been compensated at Liverpool a few days previously to the ship sailing from that port. Public opinion, which was much divided on the subject, eventually invoked the aid of science. A special discussion took place at the British Association at Liverpool in 1854, and ultimately a committee composed of practical and scientific men, interested in the question, was formed at Liverpool for the purpose of collecting information and making the necessary experiments. Three reports of this committee, the last dated February, 1861, have been presented to the Board of Trade, this department of government having liberally assisted the inquiry throughout. To this source and to the investigations of the Astronomer Royal and ARCHIBALD SMITH, Esq., F.R.S., with the researches in the same field by other well known names, among whom we may worthily select the president of the Royal Society, General SABINE, we may have every confidence that a secure foundation of the theory and practice of compass management in iron ships is laid, which alone requires the general spread of education to render familiar to the intelligent seamen.

The recent improvements in the mariner's compass may be considered under three heads: 1. Independently of the deviation of the compass caused by the local attraction of the ship. 2. As regards arrangements for the correction of the deviation. 3. As regards arrangements of the compass for the purpose of diminishing, but not for the purpose of correcting the deviation of the compass.

1. The principal modern improvements have been the introduction of compound needles, and in the manufacture and fitting liquid compasses, the use of the latter in any excessive motion of a ship or boat being almost indispensable. Sir W. Snow Harris has also introduced a very effective compass, in which the oscillations are much reduced by the application of a thick copper ring in the compass bowl, and allowing the poles of the needles to approach very near to it.

By substituting two or more parallel bars for a single bar, which was formerly in universal use, several advantages are obtained, for example, the bars may be placed on their edge, whereby there can be no alteration of their magnetic axes. Greater directive power is obtained with the same weight. Also a combination of two equal parallel bars, of which the ends are 60°, or four, of which the ends are 30° apart, have the moments of inertia about all horizontal axes equal, and oscillations of the card about any axes are performed without any wabbling motion.

The following remarkable property also exists: When magnets or soft iron are placed as correctors, unless the needle be very short compared to the distance of the disturbing magnets or iron, a deviation is introduced depending on the length of a needle. This disappears if instead of the single bar needle the compass is composed of two bars, of which the effective ends are 60° apart. The same is the case with the needles, arranged as in the common Admiralty compass, viz.: at 15° and 45° on each side of the diameter. Such compasses are therefore much better adapted for being corrected than single bar needles.

2. Since the attention of the public has been turned to the subject of the deviation of the compass many schemes have been suggested, and many patents taken out for obviating entirely the effect of the iron of the ship on the compass, the projectors overlooking the fundamental law of magnetism that the interposition of a body between the magnet and the needle on which it acts can as little intercept the action of the magnet as the interposition of a body between the earth and another body would intercept the action of the gravitation of the earth, and also overlooking a very obvious consideration, that if any body could intercept the action of the ship's iron, it would also intercept the action of the earth's magnetic force on the needle.

The mode of correction by magnets and soft iron is susceptible of so many modifications that a greater number of appliances for this purpose than have been sent to the exhibition might have been anticipated. Two only, the Jury tell us, were exhibited, one the model of a binnacle or steering compass, designed originally for the main deck of the "Warrior," and ships of her class, is exhibited by the Lords Commissioners of the Admiralty. The arrangement thus introduced is remarkable both in itself and also historically. It was many years ago observed that two compasses placed near each other as in the common double-binnacle, would produce a mutual disturbance. A regulation about the time was

issued by the Admiralty, forbidding the placing such compasses within such a distance as to allow of the effect being perceptible.

It lately occurred to the Superintendent of the Compass Department of the Admiralty (Mr. F. J. EVANS, R. N.) in following up some investigations, that the disturbance thus caused being exactly opposite in direction to that part called the quadrantal, which is found more or less in every iron ship, (but especially large in amount in armour-plated war ships,) might be made use of to correct that error. On the model in question two compasses are arranged side by side, the distance being adjustible, and a scale being given of the amount of quadrantal deviation in a ship which can be corrected at different distances, so that when the quadrantal deviation is found in the usual way by swinging the ship, the compasses can be adjusted to a corresponding distance. This arrangement has also the advantage of permitting the correction of the remaining part of the deviation to be made in both compasses by one set of magnet bars placed between them.

In the other arrangement exhibited, magnets are introduced in the bottom of the compass bowl, (which is of the ordinary size,) and the adjustment for different latitudes is made by the application of magnets of different powers. Approval cannot be awarded to this arrangement. The magnets are much too near the compass. The supplying magnets of different power is not only a rude mode of adjustment, but requires much greater knowledge and practical skill than an adjustment by change of distances.

3. The iron ships of the present day have generally iron beams, and sometimes iron decks. The effect of this when the binnacle compass is placed on the deck is very serious, and it becomes of great importance to have the steering compass as high above the deck as is consistent with being seen by the steersman, and the Jury conclude that, in any vessel with iron beams, every compass should be at least three feet six inches from the deck.

DISTILLATION OF PETROLEUM.

SPECIFICATIONS OF THE PATENT GRANTED TO CHARLES BLACHFORD MANSFIELD, OF CLARE HALL, IN THE UNIVERSITY OF CAMBRIDGE, FOR AN IMPROVEMENT IN THE MANUFACTURE AND PURIFICATION OF SPIRITUOUS SUBSTANCES, AND OILS APPLICABLE TO THE PURPOSES OF ARTIFCIAL LIGHT AND VARIOUS USEFUL ARTS.

(Concluded from page 332, vol. xlvii.)

THERE are other substances which may be considered as impurities, viz.' napthaline, a solid hydrocarbon, which, when pure, boils at 212 degs. and is therefore found chiefly in the camphole, and in the first half of the dead oil. Paranaphthaline, a solid hydrocarbon, which boils at a temperature above 300 degrees, and is therefore chiefly in the last portions of the dead oil. Besides these, the most volatile of the spirituous substances, viz., alliole, since it has an ill smell, may be considered as an impurity, when present in such benzole as is required to be pure, all these, viz., naphthaline paranaphthaline, and alliole, are removed by a sufficient quantity of concentrated sulphuric acid, which forms peculiar compounds with them, which it dissolves and carries with it to the bottom of the other hydro carbonaceous spirituous substances, on which, with the exception of camphole, it acts much less powerfully.

I proceed now to the application of these facts to the purification of the different oils and spirituous substances manufactured according to the first part of my invention. If a very volatile spirit be required, which is not required to be entirely free from a slightly disagreeable smell, I take any portion of the most volatile part of the naptha, separated according to the principles which I have set down ; but I prefer to take for this purpose such as may have been distilled over, before the temperature in the retort in the second or third distillation, or in the last distilling vessel, if a complex rectifying apparatus be used, has risen above 80 deg. This spirituous substance, which I call alliole, will not be absolutely pure, being mixed with a certain portion of benzobe, but will usually be found to be characterized by the peculiar smell of the pure alliole. I add to this alliole about one-fourth its bulk of a cold moderately dilute acid, for which use I prefer hydrochloric acid of specific gravity 1.16, mixed with five times its bulk of water ; but a much stronger hydrochloric acid may be used, or oil of vitriol mixed with nine times its bulk of water. I do not state that these preparations are absolutely necessary, but they are convenient, the requisite condition being that the acids be not concentrated nitric or sulphuric acid ; since these acids when concentrated, destroy the alliole in proportion to the quantity in which they are used. I agitate the alliole with the acid in a suitable vessel, which should be nearly closed, or so constructed as to prevent evaporization of the spirituous substance which is under treatment ; all that is necessary being to keep the acid and spirituous substance in a state of intimate mixture for a sufficient time, to enable the acid to form salts with the ammonia and oily alkaloids, which accompany the crude alliole ; I then allow the ves-

sel to stand undisturbed, till the two fluids have separated; I then draw off the acid liquor, and wash the alliole by agitating it with about its bulk of clean water in the same manner as with the acids. The alliole, if then allowed to separate from the water and drawn off, is fit for use. But it is convenient sometimes to rectify it again, and to allow it to stand for some time, after careful separation from any water that may accompany it, upon fresh burnt lime, which will remove any acid and water that may still adhere to it.

The spirituous substance so obtained will be found to have a slightly alliacious odor, somewhat resembling that of bisulpheret of carbon, to be extremely volatile, and is placed in a retort and distilled should begin to boil about 65 degs. or 70 degs.; and the greatest portion of its bulk should distil over before the temperature from the retort arrives at 80 degs., and the temperature should then rise very fast, and the retort should be dry at about 90 degs. or a little above. This spirituous substance will be found to be an excellent solvent of caoutchouc, gutta-percha, and many of the resins, it will mix with pyroxylic spirit in equal proportions, if the spirit be not too much diluted with water, and may be used when so mixed for dissolving shell lac, or shell-lac and gutta.percha, or caoutchouc mixed, though it will not dissolve lac in sufficiently large quantities when alone, or it may be mixed with a solution of lac in pyroxilic spirit in similar proportions. And the proportions in which it may be mixed with any sample of pyroxylic spirit may be readily ascertained, by putting a known quantity of the alliole into a graduated glass, and pouring it into the pyroxilic spirit, at the same time shaking the mixture until the whole of the alliole is dissolved, and a clear transparent mixture results, which shows no streaks of milkiness when the surface in an open glass is slightly blown upon. The proportion or quantity of spirit which has been added to the alliole which was in the glass, shows the proportions in which they may be mixed. Alliole so prepared also yields a brilliant light when burned by the aid of a current of air. Next is the purification of benzole prepared from coal tar or the products of coal tar. If this be not required perfectly free from the odor of alliole, and if moderate purity be only required, I treat this spirit in the same manner which I have described for the treatment of alliole; and if it be required for burning with the aid of a current of air, as hereinafter described, I prefer to treat it in this manner, by which all the spirituous substance is preserved intact, while the picoline and other alkaline substances, which chiefly cause the disagreeable smell of the naptha, are removed; and I consider it sufficiently pure for this purpose when a piece of white deal, dipped first into the benzole and then into hydrochloric acid, does not acquire a red or pink color. If, however, a volatile substance be required as a solvent, or for any other purpose where freedom from an unpleasant odor is necessary, the treatment is different. Instead of agitating the benzole with dilute acid, I agitate it with concentrated sulphuric acid, in the proportion of about one half pound of acid to a gallon of the benzole, which destroys the alliole, at the same time that it removes the basic oils, and oxidizes any of the brown forming substance which may be present; and I prefer to add with the sulphuric acid a small portion of the nitrate of potash, or nitrate of soda, about one ounce to half a pound of sulphuric acid, or nitric acid, or nitrous acid, or aquafortis of specific gravity about 1.30, in the proportion of one fluid ounce to half a pound of sulphuric acid; the addition of nitric acid tends greatly to bring out the pleasant smell of the benzole from the

more perfect oxidation of oxidable substances which are present, and from the formation of a small quantity of the sweet-smelling compound, of which I have already spoken, which, when the benzole is rectified, is separated in the residue; or instead of sulphuric acid, mixed with nitric acid or its salts I use nitric acid, nitrous acid, or aquafortis alone, of specific gravity about 1.30 or 1.40, or nitric acid mixed with hydrochloric acid, or nitro-muriatic acid, in the proportion of half a pound of the acid to a gallon of the benzole, or instead of the nitrate of potash or soda, I use a similar proportion of bichromate of potash. I then, after agitation, allow the mixture to settle and then draw off the benzole from the thickened acid. I then sometimes add to the benzole a small quantity of the chloride of lime and some moderately strong acid, and stir the mixture, but this further deoxidizing process is seldom necessary. And whether this last process be used or not, I now agitate the benzole with water and complete its purification in the same manner as the alliole is purified. The spirituous substance so obtained will be found to be very volatile; if placed in a retort, it should commence to boil at 30 degs. and the largest portion of it should come over before the temperature in the retort reaches 85 degs., and the retort should be dry at 100 degrees without leaving any residue. If subjected to a temperature of 20 deg. below 0 degrees. (—20 degs.) it should deposit so large a quantity of crystaline matter as to become almost entirely solid. It should have a smell somewhat like that of almonds. It will be found to be an excellent solvent for the same purposes as alliole, being very useful for making many kinds of varnishes. If a solution of gutta-percha be made in benzole, and the solution be spread as a varnish on a smooth surface, such as glass or porcelain, the spirituous parts will rapidly evaporate, and will leave the gutta-percha in a tough film on the surface, which must be peeled off, and in this way, by properly adjusting the surface and carefully peeling off the varnish, artificial membranes applicable to many useful purposes may be made, or by spreading the solution on the surface of the human body, an excellent plaster or artificial skin may be obtained in cases in which protection is desirable. This benzole is an excellent solvent for camphor, essential oils, fats, wax, and many other substances. It may be used as a substitute for spirits of wine in some of the arts, and for oil of turpentine in most of the purposes to which that hydrocarbon is applied, having the property of far greater volatility than the latter substance, which in many instances would be an advantage. Benzole admits, however, of yet further purification, which for some purposes it is desirable to effect, and this is accomplished by freezing. But since for those purposes for which it would be required to be so highly rectified, it would probably be required to be as free as possible from all foreign oily matters, I recommend that it be again treated with sulphuric acid, with or without the addition of saltpetre or nitric acid, or with nitric acid alone, or with nitro-muriatic acid, as above described, or that it be distilled with about one quarter its bulk of a mixture of two parts concentrated sulphuric acid and one part of a concentrated aqueous solution of bichromate of potash, or with a small quantity of chromic acid; and I recommend that such treatment be repeated until the benzole, on being agitated with cold oil of vitriol, no longer confersa dark color upon the acid; but strong nitric or nitro-muriatic acids must not be used in so large proportion as sulphuric acid may be used, since the benzole may be decomposed by the former acids, though not by the sulphuric acids.

When this further treatment with acids has been used, I wash the benzole

well with water or with lime water to remove the acid, and distil it either with or without the addition of some lime, and I prefer to insert a thermometer in the retort, and to receive for refrigeration what comes over, while the temperature in the retort is between 79 degs. and 88 degs. What comes over beyond may be mixed with some of the crude spirituous substances, reserved as purified toluole, of which it will partly consist. The benzole may be further rectified by distillation any number of times, and that portion of the distillate should always in that case be reserved separately for purification, which comes over between 80 degs. and 85 degs.

The reduction of benzole to a state of further purity, depends upon the property which it possesses and which distinguishes it from coal naptha, and from all the other hydrocarbons contained in the naptha, viz., that of becoming solid when exposed to a low temperature, and of melting again when pure at a temperature a little above that at which ice melts. The degree of cold requisite to solidify the fluid will vary inversely with the degree of purity which it has previously attained by distillation. If nearly pure it will solidify at 0 deg., if about half the fluid be benzole, and the rest the other hydrocarbons of the naptha, which distil over with it, the benzole will crystalize out of the solution, when exposed to a temperature of 20 degs. And I may state that, generally, if the crude benzole obtained by once distilling the first runnings of the coal naptha, or the whole light oil or the rectified naptha, as described in the first part of my invention, viz., from a boiler surmounted by a head surrounded with water, which is allowed to become heated to ebullition, be again rectified in a similar apparatus, and the first portion of the distillate equal to one-third the quantity placed in the retort (especially if the very first one-sixteenth portion be set aside separately as alliole, which does not solidify at 0 deg.,) or if that portion which comes over while the temperature in the retort is rising from 80 degs. to 90 degs. be reserved as benzole, that portion so received on the second distillation will, if submitted to a temperature of —20 degrees, become in great part solid, depositing crystaline matter equal to at least half its bulk. By further rectification both of the mother liquor of the solid portion (that is, of that portion of the spirituous substance which is separated as fluid from the solid benzole after refrigeration,) and also of the rest of the distillate on this second rectification, a further portion of spirituous substance may be obtained which will solidify at —20 degs. I now expose the benzole which has been prepared for refrigeration to a low temperature in a suitable vessel, and for the production of this low temperature I use if it be necessary, a freezing mixture. When the benzole has been so congealed, I expose it to a powerful pressure, and the more powerful the pressure by which this separation is effected the purer will be the result, and the lower the temperature at which the operation of pressure is conducted, the larger will be the produce. The fluid pressed out is set aside, and after further rectification, if required, will yield another proportion of solid matter by refrigeration.

The purification may be carried still further, either by again pressing at a temperature of 0 deg. the mass obtained by a first pressure, or by placing the mass in a funnel, and allowing it to melt slowly in the air, with the bulb of a thermometer immersed in the mass, reserving as pure that which remains solid when the temperature of the mass has risen to 0 deg. I call the substance so produced absolute benzole. It will be found to boil constantly at 80 degs. or 81 degs. It will produce a state of intoxication if in-

haled in the manner in which ether is used. It is an excellent substitute for ether in many cases in which ether is applied, as for the solution of iodine, quinine, wax, and fatty and volatile oils The next spirituous substance, or toluole, which when pure boils at about 110 deg., and which may be obtained in a state of partial purity by reserving the last portions which come over in the rectification of benzole, and the first which come over in the rectification of camphole, is purified by treatment with acids in the same manner as the benzole but not by refrigeration. And I wish it to be understood, that by purified toluole, I do not mean a chemically pure hydrocarbon having a fixed boiling point, but I mean an oily or spirituous substance obtained from the coal naptha, which will boil chiefly between 100 degs. and 130 degs. being so much of the naptha as remains after separating on the one hand as much as possible of the spirituous substances that will yield a white flame with a current of air passed through them, and on the other hand as much as possible of the oily substances which will not take fire on the surface on the application of a lighted match, both being understood of of the fluids at the ordinary temperature of the air.

Since all that applies to toluole as regards its purification, is also applicable to common naptha, and to other bituminous and empyreumatic oils, such as petroleum, or native naptha, the oil distilled from bituminous schist, &c., I will here state my method of purification as applied to coal naptha, generally observing, however, that in the application of concentrated sulphuric acid to common coal naptha, a certain proportion of oil is lost by the destruction of much of the cumole by the acid, I add to the naphtha, or toluole separated as above described, concentrated sulphuric acid in the proportion of about three quarters of a pound, and nitric acid or aquafortis in the proportion of about a quarter of a pound to a gallon of the naptha or toluole, which has been previously carefully separated from water. I then agitate them well together in a suitable leaden or other vessel. The nitric acid need not be the strongest, that of specific gravity between 1.30 and 1.40 is suitable, and it need not be pure; the crude acid known as nitrous acid, or the acid called single aquafortis may be used.

I do not confine myself exactly to the proportions here given, or I use a mixture of nitric and hydrochloric acids, or nitro-muriatic acid, or nitrate of potash or of soda, instead of nitric acid, in about the same proportions, with or without the addition of an equal proportion of bichromate of potash, or bichromate of potash without the nitrates; but if I use these salts instead of nitric acid, I prefer to use a rather larger proportion of sulphuric acid. Since the object is not to form definite chemical compounds, exact proportions are unnecessary; all that is requisite is to have sufficient free sulphuric acid to dissolve the naphthaline, or a part of the naphthaline, in the naphtha, and not sufficient to dissolve much of the other hydrocarbons; to have sufficient free acid of any sort to dissolve all the alkaline oils (aniline, picoline, &c.) and to have enough of the oxidizing agents, sulphuric, nitric, or chromic acids, to convert at once all the coloring matter into new volatile products, and to have enough nitric acid to convert a small quantity of the naptha into an aromatic oil, which leaves a slight fragrance in the naphtha when separated from it by subsequent distillation. After thorough agitation and subsidence, I withdraw the naphtha, and wash it thoroughly with a large quantity of water till all the acid is removed. It is advisable to separate the naphtha carefully from the acid before adding the water, otherwise certain compounds may be precipitated by the water from the

sulphuric acid liquor, which may impair the purity of the oils. I then either agitate the naptha with a solution of caustic lime, caustic soda, or caustic potash, (preferring lime or soda to potash as being cheaper); and then either distil the oil with the alkaline fluid, or after removing it from the alkaline fluid in a still, to which fire is directly applied; or I rectify it by passing steam through it in the manner already known and in use; and when so distilling, I sometimes pass the vapor through a dry lime purifier, as hereafter described, when speaking of the purification of camphole. I then carefully separate the naphtha from water, and it is fit for use; or I sometimes allow it to stand, after agitation with chloride of calcium or chloride of lime, in vessels in which a small quantity of those substances has been placed which remove the remainder of the water.

