Mr Threswright

AN

ACCOUNT

OF

BON HARBOR,

IN THE STATE OF KENTUCKY,

ON THE OHIO RIVER,

ONE HUNDRED AND SIXTY MILES BELOW THE FALLS;

POSSESSING

EXTENSIVE COAL MINES,

GREAT ADVANTAGES FOR MANUFACTURING,
SHIP BUILDING, ETC.

AND DESTINED TO BECOME

A PLACE OF GREAT IMPORTANCE.

The following exposition is designed to attract the attention of Manufacturers and Capitalists.

LONDON:
E. PALMER AND SON, 18, PATERNOSTER ROW.
MDCCCXLIX.

BON HARBOR :

ITS ADVANTAGES FOR MANUFACTURING.

THE following exposition is made with a view to shew the eligibility of Bon Harbor as a site for a manufacturing town. Also its great commercial advantages, by which I think the following facts are clearly established.

1st. The most important point to be established, that the supply of coal may be considered inexhaustible, as it comprises every vein of coal within the coal field.

2nd. That it is the thickest vein of coal on the Ohio now being mined, which is found below the falls.

3rd. That the quality of the coal for generating steam is very superior.

4th. That the site for trade from convenience of harbor, depth of water, and goodness of landing, as well as from the extent of back country which it may be made to command, is one among the finest on the Ohio river.

5th. That manufacturing can be done here as cheaply as at Lowell, so soon as hands are trained, or trained hands can be obtained.

6th. That ultimately it will be done at a lower cost proportionate to the difference in the expense of living.

7th. That the advantages we have over Lowell are the whole cost of getting the raw material from New Orleans to Lowell, as we can get it from the cotton region to Bon Harbor

for the freight from said region to New Orleans—the cost of getting back the goods to the West. Of the difference in time from the purchase of the cotton to the sale of the goods, great additional capital consequently necessary as well as agencies, &c. making altogether a difference of fully 20 per cent. on the value of goods manufactured if of coarse cottons, at present prices.

8th. That a demonstration of said advantages from actual experiment must ultimately transfer capital from Europe, if not from the Eastern States, to the West.

9th. That the most commanding point with proper energy and enterprize can be made to attract capital in preference to all others, and that Bon Harbor needs only those requisites to make it a city even by the aid of its manufactures, but by the extent of its coal trade.

10th. An immense business can be done, and great employment can be given to labor in this line, almost to an unlimited extent, and shewing that from the *value of the mines alone*, almost any estimate of the property would fall below the mark.

11th. That it is the finest point in the West for ship building, because of the unlimited supply of fine white oak timber, which it commands, and because of the rigging and sails which may be manufactured on the spot, and also because of abundant freights always to be had for direct shipment to Europe or elsewhere.

12th. As a point of commerce. Because its geographical position wlll enable it to command the country for a great extent in the interior, and in all probability make it the terminus on the Ohio, of the Georgia and South Carolina railroad.

13th. That capital invested in the United States is more secure than in any country on the globe. That the best investment is in real estate well chosen, but more especially if that estate be of coal property on navigation, convenient to the cotton region, healthy and well adapted to manufacturing, and that just such a point is Bon Harbor.

Since the communication to the Editor of the Western Journal was made, the following letter has been received from Judge Calhoun, formerly a member of Congress from Kentucky, now Judge of a district comprising eight counties, embracing Bon Harbor. The elevation of his position, and his residence in the county where Bon Harbor lies, are some evidence of the weight to which his statement is entitled.

The report of Professor Lawrence not embraced in the said communication, is also herewith annexed, by which will be seen the geological formation of the Bon Harbor region, and that in all probability there is here a body of salt water, as its existence will only be in accordance with the general example of coal fields above the falls of the Ohio at Kenhawa, Pittsburgh, and Zanesville, where wells have been sources of great profit, making very large fortunes—But if that has been the result there, and supplies for the Bon Harbor country come from them, how much more valuable ought salt wells at Bon Harbor to be?

By Professor Lawrence's report it will be also seen that we have an abundant supply of fire clay.

For iron manufacture, no point can be better, as the pig passes by Bon Harbor to Pittsburg and Wheeling eight hundred miles above, and returns manufactured.

That when the Chagres and Panama railroad is finished, or one from the Missisippi to California, which must soon be commenced, the opening for supplies of manufactures from this region will be immense.

DAVISS COUNTY, JAN. 25TH. 1849.

DEAR SIR.—In answer to your inquiries, about Bon Harbor, I reply, that my visits there have arisen chiefly from the interest which I felt in the progress of such enterprises in our country, not having it in view to answer any questions, or give specific information in regard to them. I know that you have a large establishment for manufacturing cotton goods which appears to be doing good work. Your location I consider to be as good as could be desired, commanding, as it soon will,

the Green River County in Kentucky, comprising nearly one third of the state. Convenient also to the whole Mississippi valley, nearer to the cotton, iron, and almost all the raw materials than the points at which they are now manufactured, with a supply of coal considered by common estimation inexhaustible, (of this, however, I am no judge, but seeing the coal hills for some two miles running parallel with the river, and indefinitely back, it would seem to me useless to calculate the time when they could be worked out.) The health of your place is reported to be good, and I have no doubt of the fact. You have a fine harbour, with deep water. I cannot myself conceive how your advantages can be improved. The quality of the coal for grate use, seems to be as good as could be desired; such appears to be the opinion of the people of Owensboro' where it is generally used, and I learn that it is bought as fast as it can be delivered at the landing, which is strong evidence in its favour. Were I to name the estimation in which the property seems to be held by most of the intelligent persons in this section of country, I should, perhaps, meet your utmost wishes. I feel satisfied myself that there is no point in the West possessing equal advantages as a point for manufacturing.

With great respect,

JOHN CALHOUN.