The toluole or naphtha so purified is applicable to the melting of varnishes, and to combustion in lamps, in which oil of turpentine or coal naphtha are usually burned, and also to burning in lamps when mixed with alchoholic or pyroxylic spirit; or to napthalizing a current of heated air so as to confer on it illuminating properties on being ignited.

The camphole which is obtained by the rectification of the last portions of the light oil, and the first portions of the heavy oils of coal tar, is purified in a different manner, since, firstly, it contains a large quantity of creosote and other acid substances, and secondly, a considerable portion of the hydrocarbon, which is required to be purified, is destroyed by treatment with concentrated nitric or sulphuric acids. And the method which I adopt to purify this oil is to digest it with a caustic alkaline lye, and to distil it so that its vapor may pass over lime, and to agitate it with hydrochloric acid, or with dilute nitric or sulphuric acids; and I prefer to treat it first with alkali for this purpose. In a boiler or retort with two apertures or necks, one of which is directly connected with the upper condenser hereinafter mentioned, and the other with the condenser of an ordinary still, (which boiler I prefer to be of cast iron,) I place the crude camphole with about a quarter its bulk of a solution in water of caustic potash or caustic soda of specific gravity about 1.150 or with a similar quantity of a solution of hydrate of lime in water, with an excess of fresh-slaked lime, or with dry caustic potash, or caustic soda, in the proportion of a quarter of a pound of the alkali to a gallon of the oil, or with caustic lime in rather larger proportions (the carbonates of soda and potash may be used, but they do not act so perfectly as the caustic alkalies or lime in the removal of the acid substances, and in the oxidation of the other impurities). The boiler or retort is surmounted with a vapor chamber, or head similar to that recommended for the rectification of benzole, it being so connected with one of the necks of the retort, that all the vapors condensed in it shall flow freely back into the retort. This head is kept surrounded with water as cold as possible, as the object of it is to condense all the vapors and return them to the retort; it may be connected by its other or upper opening with a still-worm to condense any vapors that may escape, or its other opening may be closed with a loaded safety valve, The oil and caustic lye being placed in the retort, the neck of the retort which is directly connected with the still-worm is closed, and that connected with the upper chamber is opened; fire is applied, and the aqueous solution is to be allowed to boil. The ebullition will continue for any length of time, if the condensr in the upper condenser be perfect, and even if a small quantity of vapor be allowed to escape condensation, the digestion will continue for a sufficient length of time.

I allow this digestion to continue for five or six hours after ebullition has commenced. I then either lower the fire to stop ebullition, and draw off the watery solution through a pipe at the bottom of the boiler, and then close the neck connected with the upper condenser, and open the other neck of the retort which is directly connected with the still-worm, and then distil the oil over; or I change the outlet in the same way, and distil without first drawing off the lye. In the latter case, oil and water will come over together at first, and the temperature in the retort will not rise far above 100 degs. or 110 degs. till nearly all the water and a large quantity has come over; but if the water be drawn off, the temperature in the retort will soon rise rapidly to 140 degs. or 150 degs. before any fluid distils. I then sometimes set aside the first portion that distils over so long as samples taken in a small open vessel catch fire on the surface on the application of a lighted match, and I prefer to receive as camphole that which comes over subsequently till the temperature in the retort reaches 190 degs. The residue is distilled over, distillation being stopped when the temperature in the retort reaches about 300 degs., if it should rise so high before distillation ceases, and is mixed with the dead oil in the same stage of purification, unless this residual distillate contain much naphthaline, in which case it will solidify partially or entirely, and the solid part is rejected and the fluid part only of this residual distillate is added to the dead oil. The camphole, after this distillation, is now agitated either with hydrochloric acid, or with dilute, sulphuric or nitric acid, formed by mixing the strong acids of commerce with about six times their bulk in water. This agitation is continued for a convenient length of time, and may be done in an open vessel with a stirrer. Having allowed the fluids to separate, I draw off the acid, and then I sometimes repeat the agitation with a further quantity of dilute acid with the addition of some chloride of lime in the proportion of a quarter of a pound of chloride of lime to a gallon of the acid but this may be omitted. The oil is drawn off and well washed with water, from which it is separated and then rectified. It may be rectified by passing steam through it, or by distilling from a retort to which fire is directly applied, but in either case it is convenient to place between the retort and the condenser a vessel similar to the dry lime purifiers used for purifying coal gas, in which lime is placed on plates or gratings in a chamber having only two openings, so that the vapors pass over the lime, and I prefer to have this lime purifier of such size that it may contain lime conveniently spread in the quantity of about half a pound of lime, more or less, to a gallon of the oil placed in the retort, but a smaller vessel may be used. This vessel is so arranged that the vapor of the oil, or water and oil, as it leaves the retort passes over the lime which deprives it of dry acid remaining in it, and then passing into the condenser is reduced to the fluid form. But I prefer to rectify it in a retort over fire directly applied without the presence of water or steam, and to use a thermometer inserted in the retort, and to cease receiving as camphole when the temperature in the retort reaches 190 degs. By this means I obtain the oil colorless, and if it should be of specific gravity, .890 or .900, or if the distillation be not continued so far, the specific gravity may be so low as .870. Concentrated sulphuric and nitric acid, separately or mixed, may be used in the purification of camphole; but I prefer not to use such acids, as a considerable loss of hydrocarbon is thereby sustained, and the use of concentrated nitric acid sometimes confers a yellow color on the oil which it does not lose on rectification. I sometimes repeat this treatment with alkali

and acid once or oftener. Camphole so purified is applicable, either alone or mixed with some of the oils having lower boiling points separated in my processes, or with the pyroxylic spirit for burning in the lamps. It is also useful as a substitute for oil of turpentine in making varnishes.

For the purification of the dead oil I adopt the same method of digesting with an alkali as that which I have described for camphole, but I prefer to use a stronger lye and in larger proportions, and to continue the digestion for a longer time before I change the outlet and commence distillation, since the dead oil contains a larger quantity of acid substances. The same description of apparatus and the same sorts of alkali are applicable to the dead oil as to the camphole, but caustic alkalies are much to be preferred to carbonates. And in rectifying the dead oil from which the camphole has been previously separated by distillation, which is that which I prefer to treat in this manner, though the method is equally applicable to dead oil from which the camphole has not been removed after digestion with the alkali. If the lye be not drawn off, very little oil will be carried over with the water which distils off first, and whether the lye be or be not drawn off, I prefer to receive separately all the oil which comes over, before the temperature in the retort reaches 200 degs., and if there be little naphthaline present, I add this oil to the camphole of the corresponding degree of purity. If there be much naphthaline present, I reject so much of that part of the distillate from the dead oil as solidifies in the cold, which will be the case in some instances while the temperature is rising from 210 degs. to 220 degs., or even higher. And the quantity which it will be convenient to reject may be found by observing whether a thin film of the distillate received on a cold surface solidifies, when the temperature in the retort is above 210 degs., when it ceases to solidify ; on being so examined I commence to receive the mortuole for purification. If none solidify on cooling, I receive all the distillate above 200 degs. together, till the temperature in the retort reaches 230 degs. or 290 degs., I reject what comes over above as containing too much paranaphthaline. And, instead of treating the oil with dilute acid, I treat the dead oil, after distilling from the caustic lye, with oil of vitriol, in the proportion of one pound of the oil of vitriol to one gallon of oil, and with or without the addition of a small quantity of nitric acid ; I agitate the acid with the oil in a suitable vessel for one or two hours, and I prefer to allow the oil to stand with the acid for two or three days, and to repeat the agitation occasionally. I then draw off the oil from the acid, after having allowed it to settle. Finally I distil it through a dry lime purifier, as described for the purification of camphole. The oil should be collected in this rectification between the temperature of 220 degs. and 280 degs. This oil will be of a pale yellow, or almost colorless. I sometimes repeat this treatment of the mortuole with acids and alkali, once or oftener.

It is convenient sometimes further to purify the mortuole, camphole, and other oils and spirituous substances, by filtering them through finely divided carbon, for which purpose I prefer animal charcoal or lampblack, which has been digested for a short time in oil of vitriol, or boiled in a solution of carbonate of potash, and then dried and heated to redness in a closed vessel recently before use. And the filtration may be conveniently conducted by placing the oil in the filtering apparatus, over a vessel or receiver, into which the oil will be forced thtough the filterer by the pressure of the air, when the air is exhausted from the receiver. By further treatment with caustic alkali or lime, and with sulphuric acid, and by subsequent rectifica-

tion, the mortuole may be obtained quite colorless. The oil so obtained is applicable to many of the purposes to which oil of turpentine is applied, and also to many of the purposes to which fixed oils are applicable, and it is applicable either alone or mixed with the more volatile hydrocarbons to burning in naphtha vapor pressure lamps, and when mixed with pyroxylic spirit in suitable proportions, to burning in lamps in which oil of turpentine or the fixed oils are burned.

What I here claim in respect to this second part of my invention, is the purification of the spirituous substances and oils which I manufaeture from coal-tar, by treatment with chemical agents, according to principles laid down, depending on the nature of the spirituous substance and oils aforesaid and of the impurities desired to be removed.

I also claim the use of nitric or nitrous acid, of nitro-muriatic acid, and of chromic acid, and the salts of those acids in the purification of empyreumatic and bituminous volatile oils, and the purification of certain of the oils manufactured from coal-tar by digestion with alkalies in the manner above described, and by distilling them so that their vapor is passed over lime, in the manner above described, and the purification of a spirituous substance obtained from coal-tar by congelation and pressure, which substance so purified I call absolute benzole.

COMMERCIAL CHRONICLE AND REVIEW.

PUBLIC ANXIETY—ESTIMATED DEBT—SECRETARY'S PLAN—FUNDS RAISED IN THE PAST YEAR—PRICES IN GOLD—MODE OF REASONING—PAPER MONEY AND STOCKS—ANNUAL REPORT—AMOUNT OF CURRENCY—SCALE OF DEPRECIATION—ADVANCE IN PRICES—LOANS WITHOUT INTEREST—BANK SCHEME—UNIFORM TAXATION—PURCHASING SPECIE—CHANGE THE ½ EAGLE—SECRETARY AND CHAIRMAN OF THE COMMITTEE OF WAYS AND MEANS—CORPORATION PLANS—PRICES OF STOCKS—IMPORTS—TABLE OF THE PORT—EXPORT TABLE—SPECIE MOVEMENT—STOCKS PAID IN COIN—FUTURE LOANS—EFFECT OF BILLS ON EXPORTS—RATES OF EXCHANGE—HARVESTS ABROAD—SPECIE TO INDIA.

THE report of the Secretary of the Treasury, which had been so anxiously looked for, made its appearance at the opening of the session, but failed to allay the public inquietude in relation to the government resources. It proved to be more of a political document, than a faithful expose of the financial situation of the government. On another page the leading features of the report will be found, and it will be seen that the estimated debt July, 1863, is $1,122,297,403, to be increased by $622,300,701 for the succeeding year, making, in round numbers, $1,000,000,000 to be raised by loans in the next eighteen months, in addition to the sums raised by taxation. The Secretary, after a very long and disconnected report, concludes with asking that no more demand notes be issued; that the law authorizing $500,000,000 of six per cent stock, redeemable after five years and within twenty, be so modified that outstanding notes shall not be convertible into the stock at par, and that the Secretary may have the discretion of selling it at any price *under market value;* the amount that may be issued be increased, and that a general banking law may be enacted to compel all banks doing business to secure their notes on United States stock. The Secretary argues that this would create a market for the stock, and furnish a uniform currency. These recommendations in themselves, amount simply to nothing whatever. The public understood from them that paper money was really the chief reliance of the Department, while the Secretary sought to throw upon Congress the odium of the measure. The report shows that during the past year ending December 1st, there have been comparatively no loans of capital made by the public to the government. The whole revenue has been derived from temporary expedients. The money has been raised as follows mostly:

Currency notes paid out	$200,000,000
Deposits certificates paid out	79,728,650
One-year " "	87,363,241
Three-year bonds 7.30 "	50,000,000
Received on 20-year bonds	22,000,000
Converted 5-20 year bonds	23,750,000
Total	$462,911,891

These are the sums raised since the report of December, 1861. The $22,000,000 of 6 per cent 20-year stock, was money paid in up to date on the loan previously made in November. The 3-year bonds were mostly paid out to creditors, and of the $500,000,000 bonds authorized, only $23,750,000 have been converted into notes. Two hundred millions

have been obtained from currency on demand; $79,298,000 from deposits payable at ten days notice, and $87,363,241 from certificates payable in in the year. These bear 6 per cent interest in gold, and sell at 96½ for currency, which gives 12½ per cent per annum for the money. Thus, gold being 33⅓ per cent, the holder of a $1,000 bond gets for interest $60 in gold, which is worth $80 in currency, and he gets $100 for 96½ paid, making $108 received within the year for an outlay of 96½. This is the rate at which the government borrows. Nevertheless, the price of its stock has fallen from par for a 6 per cent 20-year stock in gold, to 75 for gold. The Secretary now affects to propose to go on and borrow $1,000,000,000 more on stock, by allowing him to fix his own terms and prices, and to issue no more notes. His mode of reasoning is very extraordinary. He states that brokers and speculators will not buy the stocks if the public can buy on the same terms, viz.: at par, or at the market value. He therefore asks for "discretion," to enable him to make private bargains with speculators, who may realize a profit by sales to the public; but the private negotiations of $3,000,000 7$\frac{3}{10}$ bonds last June, was not so successful as to give a favorable idea of these new propositions. He states: "amounts are seldom taken, except with a view to re-sales at a profit, and re-sales at any profit are impossible under the law. Negotiations *below market value* are not allowed, and if not allowed the taker of the bonds can expect no advance, unless a market value considerably below par shall become established. * * * A discretionary power may, perhaps, be advantageously conferred on the Secretary, to be exercised as exigencies may require or allow."

This is a plan for the negotiation of $1,000,000,000 demanded for the service of the next eighteen months, and is certainly quite the reverse of the "popular loan," about which the Secretary was before so sanguine. The Secretary is possessed of the idea, which is also apparently common to the Chairman of the Committee of Ways and Means, that the ability of the government to borrow money, depends upon the amount of its own paper money in circulation. He cannot divest himself of the idea that paper promises are capital, instead of being only the medium in which capital is transfered. His view was as follows:

"The government can resort to borrowing, only when the issue of notes has become sufficiently large to warrant a just expectation that loans of the notes can be had from those who hold, or can obtain them at rates not less advantageous than those of coin loans before suspension.

"The extension of the United States note circulation, until sufficient in amount to enable the Secretary to obtain it from holders by way of loans, was equally inevitable. A practical limit on increase is imposed by the judicious legislation of Congress, which *makes the notes receivable* for loans.

"Whenever the volume of notes reaches a point where the loan can be effected at rates fair to the country, and desirable to takers, loans will of course be made, and ample opportunities for conversion offered.

"A comparatively small reduction of (bank note) circulation, will allow ample room for the whole increase of the United States circulation, authorized by existing laws; and as the reduction proceeds, the increase may be extended, never, however, passing the point which *admits the negotiation of loans at reasonable rates.*"

Thus, the amount of capital that may be loaned the government, de-

pends upon the amount of paper afloat. In relation to the amount outstanding, and its effect upon the loans proposed, we have the following:

"The time and rate of the 5-20 loan authorized were judiously determined, and he believes that if the suggested changes are made in the law, the needed supplies can be obtained through these loans.

"Without any issues of United States notes beyond the amount now authorized, it seems certain that loans for the whole amount required for the current year *can readily be obtained* at fair rates.

"It points indeed directly to the conclusion, that loans in sufficient amounts to meet the disbursements of the government, could *not now be obtained* at rates which a due regard to the interests of the tax payers would permit the Secretary to accept."

This is a very extraordinary mode of reasoning. The issues are and are not sufficient, yet if the Secretary can have power to make private bargains with jobbers, the loans, he thinks, can be obtained, notwithstanding the "interests of tax payers." It is not a matter of surprise that such a document fell still-born upon the public. The Secretary reasoned that there was no inflation of the currency in the last year, notwithstanding the government issues, and the premium of 30 per cent on gold. He states the position of the currency as follows:

	November, 1861.	November, 1862.
United States notes	$15,140,000	$210,104,000
Bank notes	130,000,000	167,000,000
Coin in banks and circulation	210,000,000	.....
Total	$355,140,000	$377,104,000

It appears that there is $232,000,000 more paper outstanding than last year. The banks now hold more specie than then. A large proportion of $50,000,000 of the amount the Secretary gives for last year, was in Southern banks; $50,000,000 is in the shape of plate, and now being taxed; $50,000,000 more was silver coin. These facts the report does not state, but it proceeds to argue that the paper currency is not redundant, notwithstanding that gold was 30 per cent premium. That such is the case, may be reasonably inferred from the fact that the prices of many of the most important articles of consumption have declined or not materially advanced during the year. At the same date to which this applies, the *Gazette*, of Cincinnati, Mr. CHASE's home organ, gives the following table illustrative of the markets now and a year ago:

	1861.	1862.	Advance.
Flour, super	$4 00	$5 50	$1 50
Flour, extra	4 10	5 40	1 20
Coffee	16 @ 17 c.	35 @ 36 c.	19 c.
Sugar	9 @ 10 c.	12 @ 13 c.	3 c.
Molasses	43 @ 44 c.	61 @ 62 c.	18 c.
Butter	10 @ 12 c.	18 @ 20 c.	8 c.
Prints	10½ c.	20 c.	9½ c.
Hay	$9 @ 10	$13 @ 14	$4 00
Lard oil	63 c.	80 c.	17 c.
Linseed oil	66 c.	$1 15	49 c.
Potatoes	37 c.	1 00	63 c.
Pork	$9 50	$10 75	$1 25

The curious reader will observe that in every case, the advance has been the same, 30 per cent, as that of gold, and in some cases very much higher. There are some instances where the supply of an article cut off from its natural market is unusually low, bringing no more in depreciated paper than it did a year ago in gold. The Secretary contends that his paper currency, which inflicts such heavy burdens upon the public, is money obtained without interest, and he cannot therefore admit that it inflicts a tax of 30 per cent upon every individual. Nevertheless, he is very willing to forego the borrowing without interest, in order to issue the notes through the banks. He states the $250,000,000 notes outstanding are a loan without interest. He asks that those notes be converted into a 6 per cent stock, which shall be the basis of bank issues to the same amount, redeemable in the government notes. In other words, he wishes to pay the banks $15,000,000 interest in gold annually, equal at the present rate to $20,000,000 in paper on those stocks, on which the banks may issue $250,000,000 of their own paper without interest, and redeemable only in government notes. If the bank notes are to be based on the government notes, why not allow the latter to remain as they are, without paying the bankers $15,000,000 per annum in gold to issue substitutes? Inasmuch as on the proposed plan there is to be no limit upon the irredeemable issues of the banks, the depreciation of the currency will continue to inflict immense burdens upon the people. By the bank plan, which he states is to make "one uniform currency," there would be four currencies, viz., gold, for customs and stockholders; United States notes, legal tender; "national currency," redeemable in the United States notes, and lastly, the present bank notes that are to be taxed out of existence. Inasmuch as that taxation must be "uniform," it is difficult to see how the issues of one bank may be taxed and those of another exempt from tax.

The Secretary states that, when victories shall have brought peace, the "ample resources" of the government will enable it "to purchase specie to replace large amounts," and thus bring about resumption. The Secretary certainly reflects but little on the situation when he ventures such statements. There was abundance of coin in the country when the Secretary, by his paper issues, drove it out. When those issues shall have run their inevitable course and have utterly perished, specie will return. If the Secretary were to undertake to buy it back, with what would he pay? The specie now goes abroad because of debts created by paper money, and to get it back supposes some other means of payment. The Secretary also appropriates his "ample revenue," which he estimates at $55,000,000, to the redemption of the public debt on the return of peace. He states that it will pay 3 per cent on a debt of $1,700,000,000, evidently calculating upon the permanence during peace of the war taxes, which he estimates at $220,000,000 per annum. The confusion of ideas which induces the Secretary to propose buying gold to resume specie payments, is also illustrated in the following extract: "If the half eagle of the Union be made of equal weight and fineness with the gold sovereign of Great Britain, no sensible injury could possibly arise from the change; while, on the resumption of specie payments, its great advantages would be felt in the *equalization of exchanges* and the convenience of commerce." This has the appearance of a joke; but it is hardly to be supposed that when he proposes a permanent tax of $157,000,000 to pay the interest

and sinking fund of a debt of $1,700,000,006, contracted mostly for the creation of the most scandalous private fortunes of government partisans, he will take to joking otherwise than in his intercourse with the President.