To Robert Triplett, Esq. Owensboro', Kentucky.

HAVRE (FRANCE) JULY 19, 1849.

Mr. W. J. Staples, American Consul.

DEAR SIR.—As a matter of interest to the American public of the Mississippi valley, I desire to be informed what knowledge you have of the building of ships on the Ohio, by seeing such here, and the report as to the inducements to build them there.

Very respectfully your obedient servant,

ROBERT TRIPLETT.

(Answer.)

DEAR SIR.—In reply to your note of this date, I have to state that one of the finest new American Ships that have entered this port during the year, and we have had many—was built in the Ohio River and near Cincinnati. The timber used in the construction of this ship was found in that neighbourhood, but the carpenters were brought from New York, and those by whose enterprise and whose capital this undertaking was accomplished were residents of New Orleans and Mobile.

It is probable, as the wish to prove the capabilities of the region in question for ship-building and not economy, was the object of these public spirited individuals, that the cost of this ship under the circumstances adduced would not compare favourably with the cost of similar undertakings at the present moment, on the Atlantic States.

Her measurement by Custom House register is 799 52-95ths tons, and she possessed apparently all the strength and solidity of a man of war. It was extremely gratifying to me as an American, to find such a striking and imposing evidence of the genius, the enterprise, and the energy of my countrymen—evidence to be carried and exhibited in all parts of the world. A ship of 800 tons, capable of carrying 2600 bales of cotton, built, sparred and rigged completely, of materials procured entirely in that region, 1800 miles from the sea coast—and then carried over rapids and shoals safely to her destined element, is a fact that speaks volumes for the people and the country.

I am Sir, very truly your obedient servant,

W. J. STAPLES.

EXTRACT FROM THE GEOLOGICAL REPORT OF PROFESSOR LAWRANCE.

THE mineral resources at Bon Harbor seem to be much the most flattering. That tract not only has a soil of unsurpassed fertility, but the coal in those hills, must itself be a mine of wealth. The fire clay will doubtless be of some value, and it is quite likely that the bed of limestone above the coal, will

prove to be hydraulic. I make out six beds of coal, the fourth and sixth have limestone above them, as you will see by the drawing. I feel confident that some of the sandstones below the coals would produce a plentiful supply of brine for the manufacture of salt, and probably no place on the river, affords greater facilities for that business than Bon Harbor.

EXTRACT FROM THE WESTERN JOURNAL OF AGRICULTURE, COMMERCE, MANUFACTURES, &C.—PRINTED AT ST. LOUIS, UNITED STATES.

Article II.—Bon Harbor: Its Advantages for Manufacturing.

HAVING seen but a very imperfect account of the extensive manufacturing establishments that have for some time been in progress of erection at *Bon Harbor*, on the Ohio river, and desiring to collect information respecting the improvements that are being made in every part of the country, we addressed a letter to Messrs TRIPLETT and BARRETT, requesting them, if consistent with their views of propriety, to furnish us with an account of their establishment, including the nature and extent of their operations at that place. We also desired information respecting the natural resources and trade of the region in which Bon Harbor is located; and the advantages of manufacturing at that point.

The following communication from Mr. Triplett, is in answer to our inquiries, and fully sustains an opinion we have long entertained that, for the manufacture of cotton, iron, &c., Bon Harbor and its neighbourhood possess greater advantages than any other point in the United States. And it seems to us that nothing but the timidity of capitalists and a prejudice in favour of locations long established, has prevented these advantages from being improved long before the present time.

The improvement of these advantages was reserved for the sagacity and enterprise of Messrs. TRIPLETT and BARRETT, who are entitled to the profound gratitude of the inhabitants of the west, for devoting their talents and energies to the developement of its resources.

BON HARBOR, DECEMBER 22, 1848.

GENTLEMEN.—In the absence of Mr. Barrett, who is in Europe, I venture to answer, individually, the note which you addressed to us jointly.

Presuming your object in asking an account of Bon Harbor, is, to carry out, so far, your plan for developing the resources of the west, I venture to take a more general view, at first, than you invite—because much of this view I would have to take, even in giving the answer required—and, as what is applicable to Bon Harbor, is, to a great extent, also applicable to the other coal mines on the lower Ohio and upper Mississippi, I prefer to treat, generally, of what relates to the coal region, and also to the general interests of the west.

The present condition of Europe, causes capitalists to feel very uneasy in regard to their investments there. They are looking with anxiety to our country, with a view to a transfer; but few of them understand the genius of our government, and its practical operations, well enough to be satisfied that it has yet been sufficiently tested to determine that it will stand. As this is a primary consideration with them, it is all important they should be satisfied on that head.

I venture, therefore, in advance of my answer to your letter, to offer an essay on the stability of our government, showing that its construction, and genius, tend to its strengthening with age, and that no where do such strong inducements exist for the investment of capital, as in the Mississippi valley, and more especially at the coal mines on the lower Ohio, and upper Mississippi, which must, inevitably, become the great manufacturing region of America, because of the greater cheapness of living—cheapness of fuel—proximity to raw material—and being in the midst of the best home market.

Finally, I venture to show that a great western Lowell must spring up on the banks of the lower Ohio, and present the claims of Bon Harbor to be considered that point, or one of them, for there will probably be many.

Being much pressed by other calls, I may probably have been too much hurried to do this subject justice.

Very respectfully,

ROBERT TRIPLETT.

TO FOREIGN CAPITALISTS.

WHILE Europe seems to be in a troubled condition, and capital there, consequently very unsafe, it may be worth inquiry, whether greater safety may not be found in the United States, as well as more profitable investments.