Following the decimal notation, the half eagle is $5. If it were reduced to the weight of the sovereign it would be $4 84. The Napoleon of France is $3 84; the Prussian crown, $6 64; the Belgium 25-francs, $4 72; the Austrian sovereign, $6 75. How are all these and many more values to be "equalized" by putting 19 grains less gold into the half eagle? Or how can that equalize exchanges which depend upon international debts?

The results of the financial situation, as expressed in the report, are of a very gloomy character. They indicate a very rapid descent on the downward slope towards national bankruptcy, and therefore were not calculated to improve general business. The depression which Mr. CHASE's report produced was not relieved when the Chairman of the Committee of Ways and Means, in a speech of December 18, denounced Mr. CHASE's plan, and proposed one still more expensive himself, viz: to call in and cancel the stock issued since the law making the interest payable in coin was passed, and to repeal that clause; to issue $500,000,000 of legal tender notes, and authorize "a billion" of bonds at 6 per cent, which assets can be placed at par in a year. The word "billion" he twice repeats, and although it means a million multiplied by itself—a "million of millions"—he probably means a thousand millions. This proposition, then, as compared with Mr. CHASE's, is as follows:

	Notes.	Bonds.	Interest.
Mr. Chase.....	$250,000,000	$900,000,000	7 3/10
Mr. Stevens.....	500,000,000	1,000,000,000	6

This demand of Mr. STEVENS is for a sum one thrid of the British debt. That of Mr. CHASE is for a sum that bears an annual cost equal to half that of the British debt; and he asks that he shall not be limited, but shall have the right to make private bargains with his friends for it. There were probably never two financial state papers published which can command less confidence than those of the two highest financial authorities of the present government. The alternative remains between impossible loans and a swelling flood of paper, on the moving current of which the property of the country is drifting with accelerated pace to bankruptcy, which means anarchy. The following table shows the price of government securities, as compared with gold:

PRICES UNITED STATES PAPER.

		6's, 1861. Reg.	6's, 1861. Coup.	5's, 1874.	7 3-10, 3 years.	6 p. c. certif. 1 year.	Gold.	August demand notes.
May	10,.....	103½	103	94	104	99⅞	2¾	¼
"	17,.....	105	105	96	105	100⅛	3	⅛
"	23,.....	104½	104½	96	105	100⅛	3¼	⅛
"	31,.....	104½	104½	96	105	100	3⅜	⅛
June	7,.....	103	106	96	106¼	100¼	4¼	1
"	14,.....	103⅜	107⅛	97¼	106¼	100½	6⅞	3
"	26,.....	102⅞	106¼	96½	105⅝	99⅞	9	4¼
July	5,.....	100¼	100⅛	95	102	98½	10	5¼
"	12,.....	100	100½	88	103	99	17	7¼
"	19,.....	98	98	85	101½	97½	19	8

		6's, 1861. Reg.	6's, 1861. Coup.	5's, 1874.	7 3-10, 3 years.	6 p. c. certif. 1 year.	Gold.	August demand notes.
July	27,.....	99	99	86½	103	98½	17	6½
August	2,.....	98¼	98½	85½	102½	98½	15	5½
"	9,.....	99	100	85½	103½	100	12½	5½
"	16,.....	100⅜	100⅞	90	100	100	15	7½
"	23.....	101	101	90	104	99⅜	15½	8
"	30.....	101½	101½	90	104¼	100	16½	8¼
Sept.	6.....	99⅜	99⅜	88½	103¼	99	18⅜	8
"	13.....	99⅝	99⅝	88½	103	98¼	19¼	8⅜
"	20.....	102	102	90	104½	99	17	2½
	26.....	101½	101⅜	90¼	104½	99⅝	20⅜	16½
October	4.....	104½	104½	94	105¼	94	19½	22⅝
"	11.....	104	104	92½	105	99⅜	27½	23⅜
"	18.....	104	104	92½	106	99½	32	29
"	25.....	103	103	93	105	99	31	27
Nov.	1.....	104	104¼	93¼	105¼	99¼	31½	26½
"	8.....	103½	103½	92½	103½	98	32½	26
"	15.....	103½	103½	91½	104	98	32	26½
"	23.....	103½	103½	91	104	98	30	24½
"	38.....	101½	103⅜	91	103½	97⅜	30	24½
Dec.	6.....	101	104	91½	104	97½	31	25
"	13.....	99½	104	91⅜	103⅝	97	31	26½
"	20.....	97	103¼	94	101½	95⅜	32	27½
"	27.....	96¼	102½	91½	101½	95⅜	32	29

The importations at the port of New York for the month of November, showed a continued decline as compared with the two previous months, mostly for articles entered for consumption, since the cost of importation, in the rise of freights and exchange, increased faster than the sale prices. There is, as compared with former years, doubtless a great want of goods among consumers; but the general aspect of affairs demands the most rigid economy. Hence the hesitation in buying, although there is also an inclination among dealers to hold goods for the rise which must take place in paper money. The imports were as follows:

IMPORTS, PORT OF NEW YORK.

	Specie.	Free goods.	Entered for— Consumption.	Entered for— Warehouse.	Total.
January.....	$163,658	$2,552,050	$6,663,396	$3,141,725	$12,620,829
February.....	62,007	3,381,473	7,058,174	3,370,486	13,872,140
March	89,327	3,476,004	10,312,689	4,841,846	18,719,866
April.....	26,152	2,232,315	7,141,197	3,853,218	13,252,882
May.....	110,383	1,146,093	8,091,120	4,600,920	12,948,516
June.....	61,023	1,122,092	7,278,953	2,874,127	12,336,195
July.....	219,001	1,831,932	13,799,505	4,502,764	20,353,202
August	92,713	982.992	10,289,427	2 939,721	14,304,843
September.....	121,318	1,784,804	11,890,711	4,351,084	18,147,917
October.....	256,676	1,004,870	8,462,554	3,689,806	13,413,906
November.....	109,708	1,526,496	6,565,185	2,108,009	10,309,398
Total, 11 months.	$1,311,964	$21,341,121	$97,652,911	$41,273,706	$161,579,699
" 1861.....	36,734,883	27,779,670	49,911,475	38,725,841	153,131,869

The receipts of specie for the eleven months, as compared with last year, are very small. The receipts of dutiable goods were also small, and as a consequencee the duties for November were one-third less than in October. The exports for the month also show a declining tendency. The price of grain, which constitutes a large portion of the quantities sent away, were lower in England, ruling, in November, 30 cents per bushel for wheat less than in 1861. At the same time the rates of ex-

change remained with little fluctuation through November. There was consequently less disposition to ship, and the results were as follows:

EXPORTS, PORT OF NEW YORK.

	Specie.	Foreign. Free.	Foreign. Dutiable.	Domestic.	Total.
January	$2,658,374	$27,193	$149,493	$12,053,477	$14,948,437
February	3,776,919	49,066	208,757	10,078,101	14,112,843
March	2,471,233	65,388	458,917	8,985,176	11,980,714
April	4,037,675	56,350	607,678	8,002,094	12,703,797
May	5,164,536	76,971	752,797	9,837,693	15,342,097
June	9,867,614	43,358	372,561	10,048,832	20,332,375
July	8,067,337	1,117,193	449,948	14,050,437	23,684,915
August	3,713,532	417,100	256,680	13,046,389	17,833,701
September	3,085,919	572,572	667,987	14,734,993	19,061,471
October	6,707,519	179,205	434,265	19,476,947	26,797,936
November	6,213,215	45,530	284,813	14,060,340	20,603,906
Total, 11 months.	$55,763,873	2,745,359	$4,548,488	$134,374,479	$197,432,192
" 1861	3,343,237	2,079,473	4,709,445	117,574,551	127,906,700

The nominal aggregate for the month, including specie, is very large—larger than in any previous November; but it will be borne in mind that this amount is not realized. It is the paper value here; to ascertain the real value 25 per cent must be deducted, since the inflation was 33 per cent in gold. Hence the value of produce exported was about ten and three-fourth millions, which nearly covers the face of the imports for the month, leaving a large sum (nearly $6,250,000) in specie for government wants, interest, etc., etc. The specie movement is as follows:

SPECIE AND PRICE OF GOLD.

	1861. Received.	1861. Exported.	1862. Received.	1862. Exported.	1862. Gold in bank.	Price of gold.
Jan. 4	.....	.....	.....	$442,147	$23,983,878	2 a 4 prem.
" 11	$1,445,385	.....	$885,923	1,035,025	25,373,070	4 a 5 "
" 18	1,446,219	.....	.....	547,703	26,120,859	4 a 4½ "
" 25	1,246,029	$22,855	627,767	322,918	26,698,728	2 a 3⅜ "
Feb. 1	1,514,154	289,669	.....	310,484	27,479,533	3¼ a 3½ "
" 9	1,052,313	115,698	854,000	976,235	28,196,666	3¼ a 3⅜ "
" 15	1,056,426	117,101	614,146	1,156,154	28,114,148	4 a 4⅜ "
" 22	.....	187,253	759,247	734,512	28,875,992	3 a 3⅜ "
March 1	855,755	176,161	741,109	510,774	29,826,959	2 a 2⅜ "
" 8	.....	.....	679,075	585,236	30,436,644	1⅝ a 2⅜ "
" 15	815,524	123,316	677,058	477,335	30,773,050	2 a 1½ "
" 22	.....	91,161	.....	540,968	32,023,390	1½ a 1⅝ "
" 29	699,597	6,088	490,368	779,564	32,841,862	1¼ a 1½ "
April 5	996,445	628,708	581,292	673,826	33,764,382	1¼ a 1 "
" 12	1,110,231	323,906	.....	1,505,728	34,594,668	1⅜ a 2¼ "
" 19	.....	328,127	617,279	693,432	34,671,528	2 a 1½ "
" 26	844,577	1,000	635,546	1,151,300	35,297,944	1½ a 1⅝ "
May 2	.....	800	410,804	712,275	35,175,828	2⅜ a 3⅜ "
" 9	868,600	27,695	484,019	1,574,166	32,239,868	3¼ a 3½ "
" 17	755,102	.....	604,682	1,093,031	30,280,697	3 a 3⅝ "
" 24	1,913,355	.....	604,682	938,032	30,672,760	3⅜ a 3⅝ "
" 31	2,282,137	500	224,911	881,452	31,397,284	3½ a 3⅝ "
June 7	1,618,876	650	553,035	1,647,299	31,284,882	3⅜ a 4⅛ "
" 14	617,361	18,976	352,391	1,990,327	31,162,048	4½ a 6⅞ "
" 21	986,143	222,546	612,461	3,156,988	31,047,945	6 a 6¼ "
" 28	.....	2,070	393,212	3,094,101	30,832,626	7 a 9¾ "
July 5	811,268	2,200	.....	2,647,060	31,790,519	9 a 10 "
" 12	.....	1,588	641,451	2,424,916	32,098,174	9¾ a 17 "
" 19	1,244,000	1,750	441,179	1,846,023	31,926,609	17 a 20 "

	1861.		1862.			
	Received.	Exported.	Received.	Exported.	Gold in bank.	Price of gold.
July 27...	.....	4,000	.....	784,537	33,064,575	16½ a 17 "
Aug. 2...	2,128,240	1,382	Golden Gate lost	748,523	34,022,490	14½ a 16 "
" 9...	.....	....	964,422	890,552	34,611,069	12½ a 13 "
" 16...	941,081	700	.....	700,431	35,301,778	14½ a 15 "
" 23...	1,176,434	1,040	1,089,111	919,825	35,538,486	15 a 15½ "
" 30...	757,629	9,280	.....	1,137,644	35,640,984	16 a 16½ "
Sept. 6...	1,100,693	5,120	807,563	551,097	36,138,928	16½ a 18¾ "
" 13...	....	69,859	.....	1,042,835	37,125,245	19 a 19¼ "
" 20...	953,340	11,150	934,415	490,895	37,863,037	17 a 17½ "
" 27...	.....	.....	758,286	996,892	37,592,552	16 a 16½ "
Oct. 4...	937,776	7,100	.....	713,075	38,325,587	22½ a 22¾ "
" 11...	.....	2,011	807,616	2,255,513	39,263,086	23¾ a 24 "
" 18...	1,011,707	3,921	.....	1,714,551	38,759,256	33½ a 37½ "
" 25...	1,026,332	2,006	768,121	2,024,380	37,453,531	27 a 31½ "
Nov. 1...	.....	2,981	.....	351,547	37,980,436	31 a 31½ "
" 8...	878,805	3,685	.....	711,607	38,794,768	32½ a 32¾ "
" 15...	875,730	32,905	708,731	1,894,708	39,348,947	31½ a 32 "
" 23...	.....	... ..	921,207	2,458,529	38,110,216	30 a 30½ "
" 30...	829,807	11,745	.....	797,360	37,949,086	29 a 29½ "
Dec. 6...	870,246	30,121	735,112	1,469,087	37,662,868	31⅝ a 31¾ "
" 13...	.....	56,313	.....	874,296	36,708,754	31⅜ a 31½ "
" 20...	979,005	493,614	699,962	999,438	35,554,336	23½ a 33¾ "
" 27...	822,058	312,965	Ariel.	286,880	35,780,807	31⅛ a 32 "
Total..	38,379,574	4,207,776	24,882,846	59,403,618	.....	

The receipts of specie from San Francisco continue to be much less than for the corresponding time last year, and this decline is a consequence of the state of the markets for goods here, which bear paper prices and sell less readily. On the other hand, the export of specie has continued more rapid than last year. At the close of November a reaction in the price of gold in some degree checked the current towards the city, and the amount in bank declined under the paying drain, while the price again rose. The wants of the general government to meet its interest January 1, were considerable, and added to this was the maturity of $2,883,364 of 6 per cent stock, payment of which was made in specie. It is no doubt the case that the government ought to pay its stock in specie, because it had gold for it originally; and if the holder of the stock make a profit of $750,000, by getting equal to gold, it is not their fault, but that of the department which brought about such a state of affairs. When the loan was contracted gold was paid into the Treasury as the only constitutional currency—a currency common to the whole world. If, for certain political purposes, the Treasury department discarded gold and forced paper upon the people for a currency, it cannot thereby repudiate one quarter of a just debt. When paper money is inaugurated and the government contracts a loan in paper, the lenders are supposed to know what they are about. They can only get paper back, and must take their chance of its future value, which is likely to be little enough.

The decline in the amount of domestic exports for the month of November grew out of the heavy state of the exchange market. Commercial bills were with difficulty negotiated at the rates of October, and at the same time prices of American produce were lower in England, affording less margin for shipment, even with the high nominal rate of bills, which have ruled as follows:

RATES OF EXCHANGE.

	London.	Paris.	Amsterdam.	Frankfort.	Hamburg.	Berlin.
Feb. 1,	113 a 113⅛	5.10 a 4.95	42⅛ a 43⅛	43⅛ a 43⅛	37 a 38⅛	75⅛ a 76⅛
" 15,	115 a 115⅛	4 97½ a 4.90	42⅝ a 43⅛	43⅝ a 44	37⅝ a 38⅛	76⅛ a 77
Mar 1,	112 a 113	5.05 a 5.00	42½ a 43	42⅝ a 43	37 a 37⅝	75½ a 75
" 15,	112¼ a 112½	5.07½ a 5.03⅝	42½ a 43	42½ a 43⅝	36⅝ a 37⅝	74⅝ a 75⅝
" 22,	111 a 112¼	5.08⅝ a 5.00⅝	42 a 42½	42½ a 42⅝	36⅝ a 37½	74 a 74½
" 29,	111 a 112	5.10 a 5.05	42 a 42½	42½ a 42⅝	36⅝ a 37⅛	74 a 74⅛
Apr. 5,	111½ a 112½	5.07½ a 5.02½	42½ a 42⅝	42½ a 42⅝	36⅞ a 37½	74½ a 75
" 12,	111⅝ a 112⅛	5.10 a 5.03⅛	42 a 42½	42½ a 42⅝	36⅝ a 37½	74½ a 74⅝
" 19,	111⅞ a 112½	5.10 a 5.03⅝	41⅝ a 42½	42½ a 42⅝	36⅝ a 37½	74 a 74½
" 26,	111½ a 112½	5.02½ a 5.07½	42½ a 42½	42½ a 42⅝	36⅝ a 37⅝	74½ a 74⅝
May 2,	112½ a 113½	4 97½ a 5.02½	42½ a 42⅝	42⅝ a 47⅝	37 a 37½	74½ a 74⅝
" 10,	113 a 114	4.91½ a 5.02½	42½ a 43	42⅝ a 43½	37½ a 37⅜	75 a 75½
" 17,	113 a 114	4.96¼ a 5.00	42⅝ a 43	42⅞ a 43½	37⅝ a 38	75 a 75⅝
" 24,	114½ a 115	4.92½ a 5.00	42⅝ a 43	43 a 43½	37½ a 38	75½ a 75½
" 31,	114 a 114⅝	4.95½ a 4 91¼	42⅞ a 43½	43½ a 43½	37½ a 38¼	75⅝ a 76
June 7,	114 a 115	4 95 a 4.91	43 a 43½	43½ a 43½	37⅝ a 38½	75⅝ a 76
" 14,	117¼ a 118	4 75 a 4 82	43⅝ a 44½	44½ a 45	39 a 39½	76⅝ a 77½
" 26,	120½ a 121	4.70 a 4.66	44½ a 45	45 a 45½	40 a 40½	78 a 78⅝
July 5,	120 a 122	4.70 a 4.62½	55½ a 45½	45 a 45½	45 a 45¼	79 a 79½
" 12,	127 a 129	4.33½ a 4.31¼	48 a 49	48 a 49	42½ a 43½	84½ a 85½
" 19,	128½ a 131	4.37½ a 4.32¼	48½ a 49	48½ a 49	43 a 44	86½ a 87½
" 27,	126 a 129	4.45 a 4.35	47½ a 48½	48 a 48½	41½ a 42½	85½ a 86½
Aug. 2,	125 a 127	4.52 a 4.55	47⅝ a 48¼	47⅝ a 48¼	41⅝ a 42	82 a 83
" 9,	124 a 126	4 55 a 4.47½	47 a 47½	47½ a 47½	41 a 42	82 a 82½
" 16,	126½ a 127½	4.45 a 4.40	47½ a 47⅝	47⅛ a 48	42 a 42½	83 a 83½
" 23,	126⅝ a 128	4.45 a 4.40	47½ a 47⅝	47½ a 48	41⅞ a 41½	82½ a 83½
" 30,	126⅝ a 127⅝	4.45 a 4.40	47½ a 47⅝	47½ a 48	42 a 42½	83½ a 84
Sept. 6,	128⅝ a 130	4.36¼ a 4.32½	48½ a 49	48⅝ a 49½	42½ a 43	85 a 85½
" 13,	126½ a 131	4.36¼ a 4.30	48⅝ a 49¼	49 a 49½	42¼ a 43⅛	85⅝ a 86¼
" 20,	128¼ a 129½	4.42 a 4.35	48¼ a 48⅝	48½ a 48⅝	42½ a 42⅝	85 a 85½
" 27,	128½ a 129½	4 40 a 4.32	48½ a 49	48⅝ a 49	42½ a 43	85¼ a 86
Oct. 4,	134½ a 135½	4.20 a 4.15	50½ a 51⅝	50½ a 51	44½ a 45	88 a 89
" 11,	137½ a 142½	4.12 a 4.00	51⅝ a 53	52½ a 53½	46 a 47	92 a 94
" 18,	148 a 152	4.90 a 3.90	53 a 52	52 a 53	46 a 47	91 a 93
" 25,	143 a 145½	3.90 a 3 85	54¼ a 55	54½ a 55	48 a 47½	95½ a 96½
Nov. 1,	143½ a 145⅝	3.95 a 3.86½	54½ a 55	54⅝ a 55½	47½ a 48½	97 a 97⅝
" 8,	145½ a 147	3.87½ a 3.82½	55½ a 56⅝	55½ a 56	48¼ a 48½	97 a 97⅝
" 15,	145½ a 145⅝	3.87½ a 3.82½	55½ a 55⅝	55½ a 56	48 a 48⅝	97 a 97⅝
" 23,	143½ a 144⅝	3.97½ a 3.90	54½ a 55	54½ a 55½	47⅝ a 48¼	96½ a 96⅝
" 30,	141 a 142	4.00 a 3.92	53½ a 54	54 a 54½	47 a 48	95 a 96
Dec. 6,	144½ a 1473	3.90 a 3.82	54⅝ a 55⅝	55¼ a 56	48¼ a 48⅝	96 a 97
" 13,	144½ a 146	3.92½ a 3.80	54⅝ a 55½	55 a 55½	48½ a 49	96½ a 96
" 20,	144½ a 146	3.90 a 3.85	54½ a 54½	54⅝ a 55½	48½ a 49	96¼ a 97¼
" 27,	146½ a 147½	3.87½ a 3.80	55½ a 56½	55⅝ a 56½	48⅝ a 49½	97 a 98

There was a gradual decline in the importations and the remittances of money to Europe, which checked the demand for bills, and they became rather weak; but the outward current of specie was not checked. The movement was aided by the efforts to get the price of gold down during the early part of November, by selling for future deliveries at lower rates. The gold being wanted for shipment was readily taken by shippers, who sent it forward when delivered, profiting at the expense of the speculators for the fall.

The harvests of England and Western Europe are not of the best descriptions, but the supply of old grain on hand is such as to preclude high prices for the present, while the large importations of cotton, at high prices, from India cause an unusual demand for the precious metals for that destination, and by so doing accelerate the drain from the United States, ahd therefore assist to depreciate the currency here.

STATISTICS OF TRADE AND COMMERCE.

THE TRADE AND COMMERCE OF NEW ORLEANS.

THE following comparative tables, showing the trade and commerce of New Orleans, form an important part of the history of the times. One can scarcely estimate the loss our country has suffered by this war. We get glimpses of the truth in such figures as these:

STATEMENT OF COTTON.

Stock on hand 1st September, 1861.....bales		10,113
Arrived since taking stock.....	150	
Arrived previously.....	38,730	
Total receipts for 12 months.....	38,880	
Made from waste and damaged cotton, samples, etc.	1,000—39,880	
		49,998
Exported since taking stock.....	382	
Exported previously.....	27,296	
Total exports 12 months.....	27,678	
Burnt in presses and on shipboard April 24th, about	22,200—49,878	
Stock on hand 1st September 1862.....		120

STATEMENT OF TOBACCO.

Stock on hand 1st September, 1861.....hhds.		15,121
Arrived since taking stock.....	None.	
Arrived previously.....	1,063	
Total receipts for 12 months	——	1,063
		16,184
Exported since taking stock.....	187	
Exported previously.....	2,037	
Total exports for 12 months.....	2,224	
Taken for the consumption of city and neighborhood, and broke up for baling.....	1,249—	3,473
Stock on hand 1st September, 1862.....		2,711

Inspections from Sept. 1, 1861, *to Aug.* 31, 1862.

Hays and Johnson.....hhds.	269
Saufley.....	257
P. A. Hardy.....	15
A. M. Summers.....	278
Turner and Mars.....	229
Total.....	1,048

Comparative Arrivals, Exports, and Stocks for ten years, from 1st Sept. each year.

	Cotton—bales.			Tobacco—hhds.		
	Arrivals.	Exports.	Stock.	Arrivals.	Exports.	Stock.
1861–62..	38,880	27,678	120	1,063	2,224	12,711
1860–61..	1,849,312	1,915,852	10,118	34,892	39,806	15,121
1859–60..	2,255,448	2,214,296	73,934	80,955	82,689	20,635
1858–59..	1,774,298	1,777,171	26,022	75,925	79,974	28,399
1857–58..	1,678,616	1,659,707	30,230	87,141	72,215	28,410
1856–57..	1,513,247	1,516,921	7,321	55,067	50,181	13,711
1855–56..	1,759,293	1,795,023	6,995	56,090	59,074	9,125
1854–55..	1,284,768	1,279,264	39,425	53,348	64,100	12,653
1853–54..	1,440,779	1,429,180	24,121	48,905	53,043	24,045
1852–53..	1,684,864	1,644,981	10,622	75,010	64,075	29,166

COFFEE, SUGAR, AND SALT.

Direct imports for 3 years, from Sept. 1 to Aug. 31.

	1861–62.	1860–61.	1859–60.
Coffee—Cuba, etc.....bags	360	1,376	4,590
" Rio.....	3,034	282,718	278,956
Sugar—Cuba.....bxs. and bbls.	....	13,136	16,948
" " .....hhds.	....	1,687	3,045
" Brazil, etc....bxs. and bags	....	.....	332
Molasses—Cuba.....hhds. and tcs.	....	691	17,271
" " .....bbls.	....	.....	5,526
Salt—Liverpool.....sacks	58,516	593,661	852,324
" Turks Islands, etc.....bush.	20,745	27,320	368,620

IMPORTS OF SPECIE.

For 12 years, from 1st September to 31st August.

1861–62.....	$10,000	1855–56.....	$4,913,540
1860–61.....	14,627,375	1854–55.....	3,746,036
1859–60.....	8,444,857	1853–54.....	6,967,056
1858–59.....	15,627,016	1852–53.....	7,865,226
1857–58.....	13,268,013	1851–52.....	6,278,523
1856–57.....	6,500,015	1850–51.....	7,937,119

EXPORTS OF COTTON AND TOBACCO FOR THREE YEARS.

Commencing September 1 and ending August 31.

COTTON.

To—	1861–62.	1860–61.	1859–60.
Liverpool.....bales	1,312	1,074,131	1,348,163
London.....	....	153	107
Glasgow, Greenock, etc.....	....	32,767	16,437
Cowes, Falmouth, etc.....	....	10,034	19,147
Queenstown, Cork, etc.....	....	42,263	43,112
Havre.....	472	384,938	303,157
Bordeaux.....	....	3,704	2,395
Marseilles.....	....	283	3,735
Nantz, Cette, and Rouen.....	....	....	4,004
Amsterdam.....	....	3,411	2,949

To—	1861–62.	1860–61.	1859–60.
Rotterdam and Ghent	....	1,700	5,205
Bremen	....	65,073	60,999
Antwerp	....	12,343	16,362
Hamburg	....	5,551	9,079
Gottenburg and Stockholm	....	10,426	13,522
Spain, Gibraltar, etc	21,571	72,471	50,317
Mexico, etc	....	6,269	17,725
Genoa, Trieste, etc	....	34,618	61,228
St. Petersburg, etc	....	23,538	28,019
New York	4,116	29,539	62,936
Boston	109	94,307	131,648
Providence, R. I	....	4,897	5,717
Philadelphia	98	855	5,257
Baltimore	....	100	1,247
Other coastwise ports	....	2,481	1,829
Total	27,678	1,915,852	2,214,296

RECAPITULATION.

Great Britain	1,312	1,159,348	1,426,966
France	472	388,925	313,291
North of Europe	....	122,042	136,135
South of Europe, Mexico, etc	21,571	113,358	129,270
Coastwise	4,323	132,173	208,634
Total	27,678	1,915,852	2,214,296

TOBACCO.

To—	1861–62.	1860–61.	1859–60.
Liverpool ..... hhds.	....	1,436	8,844
London	....	3,017	6,308
Cowes, Falmouth, etc	....	3,011	2,013
Havre	100	3,179	2,010
Bordeaux	....	328	3,212
Marseilles	....	1,037	3,197
Amsterdam	....	....	1,143
Rotterdam and Ghent	....	406	1,735
Bremen	536	5,084	13,694
Antwerp, etc	....	1,067	4,735
Hamburg	....	20	64
Gottenburg and Stockholm	....	....	1,951
Spain, Gibraltar, etc	1,248	9,560	10,848
Genoa, Trieste, etc	....	7,539	8,847
Other foreign ports	....	1,816	4,640
New York	303	1,996	7,392
Boston	....	213	1,310
Philadelphia	....	98	261
Baltimore	37	....	140
Other coastwise ports	....	26	345
Total	2,224	39,806	82,689

RECAPITULATION.

Great Britain	....	7,464	17,165
France	100	4,544	8,419
North of Europe	536	6,577	23,322
South of Europe	1,248	18,915	24,335
Coastwise	340	2,306	9,448
Total	2,224	39,806	82,689

EXPORTS OF FLOUR, PORK, BACON, LARD, BEEF, LEAD, WHISKY, AND CORN.

From September 1 to August 31.

	1860–61.		1860–61.
To New York—		Beef.....bbls.	4,378
Flour.....bbls.	4,976	Whisky.....	27,290
Pork.....	21	Corn.....sacks	767,288
Bacon.....casks	122	To Great Britain—	
Lard.....kegs	7,823	Flour.....bbls.	186,278
Beef.....bbls.	963	Pork.....	25
Lead.....pigs	5,850	Lard.....kegs	62,526
Whisky.....bbls.	903	Beef.....bbls.	775
Corn.....sacks	9,936	Corn.....sacks	695,329
To Boston—		To Cuba—	
Flour.....bbls.	3,375	Flour.....bbls.	901
Lard.....kegs	1,094	Pork.....	637
Beef.....bbls.	344	Bacon.....casks	1,624
Lead.....pigs	13,909	Lard.....kegs	133,716
Whisky.....bbls.	743	Beef.....bbls.	211
Corn.....sacks	10,193	Whisky.....	175
To Philadelphia—		Corn.....sacks	48,400
Flour.....bbls.	2	To other foreign ports—	
Whisky.....	122	Flour.....bbls.	47,817
To Baltimore—		Pork.....	2,263
Whisky.....bbls.	40	Bacon.....casks	202
To other United States ports—		Lard.....kegs	25,969
Flour.....bbls.	205,544	Beef.....bbls.	163
Pork.....	33,017	Lead.....pigs	51
Bacon.....casks	22,743	Whisky.....bbls.	219
Lard.....kegs	32,846	Corn.....sacks	14,344

EXPORTS OF SUGAR & MOLASSES FOR TWO YEARS, (UP THE RIVER EXCEPTED.)

From September 1 to August 31.

	1861–62.			
	Sugar.		Molasses.	
To—	Hhds.	Bbls.	Hhds.	Bbls.
New York	66,993	4,471	...	13,352
Philadelphia	3,080	119	...	1,169
Boston	4,461	2	...	1,424
Baltimore	1,496	178	...	609
Mobile	10,287	....	...	62,149
Apalachicola and Pensacola	55	....	...	175
Other ports	....	3	...	....
Total	86,372	4,773	...	78,878

To—	1860–61. Sugar. Hhds.	Sugar. Bbls.	Molasses. Hhds.	Molasses. Bbls.
New York	21,436	607	...	40,088
Philadelphia	1,876	7	...	4,281
Charleston	2,491	2	...	7,765
Savannah	158	....	...	328
Providence and Bristol, R. I.	4	1	...	2,628
Boston	151	4	185	10,344
Baltimore	2,870	90	...	5,752
Norfolk, Richmond, Petersburg	2,966	....	...	3,343
Mobile	7,225	1,251	...	30,726
Apalachicola and Pensacola	1,355	2,357	...	7,933
Other ports	1,631	405	...	6,324
Total	42,163	4,724	185	122,512

TOTAL EXPORTS TO ALL PORTS IN 1860–61.

Flour ..... bbls.	448,893	Beef ..... bbls	6,834
Pork	35,963	Lead ..... pigs	19,810
Bacon ..... casks	24,691	Whisky ..... bbls.	29,492
Lard ..... kegs	263,974	Corn ..... sacks	1,545,490

IMPORTS INTO NEW ORLEANS, FROM THE INTERIOR, FOR FOUR YEARS.

From September 1 *to August* 31, *in each year.*

	1861–62.	1860–61.	1859–60.
Alcohol ..... bbls.	307	3,193	.....
Apples	24,127	74,276	67,416
Bacon ..... asst. casks, etc.	4,073	38,188	45,015
" ..... bbls. and bxs.	681	6,344	5,987
" hams ..... hhds.	3,420	25,636	37,814
" in bulk ..... lbs.	784,399	.....	39,000
Bagging ..... pieces	1,223	8,554	21,427
Bale rope ..... coils	2,455	49,083	125,429
Beans ..... bbls.	2,098	10,127	8,889
Butter ..... kegs	5,036	22,447	38,345
" ..... bbls.	322	354	1,506
Bran ..... sacks	65,746	230,916	274,217
Beef ..... bbls. and tcs.	13,622	23,389	44,934
" dried ..... lbs.	.....	6,000	93,726
Cotton—La. and Miss. .... bales	34,594	1,327,849	1,588,947
Lake	.....	3,511	3,481
N. Ala. and Tenn.	3,585	249,150	371,658
Arkansas	701	168,089	163,339
Montgomery	.....	11,551	28,473
Mobile	.....	48,270	34,179
Florida	.....	13,279	16,335
Texas	.....	30,613	49,096
Corn in ears ..... bbls.	22,216	122,644	36,092
" shelled ..... sacks	315,652	3,383,911	1,722,039
Cotton seed	258,750	207,555	....

	1861–62.	1860–61	1859–60.
Cheese.....boxes	3,911	59,429	95,305
Candles.....	5,265	46,165	110,405
Coal, Western.....bbls.	.....	1,628,000	2,900,000
Dried apples, etc.....	1,262	1,692	70
Flaxseed.....tcs.	16	459	1,121
Flour.....bbls.	281,645	1,009,201	974,340
Feathers.....bags	51	373	936
Glassware.....boxes	383	22,148	68,879
Hemp.....bales	.....	1,602	4,883
Hides.....No.	11,865	93,786	163,568
Hay .....bales	40,578	152,173	151,659
Iron, pig.....tons	59	215	643
Leather .....bdls.	10,340	9,768	6,115
Lard.....tcs. and bbls.	6,069	39,633	65,784
" .....kegs	4,290	61,237	90,699
Lime, Western.....bbls.	27,612	40,272	33,143
Lead .....pigs	1,967	25,510	80,964
" bar.....kegs	36	1,298	1,658
Molasses.....bbls.	401,404	313,260	313,840
Oats.....bbls. and sks.	35,348	552,738	659,550
Onions.....bbls.	2,419	26,857	26,401
Oil, linseed	5	399	1,020
" castor.....	50	389	571
" lard	339	7,772	9,333
Pickles.....kegs and bbls.	121	151	332
Potatoes.....bbls.	68,269	257,190	207,698
Pork.....tcs. and bbls.	11,452	213,983	216,523
" .....boxes	51	.....	71
" .....hhds.	370	1,734	1,874
" in bulk.....lbs.	610,219	2,612,776	3,803,500
Porter and ale.....bbls.	361	19,515	20,940
Packing yarn.....reels	10	731	3,748
Rice.....casks	23,476	4,761	.....
Rosin .....bbls.	277	74,558	.....
Skins, deer.....packs	53	261	1,542
Shot.....kegs	4	2,890	4,001
Spirits turpentine.....bbls.	2,716	13,425	.....
Sugar .....hhds.	225,356	174,637	195,185
" .....bbls.	7,907	5,976	4,808
Soap.....boxes	8,427	9,201	12,202
Shingles.....M.	1,475	8,207	7,000
Staves.....	9	7,635	10,173
Tallow.....bbls.	792	608	1,025
Tobacco, leaf .....hhds.	1,063	34,892	80,955
" chew.....boxes	6,366	8,864	14,544
" .....bales	315	134	274
Twine.....bdls.	108	2,572	3,508
Wool.....bags	3,855	2,171	.....
Whisky.....bbls.	1,760	93,352	185,042
Wheat .....bbls. and sacks	36,411	71,678	13,116

VALUE OF PRODUCE OF THE INTERIOR.

A table showing the receipts of the principal articles from the interior, during the year ending 31st August, 1862, with their total value :

	Amount.	Value.
Alcohol.....bbls.	307	$18,420
Apples.....	24,127	168,889
Bacon, assorted....hhds. and casks	4,073	651,680
" assorted.....boxes	681	40,860
" hams.....hhds. and tcs.	3,420	581,400
" in bulk.....lbs.	784,399	219,631
Bagging.....pieces	1,223	19,262
Bale rope.....coils	2,455	38,347
Beans.....bbls.	2,098	25,176
Butter.....kegs and firkins	5,036	201,440
" .....bbls.	322	37,030
Bran.....sacks	65,746	164,365
Beef.....bbls.	6,561	164,275
" .....tcs.	7,061	211,830
Cotton.....bales	38,880	1,769,040
Corn, in ear.....bbls.	22,216	44,432
" shelled.....sacks	315,652	899,608
Cotton seed.....	258,750	142,312
Cheese.....boxes	3,941	39,410
Candles.....	5,265	52,650
Dried apples and peaches.....bbls.	1,262	15,144
Feathers.....bags	51	1,275
Flaxseed.....tcs.	16	400
Flour.....bbls.	281,645	3,661,385
Glassware.....pkgs.	383	1,915
Hides.....No.	11,885	35,595
Hay.....bales	40,578	426,069
Iron, pig.....tons	59	2,360
Lard.....bbls. and tcs.	6,069	394,485
" .....kegs	4,290	77,220
Leather.....bdls.	10,340	775,500
Lime, Western.....bbls.	27,612	82,836
Lead.....pigs	1,967	15,736
" .....kegs and boxes	36	720
Molasses (estimated crop)....galls.	36,982,505	6,703,079
Oats.....sacks	45,348	174,589
Onions.....bbls.	2,419	16,933
Oil, linseed.....	5	400
" castor.....	50	10,000
" lard.....	339	23,730
Potatoes.....	68,269	682,690
Pork.....tcs. and bbls.	11,452	458,080
" .....boxes	51	4,080
" .....hhds.	370	74,000
" in bulk.....lbs.	610,219	122,043
Porter and ale.....bbls.	361	3,610
Packing yarn.....reels	10	200

	Amount.	Value.
Rice.....casks	23,476	985,992
Rosin.....bbls.	277	1,108
Rum.....	5,333	149,324
Skins, deer.....packs	53	1,060
Shot.....kegs	4	100
Soap.....boxes	8,427	67,416
Spirits turpentine.....bbls.	2,716	38,024
Staves.....M.	9	585
Shingles.....	1,475	8,850
Sugar (estimated crop).....hhds.	459,410	25,092,974
Spanish moss.....bales	500	10,000
Tallow.....bbls.	792	27,720
Tobacco, leaf.....hhds.	1,003	200,600
" strips.....	60	24,000
" chewing..kegs and boxes	6,366	127,320
Twine.....bdls. and boxes	108	1,620
Wool.....bags	3,855	231,300
Whisky.....bbls.	1,760	70,400
Wheat.....sacks	36,411	218,466
Other various articles—estimated at.....		5,000,000
Total value.....		$51,510,990
" in 1860–61.....		155,863,564
" in 1859–60.....		185,211,254
" in 1858–59.....		172,952,664
" in 1857–58.....		167,155,546

CANALS OF NEW YORK—TIDE WATER RECEIPTS OF PRODUCE.

The quantity of flour, wheat, corn and barley, left at tide water, during the fourth week in November, in the years 1861 and 1862, was as follows:

	Flour, bbls.	Wheat, bush.	Corn, bush.	Barley, bush.
1861.....	66,976	1,886,146	756,796	133,108
1862.....	69,856	1,384,726	686,300	156,245
	Inc. 2,886	Dec. 501,420	Dec. 80,496	Inc. 23,137

The aggregate quantity of the same articles left at tide water from the commencement of navigation to the 30th November, inclusive, during the years 1861 and 1862, was as follows:

	Flour, bbls.	Wheat, bush.	Corn, bush.	Barley, bush.
1861.....	1,414,834	28,749,060	22,157,221	1,036,115
1862.....	1,628,727	31,126,496	21,531,470	1,969,619
	Inc. 213,893	Inc. 2,377,436	Dec. 625,751	Dec. 66,466

By reducing the wheat to flour, the quantity of the latter left at tide water this year, compared with the corresponding period last year, shows an increase of 680,680 bbls. flour.

The following comparative table shows the quantity of some of the principal articles of produce left at tide water from the commencement of navigation to the 30th of November, inclusive, in the years indicated:

Canals opened—	1860. April 25.	1861. May 1.	1862. May 1.
Flour.....bbls.	1,133,998	1,414,833	1,622,727
Wheat.....bush.	17,002,883	28,749,060	31,126,496
Corn.....	14,079,679	22,157,221	21,531,470
Barley.....	2,900,058	2,036,115	1,969,649
Oats.....	6,414,250	5,332,026	5,283,166
Rye.....	320,514	740,023	742,477
Beef.....bbls.	11,295	19,442	51,239
Pork.....	7,487	9,147	168,810
Bacon.....lb.	458,464	626,200	5,925,196
Butter.....	2,369,520	3,532,658	5,305,021
Lard.....	1,005,985	1,013,593	9,214,098
Cheese.....	11,921,221	9,496,260	8,220,881
Wool.....	2,035,679	1,720,183	1,796,658

We have no returns from the Waterford office for the fourth week in November. The receipts of Barley at that point for the week is estimated at 40,000 bushels.—*Albany Argus.*

EVIDENCE IN A CLAIM FOR DRAWBACK.