The strength and stability of the United States government, we consider as having been effectually tested. An examination into its construction and operation, must satisfy the political philosopher, that it is becoming daily stronger. Every motive which could operate upon the interest or the ambition of man to destroy it, has already existed. Every element of self-destruction which might be supposed to prevail from an unsound original organization, from the natural corruption of human nature, or from almost any other cause, has had full time to exert its influence; and all such elements, which can have an existence in the nature of our government, have exerted their utmost power, but to no effect. A part of the citizens of Pennsylvania revolted under the whisky tax. But the national arm, and moral power of society, quieted every thing without bloodshed. Ohio resisted the location of a branch of the United States Bank within her borders, and laid a heavy tax to drive it out, collecting this tax by force. But the national arm soon forced her to restore it. South Carolina made the most fearful opposition to the Federal laws—but she, too, was quieted—other disturbances have existed, but all ended without difficulty; and by whomsoever those difficulties are originated, there is a moral obloquy afterwards resting upon them in the estimation of the other States, and people of the Union, which for ever debars them from political elevation, and is a warning to all future aspirants, who would disturb the general peace, to advance their own selfish purposes.

No sudden uprising against the laws of our country, can ever take place—no rebellion against the government—because it is an intangible thing. With an army of a million of men, all willing to do the bidding of an ambitious leader, our government could not be shaken, because it could not be taken hold of—there is nothing to touch—nothing which can be controlled without the public will. It is not as in Europe, where a possession of the capital—of the public offices—the records—and the throne, or seat from which power radiates, give pos-

session of the government and country, where all public officers are held bound to obey mandates coming from the powers that be for the moment, and will be punished as rebels if they do not. No! in America, its citizens are its public officers—its magistrates, without salaries—judges, independent of all controul—and executive officers, subject to the direction of the judges.

The judges are of the people—mix and associate with them daily. The sheriffs are, likewise, and so execute the laws with a regard to humanity, as well as to justice, that while a dereliction of duty would soon cause the loss of their offices, it is so much to their interests to be courteous and mild, that a few years action in the office most commonly sends them to represent the people in the legislature—neither judges, magistrates, nor sheriffs, would dare to lend their aid to carry into effect the mandates of any usurper. His authority would be nothing beyond the confines of the boundary occupied by his troops. And, as every man in America is a soldier, unless more than half were enlisted to overset the government, it could in no case be done—and, if more than half could be enlisted, force would be needless, as the desired result could be obtained, through the medium of the ballot-box. For this reason there can be no secret conspiracy—there is no need for a public police, nor for a standing army, except to keep fortifications in order, and check the Indians. Because, for every necessary purpose, a posse of the people can at any time be raised to execute the laws. Resistance to our laws is never heard of, because every man in the community is a conservator of the peace, and bound to lend his aid when required. Our laws are as invisible as the atmosphere, and as prevalent.

Neither do we want standing armies for war. Our late contest with Mexico is evidence of this.

It might be argued that, where a majority govern, there would be danger of agrarianism. Not so where three-fourths of the population, as with us, are land-holders. Their interest is in favour of the rights of property, and the proportion of land-holders will be continually increasing, as there is among us no rule of primogeniture. Every man's property is divided among his children, and almost always equally. So cheap too, is land, that three months labour will buy forty acres in the new States, so that the proportion of land-holders, compared

with the balance of the community, is, from various causes, continually increasing: and, in proportion to that increase is the interest of the people in favour of a government of just laws, where the interests of all are protected, and the rights of property inviolably secured.

But, in addition to the causes before enumerated, why our government will stand, and become more stable annually, is the Federal system upon which it is based.

Our government is made up of thirty separate parts, each being a State, independent of the rest in every thing, except national matters. There are no national officers of the law among us, except about one judge to each State, and a marshal to execute process in suits between citizens of different States brought in the federal court, and in cases where States themselves are parties, so that there would be no machinery of government by which any power in possession of the federal government could control the people of the States. The State officers are not under the control of the general government, and would not obey it. Even the gaols and court houses belong to the States, and are used by the federal authority, on sufferance from the States. Of course, as every State manages its own internal policy unconnected with, and independent of, the general government, the possession of the general government by any usurping authority, even if its officers would obey that authority, would amount to nothing. It would have no governmental machinery to operate with. To control the States then, it would be necessary to get possession of thirty different governments, and certain we are, that one hundred thousand men in each could not hold them.

Upon the score, then, of military force, there never can be danger. Upon that of internal commotions, as one thirtieth of the country could only be affected at any one time, by any one commotion, no permanent injury can be apprehended from that cause—and the only possible cause of fear is the combination of one portion of the States against the rest. Of this however there is nothing to apprehend.

If our population possessed no more intelligence than the average of the world, it would be almost impossible, under our constitution, for it to fall: because the general government guarantees to each State a republican form. Should a revolu-

tion occur in any one State, by force of arms or otherwise, to change the character of the government, it never can be done; and of this I conceive there is not a remote possibility. The more enlightened we become, of course, the less danger there is of any such effort. The freedom of discussion, the habitual inflammatory character of our newspaper essays on political subjects—the number of those newspapers—the various questions always dividing the public mind, and the high strung continual struggle to engage and inflame the public mind from every quarter, neutralizes the various effects of each, like a thousand storms blowing from every point of the compass, destroying the effects of each other, they produce a general equilibrium. All inflammatory matter having selfish ends in view, result finally in nothing; and that sound reasoning which reaches the understanding alone, has any effect. The American people are, perhaps, the most reading community, and are better informed on their own governmental concerns, than any other on earth. Every man has a direct and deep interest in them, and this intelligence is annually increasing, newspapers multiplied, and cheapened in price. At this time there are monthly papers of the very largest class printed for twenty-five cents per annum. Many at shorter periods, for one dollar, and some of the finest weeklies on the continent for two dollars. The postage is merely nominal, amounting to almost nothing. Nothing is more uncommon, than to find a family without a newspaper. The effect, then, must be a continually growing intelligence, and consequently an increasing strength in our government, now incomparably the most fixed and permanent one on earth.