The following is the evidence to be made to the Commissioner of Internal Revenue when a claim for drawback has been made:

First. The certificate of the Collector of Internal Revenue that the internal revenue tax has been paid, which certificate shall, when possible, particularly describe the goods by their marks or otherwise, their quantity, the rate of tax, whether specific or ad valorem, the amount of duty imposed, and the name of the manufacturer or producer who paid the same.

Second. The certificate of the Collector or other competent officer of the customs, to the effect that the goods upon which the drawbacks is claimed have been exported, and the name of the exporter.

Third. The affidavit of the party making the claim, or other competent person setting forth that the goods upon which the claim for drawback is made. are the identical goods upon which the internal revenue tax has been paid as certified by the Collector of Internal Revenue, that the same goods have been exported at the time and in the manner stated by the collector of the customs, and also the amount of the drawback claimed, and that the party making the claim is justly entitled thereto. This affidavit must be executed before a notary public, or magistrate having a seat; or if executed before a justice of the peace, then it must a certificate from a proper officer that such person is duly authorized to administer oaths.

JOURNAL OF BANKING, CURRENCY, AND FINANCE.

NEW YORK CITY BANKS.

We bring down our New York weekly bank returns to the close of the present year. The principal change the past month will be found to be in the great decrease of specie—there being a loss of nearly $4,000,000 since the 15th of November. It will also be seen that the Boston and Philadelphia banks report less specie than a month ago. The continued large export is begining thus to show itself. What has reached the city from the country has heretofore made good the loss. The year closes, too, with a decrease in the line of loans and discounts; but this is so mixed up with the short loan to government, that nothing very definite or exact can be made out of the weekly averages. The other changes are unimportant:

CITY WEEKLY BANK RETURNS.

New York Banks. (*Capital, Jan.*, 1862, $69,493,577; *Jan.*, 1861, $69,890,475.)

Date.	Loans.	Specie.	Circulation.	Net Deposits.	Clearings.
January 4,.....	$154,415,826	$23,983,878	$8,586,186	$111,789,233	$100,642,429
" 11,.....	152,088,012	25,373,070	8,121,512	113,889,762	105,634,811
" 18,.....	149,081,433	26,120,859	7,369,028	113,327,160	107,732,780
" 25, ...	145,767,680	26,698728	6,828,017	110,874,786	100,001,959
February 1,.....	144,675,778	27,479,583	6,404,951	112,057,003	93,791,629
" 8,.....	143,803,890	28,196,666	6,077,417	110,637,557	113,216,297
" 15,.....	141,994,192	28,114,148	5,762,506	110,430,475	105,102,177
" 22,.....	139,950,958	28,875,992	5,489,496	109,079,076	111,346,066
March 1,.....	137,674,238	29,826,959	5,363,944	107,974,499	109,854,823
" 8,.....	133,055,148	30,436,644	5,869,206	103,715,728	113,512,576
" 15,.....	130,622,776	30,773,050	5,904,866	100,296,704	118,957,978
" 22,.....	127,615,306	32,023,390	6,260,309	97,601,279	115,376,381
" 29,.....	125,021,650	32,841,802	6,758,313	94,428,071	106,973,432
April 5,.....	124,477,484	33,764,382	7,699,641	94,082,625	111,336,384
" 12,.....	123,412,491	34,594,668	8,004,843	93,759,063	114,738,013
" 19,.....	123,070,263	34,671,528	8,064,663	95,179,340	113,529,377
" 26,.....	125,086,825	35,297,944	8,118,571	101,897,435	124,396,733
May 3,.....	133,406,418	35,175,828	8,482,782	109,634,535	140,952,471
" 10,.....	138,948,211	32,239,868	8,830,321	115,559,206	181,113,537
" 17,.....	142,290,782	30,280,697	8,727,328	120,003,929	167,390,055
" 24,.....	142,950,149	30,672,760	8,592,676	122,602,864	142,828,565
" 31,.....	142,671,414	31,397,284	8,535,149	125,434,755	136,893,373
June 7,.....	142,318,381	31,248,882	8,813,603	125,566,961	148,123,103
" 14,.....	144,014,350	31,162,048	8,814,322	125,643,375	165,521,454
" 21,.....	146,839,762	31,047,945	8,849,183	126,684,422	168,059,995
" 28,.....	148,346,422	30,832,626	8,910,344	127,860,708	154,890,447
July 5, ...	148,643,718	31,790,519	9,270,815	127,496,534	149,748,923
" 12,.....	147,997,436	32,098,174	9,212,397	127,538,055	167,789,726
" 19,.....	148,827,423	31,926,609	9,155,301	129,485,977	161,066,594
" 26,.....	149,768,293	33,064,575	9,244,953	132,427,178	162,650,811
August 2,.....	150,517,844	34,022,490	9,311,868	137,112,937	149,167,638
" 9,.....	151,190,203	34,611,069	9,221,504	139,544,680	139,926 277
" 16,.....	152,328,731	35,301,778	9,237,206	142,034,051	139,796,908
" 23,.....	154,855,704	35,588,486	9,356,635	143,347,341	147,659,087
" 30,.....	158,278,552	35,640,982	9,454,806	141,971,741	150,875,167
Sept. 6,.....	158,435,859	36,138,928	9,645,965	142,663,036	154,074,880
" 13,.....	157,828,513	37,125,245	9,719,126	144,991,062	155,813,245

Date.	Loans.	Specie.	Circulation.	Net deposits.	Clearings.
Sept. 20,.....	158,299,288	37,863,037	9,789,060	148,680,453	179,681,651
" 27,.....	160,161,046	37,592,551	9,800,723	153,291,851	196,879,068
Oct. 4,.....	165,057,113	38,325,587	9,900,112	157,944,771	239,013,452
" 11,.....	169,675,009	39,263,086	9,880,050	162,965,264	243,083,030
" 18,.....	172,512,085	38,759,256	9,907,529	164,337,458	255,444,122
" 25,.....	174,879,346	37,453,531	9,878,240	164,497,972	245,940,203
Nov. 1,.....	176,847,576	37,980,436	9,848,267	167,435,267	213,246,542
" 8,.....	176,700,515	38,794,768	9,732,860	165,959,654	214,294,818
" 15,.....	178,786,683	39,348,947	9,840,991	164,066,604	234,494,032
" 22,.....	176,589,397	38,110,216	9,804,026	157,278,663	218,810,769
" 29,.....	172,962,294	37,949,086	9,816,801	158,993,715	173,309,789
Dec. 6,.....	171,483,887	37,662,868	9,924,818	153,602,777	232,491,673
" 13,.....	172,933,946	36,708,754	9,929,544	154,690,666	212,515,274
" 20,.....	173,853,596	35,554,336	9,889,629	154,824,502	200,356,965
" 27,.....	173,644,660	35,780,807	9,858,369	155,193,229	166,111,790

BOSTON BANK RETURNS.

While the New York banks have during the past six weeks been reducing their line of loans and discounts, the Boston banks have increased theirs from $72,218,500 on November 3d, to $77,060,000 December 22d, being an increase of nearly $5,000,000. There are no other changes of importance. We give the returns this month for the whole year:

Boston Banks. (*Capital, Jan.*, 1862, $38,231,700; *Jan.*, 1861, $38,231,700.)

Date.	Loans.	Specie.	Circulation.	Deposits.	Due to banks.	Due from banks.
Jan. 6,...	$65,612,997	$8,920,486	$6,451,587	$27,093,839	$9,187,924	$8,701,873
" 13,...	64,704,039	8,580,607	6,612,512	25,642,994	9,634,227	8,805,255
" 20,...	64,409,585	8,585,277	6,549,871	25,441,327	9,547,319	9,018,388
" 27,...	63,025,191	8,562,175	6,284,268	24,030,776	9,593,545	8,727,348
Feb 3, ..	62,628,793	8,529,483	6,260,299	23,500,321	9,727,783	8,766,415
" 10,...	62,340,600	8,514,600	6,616,000	22,784,700	9,892,600	8,965,500
" 17,...	62,587,788	8,410,890	6,469,309	22,034,794	9,653,725	8,315,887
" 24,...	62,053,640	8,341,588	6,580,205	21,515,228	9,625,869	8,644,360
Mar. 3,...	61,678,500	8,364,500	6,318,700	21,208,500	9,681,500	8,982,600
" 10,...	61,834,500	8,409,535	6,693,139	20,740,208	9,906,110	8,450,721
" 17,...	61,747,000	8,471,000	6,364,800	20,554,000	9,790,000	7,981,000
" 24,...	61,655,420	8,441,058	6,219,512	20,326,087	9,715,256	7,669,531
" 31,...	61,360,789	8,441,196	5,908,272	19,975,018	9,434,782	6,978,527
Apr. 7,...	61,208,974	8,674,170	6,557,152	21,014,000	9,245,088	8,133,124
Apr.14,...	61,058,969	8,688,573	6,170,383	21,009,010	8,949,259	7,173,374
" 21,...	61,019,787	8,679,356	5,924,906	21,570,017	8,529,277	6,946,164
" 28,...	60,441,452	8,666,797	5,500,396	22,402,134	8,493,004	7,813,530
May 5,...	59,805,545	8,593,990	5,453,815	23,823,199	8,655,206	9,898,508
" 12,...	59,521,251	8,422,738	5,537,937	24,827,121	9,197,744	11,755,589
" 19,...	60,059,635	8,304,534	5,602,844	25,792,916	9,614,737	13,105,350
" 26,...	60,266,275	8,108,695	5,503,756	26,264,656	10,029,198	13,795,636
June 2,...	60,677,367	8,089,723	5,348,138	26,730,486	10,226,491	13,924,896
" 9,...	62,059,198	7,983,425	5,696,413	26,277,021	10,610,702	12,888,043
" 16,...	62,591,341	7,894,899	5,875,612	25,602,048	10,632,170	11,884,692
" 23,...	63,056,262	7,850,634	6,159,115	25,994,738	10,644,000	12,122,000
" 30,...	63,638,999	7,8014,87	6,131,019	26,237,754	10,678,205	12,265,781
July 7,...	64,590,268	7,934,037	6,943,827	26,868,862	11,686,142	13,869,180
" 14,...	65,635,000	7,978,000	7,091,000	26,685,000	12,675,700	13,624,000
" 21,...	65,939,168	7,980,780	6,840,474	26,898,242	13,436,486	14,060,762
" 28,...	66,168,806	7,963,696	6,618,160	26,698,825	13,583,589	13,197,239
Aug. 4,...	66,836,729	7,966,702	6,633,822	27,315,402	14,013,524	13,473,620
" 11,...	67,508,527	7,967,761	6,768,178	26,816,409	14,409,359	12,379,978
" 18,...	68,284,988	7,975,427	6,778,260	26,572,677	14,854,778	12,566,167
" 25,...	68,843,323	8,055,402	6,772,215	26,791,827	15,690,425	13,231,313

Date.	Loans.	Specie.	Circulation.	Deposits.	Due to banks.	Due from banks.
Sept. 1,...	69,130,636	8,043,888	6,815,923	26,646,647	15,951,097	13,105,871
" 8,...	69,788,676	8,006,695	7,065,156	26,942,687	15,982,000	13,106,000
" 15,...	69,958,000	7,968,000	7,153,000	26,140,600	17,683,000	13,902,000
" 22,...	70,332,897	7,968,546	7,239,383	25,970,904	17,594,158	13,585,410
" 29,...	70,081,686	7,970,332	7,243,967	26,397,325	17,333,395	13,921,286
Oct. 6,...	71,043,500	7,991,580	7,616,044	28,166,155	17,805,000	14,961,700
" 13,...	71,226,581	7,977,116	7,949,524	28,673,721	17,036,000	14,960,700
" 20....	72,553,000	7,842,700	7,832,000	29,316,000	17,868,700	14,555,000
" 27,...	73,649,936	7,850,392	7,793,469	30,725,604	17,498,251	14,380,200
Nov. 3,...	72,218,500	7,860,800	7,816,700	31,497,000	16,711,500	14,840,700
" 10,...	74,280,000	7,979,000	7,124,000	31,992,800	17,332,500	14,979,000
" 17,...	74,880,700	7,970,000	8,055,000	32,504,500	17,141,000	14,801,600
" 24,...	76,251,619	8,012,213	8,089,352	32,800,575	17,332,500	14,979,000
Dec. 1,...	76,695,700	7,961,600	8,216,000	32,705,000	17,652,000	13,689,600
" 8,...	76,292,500	8,034,000	8,227,000	33,783,000	16,728,700	14,083,000
" 15,...	76,654,300	8,054,000	8,120,600	34,059,400	16,159,000	13,397,700
" 22,...	77,060,000	7,685,000	8,006,000	33,786,000	16,464,000	13,538,000
" 29,...	77,226,000	7,584,000	7,969,500	32,907,000	16,954,000	13,085,000

PHILADELPHIA BANK RETURNS.

In the weekly statements for the past month, compared with those of the previous month, we find no important changes. The loans and deposits continue at the large increase noticed in our last number.

PHILADELPHIA BANKS. (*Capital, Jan.*, 1862, $11,970,130,)

Date.	Loans.	Specie.	Circulation.	Deposits.	Due to banks.	Due from banks.
Jan. 6,...	$31,046,537	$5,688,728	$2,145,219	$21,396,014	$3,645,956	$1,796,805
" 13,...	31,145,938	5,692,123	2,162,152	21,324,510	3,992,952	1,702,716
" 20,...	30,601,160	5,733,450	2,120,756	20,698,496	4,120,261	1,575,116
" 27,...	30,385,606	5,821,323	2,121,146	20,058,098	4,209,006	1,858,688
Feb. 3,...	30,385,319	5,884,011	2,144,398	20,068,890	4,572,872	1,707,136
" 10,...	29,974,700	5,923,874	2,191,547	19,032,535	4,890,288	1,587,481
" 17,...	29,388,544	5,849,354	2,191,512	18,692,182	4,661,442	2,052,031
" 24,...	29,280,049	5,867,686	2,230,605	18,777,300	5,205,203	1,935,414
Mar. 3,...	29,393,356	5,881,108	2,343,493	18,541,190	5,218,383	1,828,383
" 10,...	28,083,499	5,869,730	2,575,503	17,375,771	5,131,834	1,733,169
" 17, ..	28,723,835	5,897,891	2,632,627	17,253,461	5,342,876	1,649,137
" 24,...	28,350,615	5,915,535	2,707,804	17,066,267	5,210,365	1,774,162
" 31,...	27,831,333	5,884,314	2,904,542	17,024,198	5,100,186	2,134,392
April 7,...	28,037,691	5,886,424	3,378,970	16,636,538	5,607,488	2,231,889
" 14,...	28,076,717	5,912,870	3,496,420	18,112,446	4,868,842	2,634,171
" 21,...	28,246,733	6,046,260	3,525,400	19,011,833	4,548,327	2,504,147
" 28,...	28,793,116	6,052,827	3,613,994	20,223,556	4,470,674	3,128,069
May 5,...	29,524,432	6,049,685	3,759,692	21,316,614	4,531,837	3,823,659
" 12,...	29,966,347	5,728,028	3,867,200	23,002,263	5,118,541	4,981,291
" 19,...	31,121,563	5,529,221	4,045,696	23,385,009	5,597,984	4,804,956
" 26,...	31,538,603	5,587,012	4,186,055	23,973,478	5,472,615	5,120,902
June 2,...	31,747,070	5,583,482	4,335,013	24,884,644	5,373,322	5,372,748
" 9,...	31,951,715	5,632,307	4,354,599	24,973,011	5,161,280	5,355,034
" 16,...	32,132,654	5,630,503	4,298,023	24,807,057	5,036,828	5,396,328
" 23,...	32,554,655	5,609,926	4,324,735	24,143,314	5,144,628	4,800,094
" 30,...	32,911,578	5,573,999	4,430,057	24,410,423	5,583,644	5,233,273
July 7,...	33,206,661	5,545,007	4,749,220	24,307,782	5,733,574	5,422,124
" 14,...	33,118,502	5,579,945	4,859,921	24,183,604	5,936,594	5,415,203
" 21,...	33,086,808	5,613,724	5,005,583	24,485,817	5,794,325	5,219,445
" 28,...	33,383,373	5,579,788	5,055,276	24,764,281	5,918,294	5,308,984
Aug. 4,...	33,517,900	5,660,187	5,026,070	24,658,289	5,984,242	5,406,017
" 11,...	33,543,878	5,652,730	4,999,935	24,217,855	6,339,018	5,204,515
" 18,...	33,506,039	5,552,605	5,006,351	24,147,814	6,400,830	5,316,223

Date.	Loans.	Specie.	Circulation.	Deposits.	Due to banks.	Due from banks.
Aug. 25,...	33,731,575	5,483,051	5,002,418	24,237,662	6,533,786	5,446,155
Sept. 1,...	33,899,351	5,543,160	5,071,855	24,597,596	6,518,107	5,322,089
" 8,...	34,631,350	5,546,157	5,192,935	25,062,171	6,632,905	5,139,978
" 15, ..	35,015,676	5,515,044	5,177,587	24,780,163	7,420,242	5,104,687
" 22,...	34,871,535	5,449,027	5,174,550	24,194,214	7,702,439	5,212,073
" 29,...	34,589,387	5,440,140	5,111,474	24,997,926	7,255,049	6,035,429
Oct. 6,...	34,826,063	5,453,748	5,095,704	25,419,340	7,119,340	5,714,780
" 13,...	35,298,494	5,508,970	5,091,061	25,735,561	7,171,391	2,396,801
" 20,...	35,526,851	5,467,907	5,050,614	25,892,970	7,244,194	2,250,832
" 27,...	35,748,566	5,454,225	5,054,250	26,269,805	7,235,123	2,209,648
Nov. 3,...	35,514,335	5,458,029	4,889,890	26,938,714	7,126,338	2,179,074
" 10,...	35,978,123	5,524,621	4,768,487	27,396,678	6,217,072	1,989,908
" 17,...	36,737,071	5,511,954	4,655,755	27,368,122	7,260,093	2,255,410
" 24,...	37,479,266	5,521,468	4,565,836	26,826,342	7,063,305	1,722,093
Dec. 1,...	36,774,722	5,465,834	4,541,394	26,685,225	6,953,375	1,930,820
" 8,...	36,460,040	5,335,758	4,524,818	27,448,330	6,438,353	1,908,600
" 15,...	36,125,340	5,266,645	4,525,142	27,577,964	6,462,277	1,903,664
" 22,...	36,772,912	4,706,180	4,530,766	27,753,674	6,588,250	1,795,640
" 29,...	37,267,820	4,512,307	4,548,545	27,895,290	6,781,066	1,780,619

RHODE ISLAND BANK RETURNS.

The banks in Rhode Island, out of Providence, make their returns monthly. We give returns for May, August, September, November, and December. Taking all the Rhode Island banks together, the following will be seen to be the principal changes:

	Banks out of Providence.			Providence Banks.		
	Loans.	Circulation.	Deposits.	Loans.	Circulation.	Deposits.
Nov. 3,....	$7,006,849	$2,030,425	$1,194,416	$23,091,100	$4,264,400	$4,331,300
May 5,....	6,713,567	1,332,577	855,203	19,538,310	1,979,828	3,134,601
Dec. 1,....	7,201,131	2,077,555	1,082,563	22,943,900	4,306,200	4,058,300
Increase.	$487,563	$744,978	$237,360	$3,405,690	$2,326,272	$923,699

RHODE ISLAND BANKS OUT OF PROVIDENCE. (*Capital*, $5,187,979.)

	Loans.	Circulation.	Specie.	Deposits.
May 5	$6,713,567 28	$1,332,577 00	$154,031 24	$855,203 03
Aug. 4	6,774,060 60	1,730,886 00	138,058 46	1,052,985 15
Sept. 1	6,829,077 15	1,942,870 00	137,422 16	1,129,830 05
Nov. 3	7,006,849 95	2,030,425 00	132,707 25	1,194,416 44
Dec. 1	7,201,131 70	2,077,555 25	130,992 90	1,082,563 48

PROVIDENCE BANKS. (*Capital, Jan.*, 1862, $15,454,600.)