Thus the security of investments in real estate, never can be assailed, while the general interest is in land, as it always must be. The stocks of our general government never can be in danger, because any administration which runs the government unreasonably into debt, is immediately overthrown, and no public cry is so potent as to clear the nation of debt. Any administration wishing to be popular must proceed to do that. Small and young individual States, yet in their infancy, have repudiated. But the scorn of other States, and the power of public opinion, always bring them right again. No citizen of such a State can travel abroad without being pointed at. Such a State is under the ban—and the moral sense of her people becomes sore and sick under the odium, and they finally reinstate themselves.

The United States Bank of Pennsylvania was a State institution. No one ever lost a cent by the Bank of the United States. But when that institution went out of existence, a State institution was incorporated in Pennsylvania, which assumed the name above—thereby, as we conceive, practising a fraud on the public. But that was a private incorporation, and liable as all banks, and individuals are, to the casualties of trade, for which neither the National nor State governments are blameable.

Our object is to establish the position, that funds invested upon the faith of the stability of the American government, could not be more safely invested, and of all the investments, none could be safer than in real estate well chosen—for in case of revolutions, real estate is always respected.

Viewing our whole political fabric comparatively, with the balance of the world, there is nothing, and never has been any thing like it. Every State moves within its orbit—enjoying the benefit of its own laws, and its own wisdom—untrammelled by the acts of any other State. Each can develop its own energies, and give life to the enterprise of its citizens, in the way it deems best. Ours is a great national co-partnership, the only credentials to an entrance into which, is a republican form of government. From thirteen States it has increased to thirty. The usual objection to such an extent of territory being under one government—that the same laws cannot suit every climate, and do equal justice over so wide a surface—does not hold here, because every climate, and every region, has its own laws, and however they may differ, it in no way interferes with the harmony of the whole system. T.

GROWTH OF THE VALLEY OF THE MISSISSIPPI.

The following is the progression of population decennially:

In 1790	-	200,000 souls
1800	-	560,000
1810	-	1,370,000
1820	-	2,580,000
1830	-	4,190,000
1840	-	6,370,000
1850	-	12,000,000

Carrying on the said progression, it would be about—

In 1860	-	23,000,000 souls
1870	-	40,000,000
1880	-	70,000,000
1890	-	120,000,000
1900	-	190,000,000

The progression of exports could not be in the same proportion, because, for many years after each settler fixed himself upon the ground, he has not cleared land enough to furnish more than the wants of his own family; and the in-coming emigration afterwards, for a long time, gives a market at his door for what he has to sell. It is the surplus only which will remain for export. While the country is comparatively in an unsettled state, the shipping surplus will be very small. But, to give some idea of the rapid growth of the export trade of the west to New Orleans, as the production at home begins to exceed the home demand, the growth of the steam-boat trade will show. This was very slow at first, for the reasons above named: say in 1820, it was only 10,000 tons; in 1830, 30,000; and in 1840, 50,000—estimating in round numbers. By the compound operation, of emigrants to a continually increasing extent, becoming producers instead of consumers, the following has been the increase of steam-boat tonnage, as exhibited by the treasury department: in 1842, the amount was 126,278 tons; in 1843, 134,600 tons; in 1844, 144,150 tons, and 686 steam-boats; in 1845, 159,713 tons, and 789 steam-boats; in 1846, 249,054 tons, and 1,190 steam-boats. In 1847 the tonnage fell back, because the enormous increase in 1846 overwent the demand. But, doubtless, in 1848, the usual rate of progression will continue. (The experience of the writer satisfies him, that the present tonnage does not equal the demand.)

Taking, then, the amount of 1846, as sufficing for 1847, we have an increase, in seven years, from 50,000 to 249,000 tons. Nearly five times, in 1847, the tonnage of 1840, or over 71 per cent, per annum of increase, with a gaining ratio every year. The first year's increase after 1842 being, in round numbers, 8,000 tons; 2nd, 10,000; 3rd, 16,000; 4th, dividing the increase between 1846 and 1847, 30,000, and 1847, 60,000 tons. Carry on this increase in the same ratio, and what would it be by 1865? Certainly not under an average of 100,000 tons per annum. In 1865, estimating the tonnage of steam-boats at 210 tons average, as above, and the total

number of boats required would be over 7,000. Incredible as the amount may appear, it is not as much so as at first it would seem; because the actual population will not be far from trebling itself by that time, which would give about half said estimate—say about 3,500 boats, if the tonnage increased only in proportion to the increase of population. But, by the compounding process aforesaid, that increase will double the ratio of the increase of population, and bring it to the foregoing figures: provided there be an outward vent for the products of the country. But, as this cannot be hoped for, in proportion to the want of such vent, said amount of tonnage must be diminished, except so far as the same is engaged in the interior trade of the country. This is estimated to be fully one half, which would give 3,500 boats; and, if we deduct one half for diminution in outward demand, in proportion to the ratio of increase, we have 1,750 for that branch, or a total of 5,250 boats in 1865. But, as the regular progression of increase is to be diminished by the want of a market for the products of the country, what is to be the effect of a continued over production? Certainly to reduce agricultural labour to the very lowest mark at which man will be willing to render his services; which will reduce the value of agricultural products to less than half the value in the west, of what they are in the eastern States—a condition of things almost existing now. The whole expenses of the west will be scaled down to half of what they are in the eastern States. Labour will be at half price, because it will seek employment at what it can get; and half eastern prices will be a fair remuneration, since those prices will purchase as much in the west, as full prices in the east. This state of things will necessarily transfer the business of manufacturing from the east to the west, for the double reason that labour will ultimately be had cheaper in the west; and because the raw material is produced there, where three fourths of the demand for manufactures exist, or will exist by the year 1865. Western merchants now estimate ten per cent. on cost, as the expense of getting cotton goods from the east to the west.

Add five per cent. for the cost of getting the raw material from the west to the east, and you have a difference of fifteen per cent. on the value of goods, in favor of manufacturing in the west, even if labour be at the same price. At present, labour may be considered higher in the west than in the east. But that state of things must necessarily end very soon, when the west will have it one-third less than it is on the other side of the mountains. Destiny points to all those results as certain

and inevitable. The man of prudence and forethought will look to them as such, and lay his plans for the future with an eye to that event. The opponents of manufacturing in the west, tell us that land is too cheap yet. That where homes can be had on such easy terms, labour will not go into the factories.

This is all a mistake, as demonstrated by experiment. But reason is against such an hypothesis. Labour will seek the most profitable employment, wherever to be found. Let us, then, take the usual employment of agricultural labour in the west—say half a crop of corn and half a crop of tobacco—and compare it with manufacturing labour.

COMPARATIVE VALUE OF AGRICULTURAL AND MANUFACTURING LABOUR, TO THE OPERATIVE, IN THE WEST.

15 acres of land, in corn—40 bushels per acre—600, at 20c.		$120
2 acres tobacco—800 lbs. per acre—1,600, at 3c. .		48
Charges,		$168
Board of labourer, $50—washing, $5, .	$55	
Keeping horse, ...	25	
Wear and tear of horse and gear, . .	10	
Use of implements, ...	5—	95
Clear profit of labour of one hand, per annum,		$73

Bah! will say nine men out of ten at this calculation. But where is it wrong? It is wrong by about fifty per cent. too much of the nett savings of an agriculturalist. But, to strengthen my argument, I yield all I can in his favor—$25, in lieu of $73, would be about right. Now, to test it, take any ten families in any neighbourhood of a newly settled country, and see if, for five years, they average more. They raise vegetables to aid the board, the horse has grass in the common to help support him. The farmer has some hogs that run in the woods and eat the mast. All which helps, and may be said, to diminish the above charges. But this will be the case only a few years; and actual experiment will show that the foregoing is a reasonable estimate. A higher price will be claimed for corn and tobacco. Deduct the cost of hogshead, hauling to market, and expenses not here estimated, and it will

be found reasonable. I will be told, a man can do more work than I have allowed. I have known industrious men to cultivate twenty acres of corn, and two of tobacco—but not one man in ten does it—and the above is fully equal to the average product of agricultural labor in the west, staange as it may seem. We will test it in another way. Suppose the females, and children, earn enough to pay their expenses—which seldom is the case, however—then the earnings of the adult labourer, above what he consumes at home, ought to be so much for export. The exports from the whole west, to New Orleans, are now estimated at $90,000,000. Half or three-fifths of this may be credited to cotton and sugar, the producers of which chiefly rely on the west for provisions. Half, then, may be considered exported by one fourth of the western population, (classing all residents in the Mississippi valley as of the west,) leaving one-half as the product of three-fourths of the population—say $45,000,000 for 7,500,000 people. Call one-fifth the producing class, and you have 1,500,000 labourers to divide $45,000,000, or less than $30 each. But allow one-fourth of said fifth to be idlers, or non-producers, and you will have only one-third of my estimate. If this estimate be applied to the population of any western country, which is exclusively agricultural, and where labour is not economised and used to the best advantage, I think you will find that the aggregate average will hardly exceed $25 clear compensation per hand, per annum, for labour, after deducting all expenses, in lieu of $73. Now let us contrast the compensation for manufacturing with this.

I have averaged families at five, one of whom is, in agriculture, a producer, the balance by their labour, merely paying expenses. Now for manufacturing.

Compensation for manufacturing labour in the west, of five in a family: the husband will form a hand worth, according to eastern estimates, 80 cents per day, or per week, $4 80. Let us suppose his lost time will bring it down to $4 00

One daughter by said estimates, . .	3 00—	$7 00
Which, per annum, would be, . . .		$360 00
Deduct board and washing, as estimated for farming		110 00
		$250 00

I presume the mother and two children, by the aid of said $110, and their labour towards furnishing board, will pay their own expenses. Now, here is $254 against $75; over three to one in favor of manufactures against agriculture. But let us take a family where there are four daughters able to earn $3 per week, as I have known to be the case. Here a poor family would, from those daughters, add $600 per annum to their income. Without the factory, in lieu of adding any thing, they would be a weight upon the father. I do not say all girls will earn $3 per week in a factory; some training is first necessary. But I have known weavers in ours, to earn $4 50.

The great advantage of manufacturing to the west will be, that the labour is of a kind that would be almost entirely unproductive, in agriculture. Its products will, therefore, be in a manner, a clear national gain to us. No one can examine this subject, without being satisfied, that where the raw material is to be found, with provisions and clothing, at the cheapest rate, all in connection, and furnished by the region of country which gives also the market for the manufactured article, that the Western States of America are, in time, emphatically to be the manufacturing region of the world. Here nature, in a happy humor, has furnished interminable beds of coal, equally extensive beds of iron ore, copper and lead; the finest sand for glass, and clays for earthen and stone ware, and china. A climate and soil for silk and wine, cotton and wool. Indeed, for every article which the wants of man call for, inviting his ingenuity and enterprise to call them forth.