Date.	Loans	Specie.	Circulation.	Deposits.	Due to banks.	Due from banks.
Jan. 11, ...	$19,356,800	$408,700	$1,889,600	$3,054,600	$1,099,800	$915,400
" 18, ...	19,238,700	402,900	1,890,300	2,899,200	1,071,500	898,500
" 25, ...	19,160,600	394,700	1,756,500	2,899,600	959,400	1,057,400
Feb. 1, ...	19,160,600	394,700	1,811,100	2,950,500	871,800	925,500
" 8, ...	19,087,700	395,900	1,814,300	2,915,200	900,400	934,700
" 15, ...	19,109,400	394,800	1,784,000	2,762,200	911,100	1,081,000
" 22, ...	18,869,800	396,800	1,879,100	2,792,700	893,900	1,180,000
Mar. 1, ...	18,920,500	407,500	1,791,200	2,924,400	953,900	1,283,000
" 8, ...	18,953,900	405,100	1,973,500	3,030,600	1,131,500	1,598,800
" 15, ...	18,998,600	408,500	1,848,100	2,946,800	1,103,200	1,484,300
" 22, ...	19,148,400	408,300	1,879,200	3,060,900	1,085,000	1,407,700
" 29, ...	19,360,500	411,300	1,857,100	3,078,800	1,021,000	1,165,400
Apr. 5, ...	19,641,000	417,500	2,102,000	3,124,000	1,115,500	1,063,200
" 12, ...	19,719,200	416,600	2,036,300	3,017,700	1,081,000	894,800
" 19, ...	19,644,500	408,600	1,953,400	3,015,900	1,020,400	845,400

Date.	Loans.	Specie.	Circulation.	Deposits.	Due to banks.	Due from banks.
" 26, ...	19,620,300	413,700	1,877,200	3,123,500	948,400	961,200
May 3, ...	19,538,410	417,378	1,979,828	3,134,601	950,430	1,156,072
" 10, ...	19,070,200	410,300	1,969,400	3,164,700	1,132,500	1,714,400
June 7, ...	19,236,100	395,600	2,016,600	3,342,400	1,653,000	2,101,900
" 14, ...	19,641,600	388,500	2,182,700	3,274,600	1,666,500	1,818,200
" 21, ...	19,827,500	385,500	2,324,900	3,153,600	1,627,500	1,744,400
" 28, ...	20,285,500	383,400	2,510,500	3,283,200	1,873,500	1,753,700
July 5, ...	20,588,800	382,100	2,888,300	3,531,500	1,763,900	1,858,800
" 12, ...	20,416,400	388,000	2,953,800	3,183,100	1,744,600	1,796,600
" 19, ...	20,494,600	384,800	2,980,200	3,347,300	1,918,500	2,023,400
" 26, ...	21,078,400	376,400	3,143,100	4,282,200	2,061,800	2,150,200
Aug.16, ...	21,051,000	367,600	3,086,700	3,780,500	1,646,200	1,927,500
" 23, ...	21,119,500	363,300	3,102,000	3,569,900	1,804,600	2,090,700
Sept 6, ...	21,279,200	355,700	3,394,200	3,704,200	1,844,800	1,683,300
" 20, ...	21,804,200	35,690	3,484,300	3,731,600	1,710,800	1,642,300
Oct. 11, ...	22,197,400	379,000	4,006,600	4,066,000	1,751,100	1,859,900
" 25, ...	22,618,200	357,700	4,128,200	4,083,200	2,121,300	1,913,500
Nov. 8, ...	23,091,100	359,400	4,264,400	4,331,300	1,999,700	1,563,300
" 15, ...	23,365,700	369,100	4,361,200	4,402,900	1,948,800	1,315,700
" 22, ...	23,062,700	307,700	4,398,000	4,479,200	1,985,500	1,337,600
Dec. 6, ...	22,943,900	370,900	4,306,200	4,058,300	1,651,400	1,224,800
" 13, ...	22,994,600	369,000	4,495,500	4,325,300	1,961,900	1,405,100
" 20, ...	22,733,700	367,600	4,185,500	4,624,400	1,305,100	1,733,800
" 27, ...	22,640,400	366,300	4,181,500	4,732,700	1,505,900	1,952,900

BANK OF ENGLAND.

The returns of the Bank of England the past month show a further decrease in bullion each week, the same causes continuing to operate, though to a less extent:

For the week ending November 12	£364,287
" " " 19	224,952
" " " 26	145,578
" " December 3	9,179
" " " 10	181,751
Total decrease from November 12 to December 10	£597,747
Decrease preceding eight weeks	2,181,905
Total decrease since September 10	£2,779,652

The following comparative table will be found of interest, affording as it does, a view of the bank returns, and the bank rate of discount during a period of three years, corresponding with the date of our last returns received December 10th:

At corresponding dates with the present week.	1860.	1861.	1862.
Circulation, including bank post bills	£20,585,465	£20,443,597	£20,116,003
Public deposits	7,029,111	5,920,166	8,490,519
Other deposits	12,104,219	13,097,426	13,579,489
Government securities	9,540,273	10,896,409	11,084,517
Other securities	19,987,188	16,329,817	19,269,955
Reserve of notes and coin	8,000,165	10,216,101	10,127,183
Coin and bullion	13,447,105	15,267,686	14,828,063
Bank rate of discount	5 p. c.	3 p. c.	3 p. c.

Subjoined is our usual table with the returns brought down to December 10th:

WEEKLY STATEMENT.

Date.	Circulation.	Public Deposits.	Private Deposits.	Securities.	Coin and Bullion.	Rate of Discount.
Jan. 1.. .	£20,818,190	£7,345,833	£15,036,062	£30,419,730	£15,961,439	3 pr. ct.
" 8....	21,086,675	4,542,974	18,206,488	31,022,505	16,046,017	2½ "
" 15....	21,460,925	4,583,353	16,480,452	29,509,864	16,291,626	2½ "
" 22....	21,697,928	5,467,340	15,366,081	29,464,720	16,350,939	2½ "
" 29....	21,183,376	5,753,063	14,751,486	28,696,456	16,280,369	2½ "
Feb. 5....	21,427,554	5,788,441	14,179,917	28,834,352	15,956,903	2½ "
" 12....	21,236,312	4,884,989	15,526,334	29,010,241	16,042,949	2½ "
" 19....	20,772,726	5,397,144	15,085,843	28,771,812	15,894,405	2½ "
" 26....	20,736,715	5,762,849	14,939,742	29,024,962	15,749,065	2½ "
Mar. 5....	21,217,246	6,755,287	13,737,507	29,692,441	15,673,898	2½ "
" 12....	20,013,685	7,527,911	13,763,718	29,489,795	16,027,111	2½ "
" 19....	20,483,509	8,011,694	13,340,928	28,953,089	16,548,586	2½ "
" 26....	20,814,655	8,413,275	13,154,258	29,140,207	16,812,798	2½ "
April 2....	21,501,595	8,456,468	13,622,532	30,398,790	16,849,198	2½ "
" 9....	21,822,105	5,625,314	16,336,169	29,981,793	16,881,940	2½ "
" 16....	22,048,463	5,225,132	15,710,260	29,325,888	16,743,434	2½ "
" 23....	21,655,553	5,534,973	15,915,247	29,022,128	17,172,204	2½ "
" 30....	21,946,997	6,867,375	14,357,007	29,164,075	17,089,446	2½ "
May 7....	21,752,884	7,503,991	13,866,643	28,961,214	17,265,745	2½ "
" 14...	21,618,780	6,304,683	14,948,308	29,076,079	16,919,147	2½ "
" 21....	21,539,430	6,557,811	14,567,671	29,433,044	16,344,940	3 "
" 28....	21,265,561	6,937,808	14,685,087	29,824,704	16,178,815	3 "
June 4....	21,515,263	7,518,007	13,188,136	29,841,864	15,489,723	3 "
" 11....	21,329,641	8,825,516	13,156,662	31,396,492	15,036,100	3 "
" 18....	21,076,059	9,322,949	13,085,271	31,342,547	15,268,453	3 "
" 25....	21,172,057	9,629,594	13,399,245	31,424,661	15,909,638	3 "
July 2....	22,242,361	9,672,345	13,851,869	32,709,039	16,220,771	3 "
" 9....	22,504,490	5,429,939	17,199,715	31,287,912	17,055,537	2½ "
" 16....	23,085,409	5,223,380	17,063,630	30,942,358	17,671,890	2½ "
" 23....	22,942,503	5,291,213	17,202,923	30,631,501	18,060,617	2 "
" 30 ...	22,933,036	5,895,840	16,903,068	30,542,050	18,448,443	2 "
Aug. 6....	23,378,393	6,157,358	15,232,959	30,162,297	17,956,938	2 "
" 13....	22,920,727	6,838,546	14,594,854	29,929,352	17,778,846	2 "
" 20....	22,900,555	7,150,252	14,568,007	30,309,703	17,674,604	2 "
" 27....	22,079,890	7,508,882	14,865,006	30,106,295	17,678,698	2 "
Sept. 3....	22,348,918	7,671,934	14,973,470	30,808,748	17,825,220	2 "
" 10....	21,895,385	8,768,329	13,809,643	30,504,527	17,611,538	2 "
" 17....	21,610,987	9,074,279	13,733,905	30,700,116	17,365,753	2 "
" 24....	21,300,731	9,268,106	13,825,230	30,874,552	17,166,742	2 "
Oct. 1....	22,365,351	8,486,834	13,595,337	31,140,897	16,949,137	2 "
" 8....	22,137,670	8,333,779	13,530,122	31,101,260	16,548,156	2 "
" 15....	22,395,352	6,253,982	15,712,485	31,192,688	16,230,260	2 "
" 22....	22,271,497	5,944,238	15,197,661	30,566,930	15,912,699	2 "
" 29....	21,733,522	6,091,697	16,455,543	31,839,976	15,516,854	3 "
Nov. 5....	21,878,952	6,271,105	14,797,889	30,788,184	15,425,810	3 "
" 12....	21,234,960	6,928,047	14,738,147	30,605,289	15,389,523	3 "
" 19....	21,080,182	7,354,390	14,004,015	30,372,843	15,164,571	3 "
" 26....	20,675,944	7,390,865	14,376,780	30,531,585	15,018,993	3 "
Dec. 3....	20,554,545	8,195,360	13,649,958	30,464,758	15,009,814	3 "
" 10....	20,116,003	8,490,519	13,579,489	30,451,472	14,828,063	3 "

REPORT OF SECRETARY CHASE.

We give the following from the report of Mr. Chase, Secretary of the Treasury, submitted to Congress now in session:

In consequence of the extensive character of the means employed for the prosecution of the war, and the exigencies which have arisen during

the progress of the war calling for unanticipated expenditures, the estimates submitted in July, 1861, for the year ending June 30, 1862, were exceeded by the actual expenditures. It will not be a matter of surprise if the estimates now submitted for the year ending June 30, 1863, are also exceeded.

The estimates submitted at the July session of 1861, were based on estimates for an army of 300,000 men, and for a naval force quite inconsiderable in comparison with that found afterward indispensable. Congress increased the army to 500,000, in addition to special corps numbering over 50,000. In consequence of this the estimates for July required correction in December. For the reason that the President has called an additional force of 600,000 men the estimates for the current fiscal year must prove inadequate. The increase of the army, however, did not greatly effect disbursements between the date of the December report and the close of the fiscal year.

The increase of debt did not, therefore, exceed the December estimate. On the contrary, while the estimate anticipated a public debt on the 30th June, 1862, of $517,372,802 93, its actual amount on that day was $514,211,371 92. This amount does not include unascertained claims, but only that debt, the evidences of which exist in the treasury, upon its books or in the form of requisitions in favor of creditors or disbursing officers. It is not probable, however, that at the date named, these claims much if at all exceeded the balance in the treasury, namely, $13,043,546 81.

But while the public debt on July 1, 1862, did not reach the amount anticipated by these estimates, there is no room for the hope that the result of the current fiscal year or the next will exhibit a similar proportion. On the contrary, the estimate of the public debt on the 1st of July, 1863, heretofore submitted, must now be advanced, in view of the unexpected increase of expenditures, authorized and incurred or likely to be incurred, to $1,122,297,403 24; and on the supposition that the war may be continued with undiminished disbursements until the 1st of July, 1864, the debt likely to have been then incurred must be estimated at $1,744,685,586 80.

The Secretary has endeavored to reduce the cost of the debt in the form of interest to the lowest possible amount, and he has thus far kept it within very moderate limits.

The first loans, being of a magnitude hitherto undreamed of in our market, were necessarily made at an interest which he regarded as high; but large amounts are now obtained at five and four per cent, while the circulation of United States notes constitute practically a loan from the people to their government without interest. The average rate on the whole loan is thus reduced to 4 3.5 per cent. Whether a similar result may attend future loans must be determined partly by the legislation of Congress, partly by the conduct of the war, and partly by the condition of the markets.

The statements for the annual receipts and expenditures for the last and current fiscal year, in comparison with those of December, must undergo modifications similar to those of the public debt. Both receipts and expenditures for the current fiscal year will be increased, the former by the operations of the tariff and internal revenue, and the latter by the exigencies of the war.

The annual receipts for the fiscal year of 1862 from all sources, includ-

ing the balance of $2,257,065 80 in the Treasury from the preceding year, were $583,885,247 06; and the aggregate expenditures $570,841,700 25; leaving a balance in the Treasury, July 1st, 1862, of $13,043,546 81. From the receipts and expenditures should be deducted the amounts received and disbursed during the year on account of permanent and temporary debt, amounting to $96,096,922 09; leaving the total of receipts not applied in payment of debt $487,788,324 97, and the total of current disbursements $474,744,778 16. Both the amount of debt and the amount of expenditure for the last year fall short of the estimates.

The actual receipts for the first quarter of the fiscal year 1863, commencing July 1, 1862, appear from the books of the Treasury; the receipts of the remaining quarters can only be estimated on the basis of appropriations made and asked for by the several departments. They have been and are estimated as follows:

For the 1st quarter, the actual receipts from all sources, excluding loans and including the balance from last year were		$37,208,529 02
For the 2d, 3d, and 4th, quarters, the estimated receipts are		143,286,816 58
Making the total of actual and estimated receipts during 1863, from the direct tax		180,495,345 60
To this must be added sums already realized from loans in all forms which amounted during the 1st quarter to	$114,458,821 02	
And during the months of October and November, estimating for some of the last days of November, to	85,670,895 99	
Making an amount already obtained from loans to 1st of December of		$200,129,717 01
And there must be added, also the amount which will probably be hereafter realized from loans in all forms, under existing laws, namely		131,021,197 35
Making the total of receipts, actual and anticipated, under existing laws		$511,646,259 96
On the other hand—		
For the 1st quarter of the fiscal year 1863 the actual expenditures were		$111,084,447 40
For the 2d, 3d, and 4th quarters the actual and estimated expenditures, under existing appropriations, including interest on public debt, are		672,834,841 78
And additional appropriations are asked for by the several departments to meet estimated deficiencies, to the amount of		109,418,032 30
Making the whole amount actually expended or estimated		$893,346,321 48
To which must be added the estimate for payment of principal of public debt during the year of		95,212,456 14
Making an aggregate, for the purposes, of		$988,558,777 62

It is necessary to observe, however, that in the present state of the law the estimates of the department always largely exceed the expenditures. The law forbids the transfer of any part of an appropriation from one object or class of objects to another. Consequently, when any appropriation happens to be exhausted, expenditures for the objects of it, however important, must be arrested until a further appropriation can be had. Such an occurrence, during the recess of Congress, might occasion great public inconvenience and injury.

Hence it has become usual to make every estimate large enough to cover all possible requirements under it till a session of Congress shall afford an opportunity of providing for any deficiencies which may thereafter occur. Hence there is always a large balance of unexpended appropriations at the end of every fiscal year, which, after two years from the making of them, are carried to the credit of what is called the surplus fund.

It may be safely estimated, therefore, that of the appropriations made and asked for, there will remain unexpended on the 30th June, 1863, and should, of course, be deducted from the apparent aggregate of expenditures, not less than		$200,000,000 00
Leaving as a true aggregate of expenditures for the year		788,558,777 62
But of this sum there has been received and may be expected from customs, internal revenue, etc	$180,495,345 60	
And from loans	331,150,914 36	
Making an aggregate of realized and anticipated resources of		$511,646,259 96
And leaving to be provided for the current year by the action of Congress		$276,912,517 66

The estimate for the fiscal year 1864, ending on the 30th June in that year, must be conjectured. The estimates of expenditures have been framed on the supposed continuance of the war, and the estimates of receipts are based upon the operations of recently enacted laws, the working of which cannot be accurately foreseen.

The estimates of expenditures are as follows:

For the civil list	$25,081,510 08
For the Interior Department, pensions, Indians, etc.	10,346,577 01
For the War Department	738,829,146 80
For the Navy Department	68,257,255 01
For interest on public debt	33,513,890 50
For principal of public debt	19,384,804 16
	$895,413,183 56
To which must be added the expenditures for which appropriations made are estimated as remaining undrawn July 1, 1863	$200,000,000 00

Making an aggregate of expenditures to July 1, 1864, for which appropriations are made or asked for, of		$1,095,413,183 56
From which should be deducted the probable amount of appropriations which will remain undrawn on the 1st of July, 1864		250,000,000 00
Making the true amount of probable expenditures during the fiscal year, 1864		$845,413,183 56
The estimates of receipts are as follows:		
From customs	$70,000,000	
From internal duties	150,000,000	
From lands	25,000	
From miscellaneous sources	3,000,000	
Making the aggregate of receipts for the fiscal year 1864 to be deducted from the aggregate of expenditures		223,025,000 00
And leaving the amount of expenditures of the fiscal year 1864, to be provided for		$622,388,183 56

The whole amount to be provided by Congress, beyond resources available under existing laws, may therefore, upon the supposition of the continuance of the war, be stated as follows:

For the fiscal year 1863	$276,912,517 66
For the fiscal year 1864	622,388,183 56
Making an aggregate	$899,300,701 22

FINANCES OF OHIO.

The following is the statement for the fiscal year ending November 15, 1862:

RECEIPTS.

General revenue	$1,381,438 39
Canal fund	104,949 47
Sinking fund	1,975,626 28
State common school fund	1,280,126 35
District school library fund	430 82
National road fund	21,484 68
Military fund	920,952 92
Soldiers' allotment fund	820,945 21
Bank redemption fund	1,308 00
Three per cent fund	19 04
Seneca County Bank	1,168 36
City Bank of Cincinnati	2,111 27
Canal Bank, Cleveland	1,746 35
Total amount received during the year	$6,512,307 14

DISBURSEMENTS.

General revenue	$1,114,523 49	
Canal fund	104,949 47	
Sinking fund	1,922,340 97	
State common school fund	1,207,675 90	
District school library fund	245 53	
National road fund	16,450 47	
Military fund	920,952 92	
Soldiers' allotment fund	741,312 63	
Bank redemption fund	354 25	
Three per cent fund	19 04	
Seneca County Bank	147 25	
City Bank of Cincinnati	328 26	
Canal Bank of Cleveland	266 80	
		$6,029,566 98
Balance in Treasury, November 15, 1862		$482,740 16

FINANCES OF CINCINNATI.

The following is a statement showing the total tax and taxable property in Cincinnati and Hamilton County, which includes that city:

	Taxable property.	Total tax.
Total, 1862	$120,060,960	$2,019,364 72
" 1861	119,487,390	2,240,757 69
Decrease in taxation for this year		$221,492 97

TAXES LEVIED BY STATE AUTHORITIES.

General revenue	$120,060 96
Sinking fund	168,085 36
War fund	42,021 34
Common school fund	156,079 26
Volunteer relief fund	72,036 58
Total State tax for 1862	$558,283 50
" " 1861	543,667 62
Increase	$14,615 88

TAXES LEVIED BY COUNTY AUTHORITIES.

County purposes	$126,064 02
Bridge tax	16,808 53
Building tax	6,003 05
Public buildings debt tax	212,507 90
County infirmary or poor tax	10,709 93
Longview Asylum	48,024 39
District road	5,908 03
Township tax	7,689 97
School purposes	142,554 74
Special taxes	27,788 51
Borough taxes	782,211 17

Delinquent taxes and forfeitures.....	74,780 98
Total county tax for 1862.....	$1,461,081 22
" for 1861.....	1,697,190 07
Decrease.....	$236,109 85

In Cincinnati the valuation of property is over $93,000,000, and the tax $1,709,500.

FINANCES OF ILLINOIS.

In 1840 or 1841, the Governor of Illinois in his message stated that there was not enough money in the Treasury to buy candles to allow the Legislature to hold evening sessions, and also that there were official letters then in the post-office which they had not the money to take out. Now this same State can boast of being one of the most wealthy. Its progress has been truly wonderful. The following interesting tables are made up from the Auditor's report. They show the present and past assessed value of the property in the State. The assessor's valuation does not however give the true value—that is much greater. For instance, the census report places the true value of real estate and personal property in Illinois in 1860 at $871,860,232, while the figures below make it at the same time only $367,227,742. We cannot understand how there can be so great a difference between the real and assessed valuation, and think there must be an error somewhere. Yet the statements below will account for a part, and perhaps a large part of this difference. The Auditor gives the following:

	1860.		1861.	
Personal property.	Number.	Value.	Number.	Value.
Horses.....	590,963	$22,359,202	625,242	$21,054,138
Neat cattle.....	1,425,978	12,468,537	1,428,362	11,491,803
Mules and asses.....	36,371	1,843,291	39,278	1,708,530
Sheep.....	584,430	695,035	731,379	747,437
Hogs.....	1,530,256	2,745,915	2,196,581	4,032,374
Carriages and wagons.	211,801	5,066,790	209,247	4,859,507
Clocks and watches..	167,145	820,735	169,779	715,768
Pianos	3,407	321,717	3,467	248,677
Goods and merchandise.....		10,667,620		9,104,949
Bankers', brokers', and stock jobbers' property.....		6,798,247		2,009,611
Manufactured articles		1,364,551		1,111,127
Moneys and credits.....		16,023,799		13,781,843
Bonds, stocks, joint stock companies, &c.....		551,727		443,329
Unenumerated property		11,552,713		11,549,953
Aggregate.....		$92,684,879		$83,653.425
Deduction.....		3,800,764		2,932,507
Total value of taxable property...		$88,884,115		$80,720,918

	REAL ESTATE.	
Railroad property	$12,085,472	$11,243,722
Lands	189,286,287	197,404,697
Town lots	76,971,868	41,454,142
Total real estate	$278,343,667	$250,102,561
Total value of real and personal property	367,327,742	330,823,479
State tax revenue	1,175,128 78	165,411 73
State school tax	734,455 48	661,646 93
State interest tax	550,841 51	661,646 96
Total tax chargeable	2,460,425 87	1,488,705 65

	Acres in cultivation.	
	1859.	1860.
Wheat	2,259,648	1,963,328
Corn	4,020,399	4,119,620
Other field products	1,084,579	1,035,673

The following exhibits the value of property in the State for a series of years, the rate of taxation, and the gross amount of State tax:

	Total value of property.	Rate of tax. mills.	State tax.
1839	$58,889,525 00	2	$147,770 05
1840	58,752,168 00	2	117,821 28
1841	70,156,053 00	3	210,498 10
1842	72,605,424 00	1½	108,908 08
1843	72,416,800 00	2	144,833 60
1844	75,767,765 00	2	151,495 53
1845	82,327,105 00	3	246,981 22
1846	88,815,403 43	3½	311,118 00
1847	92,206,493 96	3.7	339,779 53
1848	102,132,193 97	3.7	370,232 01
1849	105,132,193 97	5.8	612,428 10
1850	119,868,336 37	5.8	702,076 17
1851	137,818,079 30	6.0⅓	834,495 60
1852	149,294,805 00	6	909,472 87
1853	225,156,622 00	4.9⅓	1,116,993 37
1854	252,756,568 00	4.9⅓	1,279,089 87
1855	334,398,425 00	6.7	2,260,904 90
1856	349,951,272 00	6.7	2,368,741 31
1857	407,477,367 00	6.7	2,750,346 01
1858	403,140,321 00	6.7	2,739,429 90
1859	366,702,053 00	6.7	2,528,992 11
1860	367,227,742 00	6.7	2,460,425 55
1861	330,823,479 00	4.5	1,488,705 65

From 1825 to 1860, inclusive, the rate of taxation remained at 6.7 mills on the dollar. In 1851 the revenue tax was 5 cents on the $100; the school and interest tax 20 cents each on the $100, being a total of 45 cents on the $100.

The valuation of property has been greatly reduced, year after year, by the assessors, until at the present time, as will be seen by the appended table, it is most ridicuously low:

	1860.	1861.		1860.	1861.
Horses.....value	$37 84	$33 69	Hogs.....value	1 79	1 84
Neat cattle.....	8 74	8 05	Carriages, wagons.	23 92	23 22
Mules and asses...	50 82	43 50	Clocks and watches	4 91	4 22
Sheep	1 19	1 02	Pianos.....	94 43	71 73

In 1859, pianos were valued at $133. In 1861, they are only worth on an average $71 73. The valuation differs in different counties, which might be avoided.

The following table exhibits the value of personal property, town lots, lands, and railroads for a series of years:

	Personal.	Town lots.	Lands.	Railroads.
1856...	$104,108,235	$44,776,557	$168,974,270	$6,639,220
1857...	111,813,908	44,398,686	201,693,234	7,529,703
1858...	97,853,641	46,183,564	249,971,641	9,131,475
1859...	88,288,094	70,676,364	194,177,198	11,758,695
1860...	88,884,115	76,971,868	189,286,287	12,085,472
1861...	80,720,918	41,454,142	197,404,697	11,243,722

TOTALS.

1856	$349,956,272	1859	$366,702,053
1857	403,140,321	1860	367,227,742
1858	407,477,367	1861	330,823,479

ROBBERY IN THE UNITED STATES TREASURY.

Mr. SPINNER, Treasurer of the United States, has issued the following notice:

Treasury of the United States,
Washington, Dec. 8, 1862.

On Thursday last, the 4th instant, there disappeared from this office a package of blank certificates of indebtedness, of the denomination of $5,000, numbered from 14,501 to 15,000, both inclusive. No certificates like them have ever been turned from this office, and none will ever be issued.

The true certificates of the denomination of $5,000 have their numbers written on the face in red ink, at the upper corners, directly under the marginal border. The words, "If the order be not filled up this certificate issued to ——, will be paid to bearer," are printed on the back of the certificates in red ink. All that have been issued since about the 1st instant, commencing about No. 11,800, have the large denomination, $5,000, printed on the face in red ink.

All certificates that will issue from this office in future will be like those issued heretofore. Those in the lost package differ from the genuine in having the words above quoted, viz: "If the order blank be not filled up this certificate issued to —— will be paid to bearer," engraved on the face of the certificate, beginning over the vignette, and there taking the place of the border, and continued below on each side over the engraved denomination of five thousand dollars.

The numbers are printed on each side in red ink under the $5,000 denomination. Certificates of the denomination of $1,000, answering the description of those lost, have been and are being issued, but none of that denomination have been lost.

T. E. SPINNER,
Treasurer of the United States.

POSTAL INTELLIGENCE.

THE POSTMASTER GENERAL'S REPORT.

The Report of the Postmaster General for this year, as a whole, will be read with unusual interest, and contains numerous suggestions of great importance to this branch of the public service.

The gross revenue of the Department for this fiscal year, including the standing Treasury credit for free mail matter, and a small amount appropriated for the relief of individuals, was $9,012,549 56. The expenditures for the same year amounted to $11,125,364 13. The regular postal revenue for 1862 is only $49,470 50 less than it was for the fiscal year 1861, during a large part of which year revenue was paid in from all the States of the Union. This fact shows a large increase in the correspondence of the loyal States. While the revenues have been so nearly sustained at the highest standard, the expenses have been largely reduced. For the preceding year the expenditures were $2,481,394 98 greater than last year. The following comparisons of figures are interesting:

Expenditures for 1860, for services in all the States, $14,874,722 89; revenues for the same year, $9,218,567 40; deficiency, $5,656,705 49; expenditures for 1861, service interrupted in 1861, $13,606,759 11; gross revenues for 1861, service interrupted in 1861, $9,049,296 46; deficiency, $4,557,462 71; expenditures for 1862, $11,125,364 13; revenue for 1862, $9,012,549 56; deficiency, $2,112,814 57; reduction of expenditures as compared with 1860, $3,749,408; reduction of expenditures as compared with 1861, $2,481,394.

The Department has not been for many years so nearly self-sustaining. The result is largely owing to the suspension of postal expenditures in the South, which were greatly in excess of postal receipts, but not alone to that. A revision of all discretionary expenses has, as the Postmaster General tells us, been made, and large reductions ordered. The pay of agents, he also says, has been regraded and equalized, and other beneficial changes made.

The number of postage stamps issued to postmasters during the year was 7,078,188. The value of letter envelopes was $733,255 50. The value of stamped newspaper wrappers, $23,643 50; increase of issue over 1861, $1,144,858 27. The total value sold was $6,910,131 89.

The increasing demand on the part of the public for stamped newspaper shows that their introduction has satisfied a public demand and promoted the convenience of correspondents.

In the first quarter of the current year ending September 30th, the number of stamps issued to postmasters was 104,000,000; their calls for about 200,000,000, which would have been nearly sufficient to meet the usual demand for a year. This extraordinary demand arose from the temporary use of these stamps as a currency by the public in lieu of the

smaller denominations of specie, and ceased with the introduction of the so-called postal currency.

The difference between the value of stamps sold and stamps canceled in the fiscal year 1862 shows $738,379 96 as the amount in the hands of purchasers on the first of July, 1862.

The whole number of dead letters received and examined during the year is 2,292,018, which is 267,000 less than in the previous year. The whole number of valuable letters sent out by the dead letter office was 51,239. Many interesting details are given in the report touching the operations of this office. Out of 21,493 cases where causes of non-delivery were ascertained, only 225 were attributable to the fault of postmasters. 822 letters had no address whatever.

Congress at its first session passed an act authorizing the employment of twenty-five additional clerks to facilitate the return of dead letters to their writers, with the expectation that the receipts of postage thereon would cover the appropriation of $20,000 for their compensation. The result thus far shows that an excess of revenue therefrom over the expenses has accrued to the amount of several thousand dollars. The whole number of post offices in the United States, remaining established on the 30th of June, 1862, was 28,875, of which there were in the loyal States and Districts, 19,973, and in the insurrectionary States there were 8,902. The net increase in the established offices over last year was 121. The number of cases acted on by the appointment office during the year was 7,785. The total postages accrued on United States and European mails during the year amounts to $1,144,095 82, being a reduction of the amount of the previous year of $217,940 88. Of the total amount collected the excess collected in the United States was $212,607 36, which constitutes the balance paid to the several foreign departments, the cost of exchange being defrayed by the United States. The Postmaster General objects to this cost as inequitable, and proposes, if possible, to relieve the Department from this burden.

The Postmaster General has made special efforts to retrieve the foreign correspondence of the country from its complexity, now so embarrassing alike to correspondents and to postal officers. Separate negotiations have been found altogether inadequate to secure simple and satisfactory arrangements. He, therefore, opened a correspondence in August last, through the Department of State, with foreign administrations, proposing a convention of postal representatives, at some convenient point, to consider the enumerated difficulties and the means of remedying.

Several replies have been received from the various governments, and all are favorable and agree to the project. This country, comprising emigrants from almost every civilized nation, is especially interested in the subject proposed to be brought before this conference. It is a species of postal improvement requiring the establishment of greater uniformity and some common principle of arrangement, and is connected with our prosperous commercial intercourse with other countries.

The mail lettings which went into operation on the first of July last in the Western Division, and were effected on such favorable terms, as compared with the previous lettings, that a reduction of expenditure resulted to the amount of $331,000. At the same time the length of the routes was increased by 159 miles, with an annual increase of taxation of 754,428

miles. Notwithstanding this increase of service, the net saving is over nine per cent, as compared with the previous term.

The total annual cost of the internal service in operation on the 30th of June last was $5,853,834, to which add the cost of the various agencies, route and local messengers, etc., etc., $460,630 92, and the cost of the service at that date is $6,314,464 92, which includes one million dollars for the Overland Mail Route, not before charged upon the revenues of this Department.

The saving in the lettings of the West to July, 1862, is attributed to a strict adherence to the law of 1845, authorizing what is known as star bids.

The report renews the recommendation for codifying all the postal laws, and hopes it may be done at this session.

Among the improvements under consideration by the Postmaster General, is that of embossing postal stamps on business and other envelopes supplied for that purpose by persons desiring to furnish their own designs. It is believed that this will largely increase the use of stamped envelopes in lieu of stamps, which is an object of great importance to the Department.

He also discourages the use of the mails for transmitting money, and speaks favorably of a limited money order system, and offers an amendment to the registry system, by which a return receipt shall be sent to the dispatching party, as evidence of the fact and date of delivery of his package.

He also proposes to abolish many of the discriminating rates of postage now existing, approximating, as far as possible, to uniformity, and increasing the efficiency and extent of the delivery and collection of letters by carriers in cities. These important changes have been very fully and ably advocated, as our readers are aware, in the *Merchants' Magazine* during the past year.

The attention of the public is called to the great importance of good postal officers for a successful administration of this Department. If the postmasters and their clerks are selected without chief reference to their efficiency and personal fitness, no amount of good legislation will secure public satisfaction. An energetic, faithful, and efficient postmaster, devoted to the interests of the service, should be retained as long as he illustrates those qualities in his administration of the office. He attributes the success of the English system largely to the permanent character of their officers, and their familiarity with the laws and regulations. He regrets the extent to which other motives to appointments have prevailed in this country. He urges a return to the old standard of honesty, capacity, and fidelity, and anticipates more public satisfaction and administrative success from the adoption of such a principle than from any other single act of reform. He uses this language:

"It is my intention to adhere firmly to my determination to displace incompetency and indifference wherever found in official position under my control, without any discrimination in favor of appointments I may myself have made under misinformation of facts."

As a whole, we think this document well deserves careful attention, and we trust that many of its suggestions will be adopted by Congress.

NAUTICAL INTELLIGENCE.

THE NAVAL FORCE OF THE UNITED STATES, ETC.—REPORT OF THE SECRETARY OF THE NAVY.

As to the condition of our navy, the Secretary in his report says: When I entered upon the discharge of my public duties as the head of this department, in March, 1861, there were but 42 vessels in commission, and as stated in my last annual report, but 76 vessels then attached to the navy have been made available. Most of those in commission were abroad, and of the 7,600 seamen in the pay of the government, there were on the 10th of March, 1861, but 207 men in all the ports and receiving ships on the Atlantic coast to man our ships and protect the navy yards and depots, or to aid in suppressing the rising insurrection.

Neither the expiring administration, nor Congress, which had been in session until the 4th of March, had taken measures to increase or strengthen our naval power, notwithstanding the lowering aspect of our public affairs, so that when a few weeks after the inauguration I desired troops for the protection of the public property at Norfolk and Annapolis, or sailors to man and remove the vessels, neither soldiers nor sailors could be procured. There were no men to man our ships, nor were the few ships at our yards in a condition to be put into immediate service.

The proclamation of April, placing our entire coast from the mouth of the Chesapeake to the Rio Grande under blockade, found us with a naval force, even were every vessel on our coast, inadequate to the work required.

* * * * * * * * * * *

We have at this time afloat or progressing to rapid completion a naval force consisting of 427 vessels, there having been added to those of the old navy enumerated in my report of July, 1861, exclusive of those that were lost, 353 vessels, armed in the aggregate with 1,577 guns, and of the capacity of 240,028 tons.

The annals of the world do not show so great an increase in so brief a period to the naval power of any country. It affords me satisfaction to state that the acquisitions made to the navy from the commercial marine have proved to be of an excellent character, and though these vessels were not built for war purposes, and consequently have not the strength of war vessels, they have performed all the service that was expected of them. No equal amount of tonnage was ever procured for any service at prices correspondingly low, and with so little disturbance to the commercial community, and no vessels were ever constructed on better terms for the government, or have better subserved the purposes for which they were designed, than the twenty-three gunboats for which the department contracted on its own responsibility at the commencement of hostilities, without waiting for the action of Congress. In no respects, during this war, has the government been better or more economically and faithfully served than in the additions that have been made by construction and purchase for the navy.

In order that the actual condition of the navy, past and present, from March 4, 1861, to November, 1862, and the expansion which has been made, may be seen, I present a tabular statement of the number of vessels, and the aggregate of their armament and tonnage:

NAVAL FORCE AT DATE OF THE LAST ANNUAL REPORT.

Description.	Number.	Guns.	Tons.
Old navy	76	1,783	105,271
Purchased vessels	136	518	71,297
New vessels, completed and under construction	52	256	41,448
Total	264	2,557	218,016

PRESENT NAVAL FORCE.

Old navy	74	1,691	100,008
Purchased vessels	180	688	86,910
Transferred from War and Treasury Departments	50	230	82,828
New vessels, completed and under construction	123	659	120,290
Total	427	3,268	340,036
Increase since last report	163	711	122,020

ADDED SINCE 4TH OF MARCH, 1861.

(*Exclusive of those lost.*)

By purchase	180	688	86,910
By transfer	50	230	32,828
By construction	123	659	120,290
Total	353	1,577	240,028

ADDED BY CONSTRUCTION.

Second class screw sloops of war	13	116	16,396
Screw gunboats	27	108	14,033
Side wheel gunboats	39	296	36,337
Armored wooden vessels	12	65	20,893
Armored iron vessels	32	74	32,631
Total	123	659	120,290

IRON-CLAD NAVY.

Seaboard.			
Armored wooden vessels	8	56	19,005
" iron vessels	20	42	22,611
Western rivers.			
Armored wooden vessels	4	9	1,888
" wooden vessels, (transferred from War Department)	10	122	6,284
" iron vessels	12	32	10,020
Total	54	261	59,808

NAVY ON WESTERN WATERS.

Armored vessels	26	261	59,808
Wooden gunboats	18	79	6,380
Transports & ordnance steamers	10	2	9,000
Rams	5	24	11,200
Armed tugs	13	13	650
Total	72	379	87,038

When the vessels now under construction are completed, the navy will consist of—

Sailing vessels	104	1,415	74,175
Steam vessels	323	1,815	265,861
Total	427	3,268	340,036

EXPENSES AND ESTIMATES.

The appropriations for the fiscal year ending amounted to $43,615,551 77. The expenses were $42,200,529 96, leaving an unexpended balance of $1,115,021 81. The amount appropriated for the fiscal year ending June 30, 1863, is $52,814,359 07. The estimates submitted for the fiscal year ending June 30, 1864, are as follows:

Navy proper	$65,096,277 70
Marine corps	1,247,417 31
Navy yards	1,604,123 00
Hospitals	82,400 00
Magazines	33,522 00
Miscellaneous	192,515 00
Total	$68,257,255 01

PRIVATEERS—THE ALABAMA.

The Secretary has the following in regard to the privateers fitted and fitting out in England: The rebel armed steamer Sumter, which, after committing depredations, was at the date of my last report, fleeing to escape our cruisers, crossed the Atlantic. She was tracked to Gibraltar, where she has since remained, one of our cruisers vigilantly guarding her from Algeeiras. With this exception, no other armed vessel has plundered our commerce or inflicted injury on our countrymen, until within a recent period, when a steamer known as 290, or Alabama, built and fitted out in England —a vessel that had not been in any port or visited any waters but those of Great Britain—went forth from the shores of that country, ravaging, sinking, burning, and destroying the property of our merchants who, knowing our peaceful relations with England, and uninformed that such a cruiser had been permitted to leave Great Britain, were unprepared for such assault and devastation.

How far and to what results this abuse may be carried with impunity to the government which tolerates it, is matter of grave consideration. The piratical privateer 290, or Alabama, has no register nor record, no regular ship's papers nor evidence of transfer, and no vessel captured by her has ever been sent into any port for adjudication and condemnation. All forms

of law which civilization has introduced to protect and guard private rights, and all those regulations of public justice which distinguish and discriminate the legalized naval vessels from the pirate, are disregarded and violated by this lawless rover, which, though built in and sailing from England, has no acknowledged flag or recognized nationality, nor any accessible port to which to send any ship she may seize, nor any legal tribunal to adjudge her captures. Under the English flag, in which they confided, and by the torch of the incendiary, appealing to their humanity, our merchantmen have been lured to destruction.