In the early settlement of any country, labour is employed always in the simplest manner, to furnish food, and the plainest apparel. For a long time after this state of things should cease, it still continues; because all changes are matters of experiment, the success of which is doubtful; and a primitive people are averse to such experiments. But this primitive condition has now continued, until the west has suddenly acquired the largest portion of our population. Yet, if but in its infancy in years, it has reached manhood in strength, and with a giant stride is still progressing onward. A favorite expression with the sceptical in regard to improvements in the west is: "Oh! it is in advance of the age." Of what age? If of to-day, to-morrow is another age. Nothing can be in advance of the age in the west; for she travels so rapidly onward, that if a project were in advance of the age when com-

menced, ten to one, before it is finished, the age will be in advance of it; and the plans adopted to carry it out, or on which it is founded, will become obsolete and be exploded. That region which was not ripe for manufacturing last year, is fully so this. The tide of improvement is so rapidly rising, that annually the waves have so far over-lapped each other, as to make continued changes in the character of the country, and to require a change in the pursuits of the people. What a few years since seemed reasonable and proper, now strikes us with amazement, (that is,) the freighting of iron, sand, clay, cotton, &c., past the coal mines on the lower Ohio, to be manufactured at Wheeling and Pittsburgh, encountering the heavy expense of lockage at Louisville, besides a transportation of 8 or 900 miles, up stream, and the manufactured articles, to a great extent, back again—making a total of 1,800 miles of needless navigation, besides the lockage aforesaid, to reach the points where manufacturing first dawned in the west, and has acquired a stable footing. In Cincinnati, to be sure, as well as in Louisville, the manufacture of engines is now carried on very largely, as well as other branches in the iron way. But in cotton and wool, they are comparatively doing nothing. There are two factories of cotton in Cincinnati, of jointly about ten or twelve thousand spindles, and one smaller one in Louisville of perhaps, one or two thousand, but no looms, and those at Cincinnati and Louisville have only come into existence within a few years. There are several other establishments at other points, but not below Louisville, on the Obio, until you come to Bon Harbor, where there has been erected a very fine establishment, calculated to run seven thousand spindles, which commenced operations less than one year ago, upon two thousand, designing to increase the amount, as operatives are taught from the neighbourhood, until the whole building is filled. This is one of the finest establishments, and best constructed buildings in the west for its extent, and where the coal mines are of as great extent and the vein of coal thicker than any where below the falls, on the Ohio. Besides which, it has the Cannelton coal vein under the one now being mined, giving a double resource, and the quality of coal exceeded by no other for generating steam. Stimulated by the example at Bon Harbor, there has at Cannelton, been a company formed, to build a factory of 10,000 spindles; and as the stockholders are men of intelligence and enterprise, they will doubtless push it on to completion with vigor, and for their public spirit will deserve success.

I was struck with the account of the boot and shoe manufacture in Massachusetts alone, which is estimated to amount annually to fifteen millions of dollars. Where do they get the hides to manufacture the leather?—for no leather goes east from the west, but much comes the other way—mostly from the west. Where do they get the bark? Much from the west. Where the provisions to feed the manufacturers? Most of it from the west. Where do they find a market for those boots and shoes? Chiefly in the west! Now, with provisions a drug, paying almost nothing for labour, because of the expense of getting them to the manufacturers, who are our consumers, and with the price of manufactures enhanced by the cost of transporting the raw material from our doors to them, and their fabric back again to us—are we to hear with patience the cry that we are in advance of the age, when we advocate the plan of bringing the manufacturer to the consumer, and where he finds the power, the material, the provision, and all expences at half eastern prices? This is, to be sure, the doctrine (intended for foreign consumption) which is thrown out from English schools of political economy for our benefit; but I must confess I think they pay a poor compliment to our sagacity in supposing the American people can long receive it. I think the day for such notions is passing by, and a new era is drawing upon us. But the same reasoning which has been heretofore used with such justice and effect to transfer manufacturing from Europe to the Atlantic States, will as emphatically operate to transfer it from the Atlantic to the west. The day is now at hand. It has commenced some years ago at Pittsburgh and Wheeling, and has made Pittsburgh among the first cities of the Union—the fifth in population compared with the Atlantic cities, and the fourth compared with the Western; yet not very far behind any one of the latter. And whence comes her importance? Certainly from manufacturing; for her commerce disconnected from her coal and manufactures, is of small importance. But in making the stride to Pittsburgh and Wheeling, manufactures only reached the half-way ground to the west. They have only, therefore, realized half the advantages of bringing the manufacturer to the raw material and the power.

When Cincinnati took hold as she did in the iron line, many years ago, this was a step still further towards the raw material, which comes chiefly from the Cumberland river, Green river, Salt river, the Tennessee and Missouri, though much

from Ohio at Hanging Rock. But while manufactures approached the raw material here, they were leaving the power; for they were dependent upon Pittsburgh and intermediate points for their coal, and the writer witnessed in Cincinnati only a few weeks since, a very serious evil growing out of this drawback. The river being low, the supply of coal was short and very high, and that being about the 1st of December, a freeze might be very naturally apprehended. If it had taken place and continued until spring, which might have happened, not only would the manufactories have been stopped, but great distress would have pervaded the city. I witnessed also considerable sales of cotton there at fully three-quarters of a cent above the highest price paid at Bon Harbor, and a full cent above much which was purchased there. I asked the reason, and was answered, it was caused by the low water. Here a double evil arises from low water, to a point which is dependent on other places for raw material and power. Where then, I may be asked, is the proper point for manufacturing to the greatest advantage, on this American continent? I would answer: If the raw material, the power, cheap living, and health could be all concentrated at the geographical centre of the Union, upon open and constant navigation, that would be the point. And where is that? Lieut. Maury has fixed upon two; one at Memphis, the other on the Ohio, between Louisville and the mouth. If Memphis had the power and the health, that would be the point; but it has neither. Where is the next point then? I answer, where the power and health exist nearest to the raw material—or, rather, where access to the raw material would be equally certain and cheap. This would be any where below the falls of the Ohio, or on the upper Mississippi, between St. Louis and the mouth of the Ohio, where coal and health can be found. Better removed from a large city, than in one, unless it be a manufacturing city. Better in the latter, because all manufactories succeed best in communities, or families, as there will necessarily be an emulation, which excites to improvement; and as there will be wants common to all, the supplying of which will weigh too heavily on a single establishment. But a few cotton factories, in a large commercial city, will encounter obstacles greater than the same number out of one. The machine shops for other establishments, are of no value to a cotton factory, as they cannot make cotton machinery. The factories must be, then, provided, so as not to rely on them. The evils, on the other hand, are very great. If your labourers choose to leave

you, they can always find employment in other branches. Besides which, house rent, fuel, and all the expenses in every branch in a city, are so much higher than in an ordinary manufacturing town, that the wages must be necessarily higher.

An illustration of this occurred to the writer. He had a superintendent of looms to whom he gave one dollar and fifty cents per day. This superintendent was offered two dollars per day to go to Louisville. He accepted the offer, but in time re-appeared at Bon Harbor to ask employment. Being told that he must have deceived us about getting two dollars, he satisfied us of the fact, but said he found from sad experience that he could not save as much out of two dollars in Louisville, as he could out of one dollar and a half at Bon Harbor. I have noted the controversy upon this subject in the Louisville papers, but a few facts are worth many speculatious. For a long time there has been one cotton factory in Louisville. That there has not been a second, is pretty strong evidence against the success of that one.

The one at Bon Harbor has not been in operation twelve months, and as yet, has not one third of the machinery which it is capable of operating, because the owners prefer progressing slowly, filling up as they train operatives, and as they feel their way with safety. Upon this, less than one third of the machinery which will be used, falls the chief expense for operating the whole; and yet the business is beginning to pay well, even now, though hardly seasoned in its work. Though a business, begun in a new region, and where every thing in regard to it is new, may, when seasoned to its operations, and when it has overcome the difficulties incident to all new undertakings, become profitable, yet it is seldom so in the outset; and hence, a great majority of pioneers in any business fail. Those reasons ought especially to have weighed against us, because we commenced when the business was declining. But now, while it is under the greatest depression, and many establishments at the east have failed, and while the heaviest expense of getting 7,000 spindles under way, has fallen on 2,000, we think we are making interest on the whole investment. What may be expected then, when our house is filled? I answer, the full realization of all the advantages of being in the geographical centre of our country, upon navigation which, at twenty-five cents per hundred will give as choice of markets,

among the twelve millions of inhabitants that will occupy the Mississippi Valley by 1850, within two days run of the cotton which supplies Pittsburgh and Lowell, and from which freights on cotton are but twenty cents per hundred, and ought to be but ten. Where coal of the first quality exists in a thicker vein, than any where below the falls, on the Ohio, with the Cannelton vein still under it. Where our good health is unsurpassed by any point on the Ohio, as our physicians' and other certificates will evidence. Where provisions, as well as all the necessaries of life, are as cheap as they can be found any where in America; and where you could not well add to our advantages, unless you would put the cotton along side of us, which would only save one fifth of a cent per lb., being one fifteenth of a cent per yard, on the goods manufactured; a saving which is hardly worth estimating. I was requested, in Memphis, to answer a query: "Would it not be best to manufacture at Memphis, where the cotton was?" I replied, "I would give some data for the querist to answer himself. To manufacture 2,000 pounds of cotton per day, it would require about 100 bushels of coal, weighing about 8,000 pounds. If you had better move 8,000 pounds to the 2,000, than the 2,000 to the 8,000 then it would be best. If, also, provisions were cheaper in Memphis, and health better at that point than where coal was to be had, it would be best, but not otherwise."

As to relying on Pittsburgh for supplies of coal to manufacture above the falls, the following paragraph, from the *Louisville Journal*, will show an accumulation of six hundred coal boats at Pittsburgh, at one time, averaging, as we all know, fully seven thousand bushels, making a total of 4,200,000 bushels, which the wants of the country below required, and for want of which great inconvenience was felt. Before this rise, which was not looked for, about the first of December, in Cincinnati, coal was very high, and a freeze was anticipated. Had it set in, what would have been the consequence? It is a very general occurrence, that coal becomes high at all the lower towns in winter, often rising to 25, 30, and as high as 37½ cents sometimes. A coal mine is the only place where you can never be disappointed as to fuel.

PITTSBURGH, DEC. 8TH.—8 P. M.

There are 10½ feet water in the channel, and rising. The weather is warm. Three hundred pair of coal boats have left

during the present rise. Lumber is expected down the Allegheny to-night.

A great manufacturing town must arise on the Ohio, below the falls, where there is good health, towards the middle of the coal field where the supply can never be exhausted, and where the geographical position commands a great extent of interior country, guaranteeing always ample supplies of provisions, and a commercial trade with the interior. This fact must be clear and palpable to any man of observation, for such a point will have ten times the resources of Lowell.

ACCOUNT OF BON HARBOR.

A perpetual charter attaches to this place, with mining and manufacturing privileges.

This tract of land contains two thousand acres, binding two miles on the Ohio—the upper part having a rock-bound shore, against which the current sweeps round in a bend of the river, (Bon Harbor being on the convex side,) and about midway of the tract is thrown off towards the opposite side of the river, clearing the landing below of driftwood, floating ice, &c. Hence the name. This rock forms a fine natural wharf; and, immediately below it, a ship-of-the-line would float at the lowest stage of water. There could not be a finer point for ship building. The level bottom, above high water mark, except a very small portion which was covered by the floods of 1832 and 1847, is about half a mile wide, affording a beautiful site for a town. Then set in the coal hills, which run about a mile and a half back, and from the upper to the lower end of the tract—all, however, included in the Bon Harbor survey, except a small portion upon which the coal right has been secured—including, in all, from 800 to 1,000 acres of the upper vein of coal. But the Cannelton, or Hawesville vein, pervades the whole tract, according to the geological report of Professor Lawrence. The upper vein, which we are now mining, is upwards of five feet thick, without slate, and of superior quality for generating steam, or for parlour use, being all of uniform quality. The vein was not so thick until we penetrated a good way in, varying from $4\frac{1}{2}$ to 5 feet—perhaps it would be safe to say averaging $4\frac{1}{2}$ feet. The coal burns with a clear, brilliant flame—is durable—yields but little dust, and dirties a house less than any bituminous coal I know of.