She was built and fitted out in British ports in flagrant violation of British law and of the royal proclamation of neutrality, and I have reason to believe that her crew is composed almost exclusively of British subjects, or persons who, pursuing a loyal voyage, would be entitled to ship and receive protection to British seamen.

Before this piratical cruiser left Great Britain, the authorities of that country were informed by the recognized official agents of this government of her character and purposes. The British Government, thus invoked, came too late to prevent her sailing. To what extent, under these circumstances, the government of Great Britain is bound in honor and justice to make indemnification for the destruction of private property which this lawless vessel may perpetrate, is a question that may present itself for disposal. It is alluded to now and here, not only from a sense of duty towards our commercial interests and rights, but also by reason of the fact that recent intelligence indicates that still other vessels of a similar character are being fitted out in British ports to depredate upon our commerce.

Our own cruisers not being permitted to remain in British ports to guard against these outrages, nor to coal while cruising, nor to repair damages in their harbors when injuries are sustained, the arrest of them is difficult and attended with great uncertainty. This Department has dispatched cruisers to effect the capture of the Alabama, and there is now quite a fleet on the ocean in pursuit of her.

AN ALPHABETICAL LIST OF THE IRON-CLAD NAVY OF THE UNITED STATES.

The following is a list of the iron-clads of the American navy, now in service and in process of construction:

	Name.	Guns.	Tons.	Where located.
1.	Agamenticus.....	4	1,564	Portsmouth, N. H.
2.	Benton.....	16	1,000	Western flotilla.
3.	Baron de Kalb...	13	512	Western flotilla.
4.	Chilicothe.....	2	303	Cincinnati.
5.	Chickasaw	4	970	St. Louis.
6.	Catskill.....	2	844	Greenpoint.
7.	Camanche	2	844	Jersey City.
8.	Cairo.....	13	512	Western flotilla.
9.	Cincinnati.....	13	512	Western flotilla.
10.	Carondelet.....	13	512	Western flotilla.
11.	Canonicus	2	1,034	Boston.
12.	Catawba.....	2	1,034	Cincinnati.
13.	Dictator.....	2	3,033	New York.

	Name.	Guns.	Tons.	Where located.
14.	Dunderberg.....	10	5,090	New York.
15.	Essex	7	1,000	Western flotilla.
16.	Galena.....	7	738	Mystic.
17.	Indianola	2	442	Cincinnati.
18.	Keokuk.....	2	677	New York.
19.	Kickapoo.....	4	970	St. Louis.
20.	Louisville.....	13	468	Western flotilla.
21.	Lexington	7	500	Western flotilla.
22.	Monitor	2	776	New York.
23.	Mound City	13	512	Western flotilla.
24.	Marietta.....	2	479	Pittsburg.
25.	Milwaukee.....	4	970	St. Louis.
26.	Montauk	2	970	Greenpoint.
27.	Manhattan	2	1,034	New York.
28.	Mohopac	2	1,034	New York.
29.	Manyunk	2	1,034	Brownsville, Pa.
30.	Monadnock.....	4	1,564	Boston Navy Yard.
31.	Miantonomah ...	4	1,564	N. Y. Navy Yard.
32.	Nantucket.....	2	844	Boston.
33.	Nahant	2	844	Boston.
34.	Neosho.....	2	523	St. Louis.
35.	New Ironsides...	18	3,486	Philadelphia.
36.	Ozark.....	2	578	Mound City.
37.	Osage.....	2	523	St. Louis.
38.	Onondaga	4	1,250	Greenpoint.
39.	Patapsco.....	2	844	Wilmington.
40.	Passaic.....	2	844	Greenpoint.
41.	Puritan.....	4	3,265	New York.
42.	Pittsburg.....	13	512	Western flotilla.
43.	Roanoke.....	6	3,435	New York.
44.	Sandusky.....	2	470	Pittsburg.
45.	Sangamon.....	2	844	Chester, Pa.
46.	Tonawanda	4	1,564	Philadelphia.
47.	Tecumseh.....	2	1,034	New York.
48.	Winnebago	4	970	St. Louis.
49.	Weehawken	2	844	Jersey.
	NOT NAVAL VESSELS.			
50.	Stevens' submerging battery....	8	4,000	Hoboken.
51.	Naugatuck.....	3	300	Hoboken.

STATISTICS OF AGRICULTURE.

WOOL GROWING IN CALIFORNIA.

In October last the wool growers association of California, had their anual meeting, and the directors in their report give us some information of general interest. It will be remembered that during the winter of 1861–62, the entire coast of California was visited by a succession of storms of unparalleled severity; all of the valley lands were flooded for weeks, and the uplands in many localities were covered for several days at a time with snow.

The result of these storms and floods was, as the directors tell us, an immense destruction of sheep and lambs in all parts of the State. These losses were less by drowning in the flood—though entire flocks were thus swept away—than by exposure to the protracted storm and insufficient food. In some localities the sheep thus weakened and prostrated were attacked by a species of rot, and flocks that might otherwise have survived the winter were decimated or destroyed.

The directors say that they have made considerable effort to get an absolute inventory of these losses, and have reports from three hundred and sixty-nine farms—ninety-two received by letters, two hundred and seventy-seven obtained by personal visit. The aggregate loss obtained from these 369 farms is, of old sheep, 122,100; lambs, 105,189—total, 229,289, and this comprises less than one-third of the sheep farms of the State, while many of the reports given in were known to be largely under the actual loss. If these estimates are correct, we may conclude that there was a total loss in the State of about 700,000 sheep and lambs.

The receipts of wool at San Francisco since January 1st have been 22,408 bales, averaging 205 pounds		4,593,640
The shipments for the same period have been 16,075 bales, averaging 245 pounds.....		3,938,375
Retained for home manufacture.....		655,265
The clip of 1862 is estimated as follows:		
Total amount received as above.....		4,593,640
Fall clip yet to come, about.....		1,000,000
Total receipts for the year		5,593,640
Deduct for fall clip of 1861, shipped from San Francisco from January 1st to April 1st.....	324,000	
For wool received from Oregon and other places	150,000	
		494,000
Total product of California for 1862		5,119,640
" " for 1861.....		4,600,000

The average annual increase of the wool clip for four or five years previous was nearly forty-six per cent. Had there been, therefore, the same increase the past year, the amount produced would have reached 6,440,000 pounds instead of 5,119,640. This deficit the directors of the association explain by the fact of the very large loss of stock caused by the storms and floods above refered to.

MERCANTILE MISCELLANIES.

A NEW YORK MERCHANT—AN HONEST MAN.

It is refreshing to meet an honest man. The following from the *Evening Post* would indicate that there is one alive even now. God, bless him!

About thirty years ago a very respectable firm doing business in Pearl-street was compelled under then existing circumstances to suspend payment; they paid a respectable dividend, and the creditors were satisfied that they were honest, although unfortunate, and balanced their books by profit and loss. Yesterday I received the following note:

New York, December 23, 1862.

On looking over my accounts I find a balance of your account not paid. For it I inclose a check for one hundred and forty-one dollars ($141,) which is in full. Please say if it reaches you.

Yours, respectfully, * * * *

I called to assure the gentleman that I had received the check, when I learned that this was among the last of his payments. He informed me that he adopted the plan of paying the largest assessments first, as the creditors in such cases had been put to the greatest inconvenience. There was one house in Boston to which he owed a considerable amount, which had also failed, and a partner in which had subsequently died, leaving a widow and a number of children in a destitute condition. His remembrance of them was truly "Feeding the widow and the fatherless."

It is very refreshing to have occasionally a bright spot shining in our pathway through this dark and degenerate age, where self seems to rule triumphant.

When I took him by the hand and congratulated him on his high and honorable conduct, I felt a particularly and happy influence, knowing I had an honest man by the hand, which is the "noblest work of God."

I hope this example will induce others to do likewise.

FEDERAL FINANCES EXAMINED.

The article in our last number entitled "Federal Finances Examined" appears to have elicited unusual and very favorable notice. From the following, however, which we find in the Utica *Morning Herald*, it will be seen that one person at least does not like it.

"Hunt's for this month presents an unusually strong array of able articles on commercial and financial topics, and comes fully up to the high standard of the times of Freeman Hunt's editorship. An excellent contribution on 'The Advance Value of Gold,' is contributed by A. B. Johnson of this city. We regret to notice the prominence given to a most unjust partizan assault on the Secretary of the Treasury, in an article entitled 'Federal Finances Examined.' It bears unmistakable traces of the pen of the author of 'Southern Wealth and Northern Profits,' a notorious secesh missile issued just on the eve of the rebellion, and largely quoted through the South as justifying secession. The commercial and financial summary prepared monthly under the caption 'Commercial Chronicle and Review,' carries the features of the same author and loses much of its value from its

systematic perversion of facts to suit rebel politics. With these exceptions the Magazine continues to merit the high reputation it has always enjoyed."

The Magazine is, and always has been, even when the sentiments are not endorsed by the editor, open to the discussion of all questions; particularly those which, like the federal finances, affect every individual in the country. The *Herald* alleges that the article contains an "unjust partisan assault upon Mr. CHASE." This we have failed to discover. If the *Herald* can justify its allegation we should be pleased to hear from it. It is very easy to denounce matter as a "perversion of facts." Applied generally the phrase has no meaning; to point out and specify may lead to correction and justify the truth of history.

The *Herald* is also mistaken in relation to what it calls a "secesh missile." That work, if we remember, was published more than a year before the Presidential election, and was subsequenly, when secession was determined on, repudiated at the South as the strongest Union document which had been published. Its dissemination in the North was dreaded as likely to defeat the aims of those who were determined on war.

OUR MINERAL RESOURCES.

The Secretary of the Interior, in his report referring to the immense development that has taken place in the mineral resources of the country, says, that after extensive inquiry from all available sources of information, the production of gold during the present year from the auriferous region which embraces Dacotah, Nebraska, Colorado, New Mexico, Arizona, Utah, Nevada, California, Oregon, and Washington, may be set down at $100,000,000. If an amount of labor relatively equal to that expended in California had been applied to the gold fields already known to exist outside that State, it is believed that the production of this year, including that of California, would have exceeded $400,000,000. The Secretary thinks that these vast mines of wealth may be made available to aid in liquidating our national debt. Of the several modes suggested for making these lands productive to the government he specifies three, viz.: The granting of leases by the government, the collection of a certain portion of the proceeds of the mines, and the absolute sale of the land in small lots. It has been estimated, he says, that at least $500,000,000 could be realized by the sale of the lands in one acre lots, after granting to those who are now engaged in mining a clear title, without cost, to the lands they occupy. The subject is one of transcendant importance, in view of the enormous increase that is daily being made to the public burdens, and should at once receive the attention of Congress.

The report suggests the necessity of immediate legislation in connection with another class of mineral riches to be found in the public domain —namely, the extensive coal fields known as the Mount Diablo Mines, on the Joaquin River, within forty miles of San Francisco. It shows that our steamers on the Pacific, which are now furnished with coal from Pennsylvania at twenty dollars a ton, can be readily supplied from these mines at twelve. It also recommends that that portion of the public lands of Texas, amounting to one hundred millions of acres, which remains unsold, and which, the Secretary says, owing to the treason of its people, is properly subject to confiscation, shall be declared forfeited to the United States, and placed under the operation of the Homestead law.

THE BOOK TRADE.

Manual of Geology; Treating of the Principles of the Science with Special Reference to American Geological History. By JAMES D. DANA, M. A., L.L.D. SILLIMAN, Professor of Geology and Natural History in Yale College, Author of a "System of Mineralogy," of "Reports of WILKES's Exploring Expedition on Geology, on Zoophytes, on Crustacea," &c. Illustrated by a Chart of the World, and over One Thousand Figures, mostly from American Sources. Philadelphia: THEODORE BLISS & Co. London: TRUBNER & Co., 1863.

Professor DANA's book comes to us in beautiful shape from the press of THEODORE BLISS & Co., of Philadelphia; the paper is excellent, the type clear, the binding extremely tasteful—a noble work, worthily presented.

The scientific world at home and abroad, has been waiting and watching long for the present volume. There have been State reports, and partial geological accounts, but nothing that could begin to fill the place of a full and complete American Geological History. The arrangement of the Manual is admirable, and strictly original; the convenience of the ordinary reader has been consulted by putting the more general and popular information in large type, while many additional details for the closer student are printed in finer text. There is beside, an invaluable synopsis of the whole in the appendix, to be used by teachers and scholars in a short course of instruction, or more generally, as a compendium for reference.

Among the minor benefits which the volume will confer, is that of furnishing a standard nomenclature for the numerous geological collections. Heretofore, every fourth fossil in the country has carried an interrogation mark after its name—painful proof of the undecided condition of that portion of the science, and of the troubled state of the possessor's mind. It is our candid belief, that few of life's burdens weigh so heavily upon the heart of a Geologist, professional or amateur, as the misgiving that he has put the wrong name to his favorite fossil. We foresee great peace and endless employment for all these good people, during the coming winter evenings, in the labor of re-labelling their pets upon a high and unimpeachable authority.

The full value of such a work from such a source is too great, and too strongly felt to require asserting here; it combines the result of years of patient toil, of devoted love for the subject, of profound research, and of indefatigable personal investigation. The immense celebrity which has been won by the Reports on the Exploring Expedition, and the exclusive use of the mineralogy in many of the best Universities in Europe, are merely indications of the stand which the Geology will take among the noted works of the century, and in the estimation of scientific men everywhere; while to those who are in the least familiar with the personal history of the author, the book must have a peculiar and vivid interest. It has been delayed again, and again, and again—by arduous professional duties, by journeyings abroad, by domestic bereavement, by broken health. Through all, and in despite of all, the work has at length been accomplished; so laboriously, so faithfully, and so completely, that it is an achievment worth living for; a monument of patience, of genius, and of learning; a noble service to the present age; a legacy for generations to come.

Eyes and Ears. By HENRY WARD BEECHER. Boston: TICKNOR & FIELDS, 1863.

This volume is a collection of numerous short articles, the majority of which have already appeared in the columns of the *Ledger* or the *Independent*. They embrace a very wide diversity of topics, and are written in BEECHER's peculiarly fresh and racy style. Among the best are the papers on "Modern Conveniencies and First Class Houses," "Our Housekeeping Experience," "My Pockets," and "The Dandelion and I." Occasionally one encounters those little effervescences popularly styled Beecherisms, which sensible people will not make objections to. If all birds were of one kind, and all men of one mind, society would be placid, but tedious. Everybody hates to be hit in the face with a champagne cork, but nobody on that account discards the use of champagne; they excuse the pop, out of regard to the sparkle that prompts it. For the same reason we ourselves entertain a tender charity toward the little isms above referred to, and firmly believe that men who have more life and brightness than their neighbors, cannot always prevent a little overflow of it.

The Poems of Oliver Wendell Holmes. Boston: TICKNOR & FIELDS, 1862.

The little Doctor in Blue and Gold! We are delighted to see him, as we should be, whatever he came in; whether velvet or homespun, it is always the same to us. In his court attire he is gayer, but not more dear than in the old brown Ticknor-dress of other days. The pretty little volume contains what all who love Dr. HOLMES' poems will value—a portrait of the author, not altogether flattering, but faithful enough to recall his face to those who have seen him, and to give a reasonably correct impression of it to those who as yet are familiar only with his name and his works.

The Canoe and the Saddle; Adventures among the Northwestern Rivers and Forests, and Isthmiana. By THEODORE WINTHROP, author of "Cecil Dreeme," "John Brent," and "Edwin Brothertoft." Boston: TICKNOR & FIELDS, 1863.

We are not as well pleased with this book of Mr. WINTHROP's, as with many of his former productions. Both talent and originality are to be found in it, but the former is spasmodic, and the latter eccentric. A musical friend sitting by, says, "Mr. WINTHROP's style is so *staccato* that it almost jars one to read it;" and that is perhaps as just a criticism as can be passed upon it. There is an altogether superfluous amount of the miserable jargon called Chinook, which, with its inevitable translation always following, makes many pages tedious, that otherwise would not be so. The subject of the book—the author's adventures among the Indians of the Northwest, and his wanderings about the Isthmus of Panama—cannot fail to have a certain degree of interest to every one; but as a whole, the volume is valuable chiefly on account of the subsequent personal history of Mr. WINTHROP, and because it is necessary to complete the set of his works, which Messrs. TICKNOR and FIELDS have issued in such a particularly tasteful form.

The New Gymnastics for Men, Women, and Children. With a translation of Prof. KLOSS's Dumb Bell Instructor, and Prof. SCHREBER's Pangymnastikon. By DIO LEWIS, M. D., Boston. With Three Hundred Illustrations. Boston: TICKNOR & FIELDS, 1862.

We are delighted with Dr. LEWIS' book, with the new inducements it offers to all to seek greater health and vigor, and the perfect plainness of the rules set down for their guidance. Not only does the author translate the text of Prof. SCHREBER's elaborate treatise on the Pangymnastikon, but he also describes very minutely the simple gymnastic apparatus which is meant to combine in itself every feature neces-

sary for perfect muscular development, so that by the aid of this book, people may practice at home nearly all of the exercises advocated. In fact, by following the rules laid down, one can easily have a gymnasium in any room of one's house, for the apparatus described may be put up without defacing the walls in the least, and removed again in a moment when desired. To all, then, of our readers who regard the physical development of those about them, (and who does not?) this book will be found to be of great assistance. At the same time, we may say that we are far from advocating the extreme physical culture which appears to be in vogue at present. We cannot convince ourselves that man's highest mission on earth is to carry four of his neighbors at a time on his back, or to tie himself up in bow-knots; and if the true culture cannot be combined, we would choose the mental at the expense of the physical. It is certainly far better to be a suffering spirit, than a painless brute. But fortunately our choice is not limited to these extremes. Even our burdened men of business and women of cares may be renovated, refreshed, and strengthened, mentally, morally, and physically, by a proper attention to the inexorable laws of health and exercise. To all of them we heartily commend Dr. LEWIS' work and practise, as being the most rational, mild, and sensible course of gymnastics which we have ever seen advocated.

PAMPHLETS RECEIVED.

The Pirates of the Prairies; or, Adventures in the American Desert. By GUSTAVE AIMARD, Author of "The Prairie Flower," "The Indian Scout," "The Trail Hunter," "The Trapper's Daughter," &c., &c. T. B. PETERSON & BROTHERS, Philadelphia. A. BRADY, 24 Ann-street, New York. Price 50 cents.

Andree de Taverney; or, the Downfall of the French Monarchy; being the final conclusion of the "Countess of Charny," "The Memoirs of a Physician," "The Queen's Necklace," and "Six Years Later." By ALEXANDER DUMAS, Author of the "Iron Mask," &c., &c. Philadelphia: T. B. PETERSON & BROTHERS. Two volumes. Price 50 cents each.

Both of the above publications will be gladly welcomed by all who have read the former works of these authors. Messrs. PETERSON & BROTHERS will send to any one copies of their publications on receipt of the advertised price.

A Letter to the Hon. Benjamin R. Curtis, late Judge of the Supreme Court of the United States, in Review of his recently published Pamphlet on the "Emancipation Proclamation" of the President. By the Hon. CHARLES P. KIRKLAND, of New York. New York: LATIMER BROTHERS & SEYMOUR, Law Stationers, 21 Nassau-street, 1862.

The True and the False. An Oration delivered before the Phi Beta Kappa Society, at Yale College, July 30, 1862, by CHARLES TRACY, Esq., of New York. Published by the Society. New Haven: Printed by E. HAYES, 426 Chapel-street, 1862.

We wish we had time to notice at large these essays, written as they are, by two of the leading minds of the New York bar. A good lawyer's always expresses his ideas clearly and forcibly; and whether we agree with the conclusions drawn or not, we can never fail to read what he writes with profit and admiration. Mr. KIRKLAND'S "Letter" is by far the best reply we have seen to the pamphlet published by Judge CURTIS; and the oration of Mr. TRACY gives his own clear thoughts in a pleasant, easy way, upon subjects of never failing interest. We should be glad to see much more from the same hands.

THE

MERCHANTS' MAGAZINE

AND

COMMERCIAL REVIEW.

Established July, 1839.

EDITED BY

WILLIAM B. DANA.

VOLUME XLVIII. JANUARY, 1863. NUMBER I.

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