The annexed certificates, however, will shew its quality. There is a railroad running from the river to the mines, and into them, as the coal lies nearly horizontal in the hills, and the cars go to, and are filled by, the diggers. The steamboat demand has, heretofore, taken all the coal which could be delivered, except the home and Owensboro' demand. The opening in the mines, however, within the last year, has been so much extended, that soon a great quantity can be supplied, if the demand justifies, of which there cannot be much doubt, as we see an account of 600 flat-boats leaving Pittsburgh on one rise of water; and, as those boats average fully 7,000, here are upwards of 4,000,000 of bushels from about 800 miles above us, having also the falls to pass, or toll to pay at the canal.

During much of the year, coal cannot come down from the Pittsburgh region, at which time, the mines on the lower Ohio, must monopolise the lower trade. At this time the number of steamboats on the western waters, are estimated at about 1200, and increasing at a most incredible rate, showing upon data heretofore given, that by 1865, the number will probably reach five thousand. Estimating the consumption of coal, which by that time must be the general fuel, at 200 bushels each per day, the total would be one million bushels per day, from which fact may be estimated the coming consequence of the coal trade. Add to this the consumption of the sugar planters, whose fuel must soon be coal, as also the tow-boats, steam ships, cotton presses, manufactories of all kinds, the demand for the lower towns, and the estimate would seem to exceed any supply which could be obtained. But when it is estimated what an enormous quantity of coal comes from a single acre of one vein, and that there are many veins except on the outer verge of the coal field, and it will be seen that the supplies can be obtained, let the demand go to what it may. Thus much for the coal trade; from which some idea may be formed of the Bon Harbor coal mines for mining purposes. We will now glance at its manufacturing importance.

The Bon Harbor cotton factory is designed to accommodate 7,000 spindles, and with an additional room to be built, looms to weave up all the yarns. The present room will suffice for the said number of spindles and one hundred looms. The building is constructed with such a thickness of wall, and of floors, that it is intended the jar of machinery shall not be

felt. The roof is of slate, lower shutters and doors are of iron; heated by steam; not a fire-place or stove within the factory; the engine house so far fire-proof, that if all the fire in the furnace was scattered over the floor, which is of brick, it could hurt nothing.

Cisterns in the attic story, have copper pipes leading down to the ground floor, with cocks and connecting hose for every story, so that any part of the building can in a few moments be flooded. The picker house is so constructed that it might burn down without burning the main building, but could not well burn, if water would save it. We have as yet only 2,000 spindles in operation, intending to increase as operatives are learnt. More machinery is already ordered. We have not yet been in operation quite twelve months, weaving; but see enough to satisfy us that our best hopes will be realized, and that we have fully twenty per cent advantage over eastern manufacturers in cost of the goods.

Believing that such establishments thrive best in communities, we shall offer liberal inducements for others to locate along side of us. We have been applied to for lots for a foundry for glass, and axe manufactory, and have applications in regard to other establishments. We have in operation a very fine saw mill, capable of turning out, and which does turn out, between five and seven thousand feet of lumber per day.

We have the machinery for a flour mill, and all the wood work framed, ready to go up, as also apparatus for kiln-drying corn meal; which is intended to be in operation for the next crop.

Connected with the factory is a corn mill, which now does the business of the place and neighbourhood.

We have a store and smith's shop. There are five carpenters, who have purchased and built, besides others who are at work here, in addition to various other mechanics. A wharf boat and general appliances for a business place, with a rapidly growing village, owned by the firm, except where mechanics have purchased and built; no lots being sold, except to workmen.

The plan of the Bon Harbor company, is to invite enterprise

by all convenient means, and the following branches could not fail to do well:

A rolling mill; because the pigs go chiefly by our doors, to be manufactured at Pittsburgh and Wheeling, and much of it returned to us. A nail factory, for the same reason; and because, by the statement annexed, it will be seen that one which has been in operation about a year, in Wheeling, is estimated to be clearing twenty-five per cent; an evidence of the truth of which, I was told, while lately there, that one stockholder to the amount of $10,000 had sold out for $17,000, and another of $14,000, had refused $27,000. A waggon, cart, and plough factory, because these articles give employment to a large amount of capital, and a vast number of hands, at Wheeling and Pittsburgh, where timber is much higher than here, and inferior in quality; and those places find their chief market on the Mississippi, below us.

Glass factory; because sand, used at Wheeling and Pittsburgh, goes from below us to be manufactured there. Cotton, for the same reason.

Tannery, and shoe and boot making; because the hides go with the bark to New England from our very doors, and come back to us made up, and our food goes there to feed the workmen. Saddlery ditto. Stone and crockery ware, because we have fine clays for the purpose. Hats, because we have the furs and steam cheap. Woollen factory, being near the wool growing country. Coopers, because of abundant stave timber. Engine shops, because soon engines will be wanting for every branch of business, and especially for steam-boats to be built here. Ship yards, because no where in the west can ship timber be found in greater abundance, of better quality, or cheaper, and no where better ground for building on, or deeper water for launching.

And that is not all: when ships are ready for departure here, cargoes of tobacco could always be had, as this is the centre of the great western tobacco region. Besides what is made on the Ohio, it is estimated that sixteen thousand hogsheads come annually out of Green river, most of which would be shipped directly for England, at a freight equalling that to New Orleans, added to that thence to England, as thereby the shipper would save the landing at New Orleans, drayage, in-

spection, cooperage, forwarding commission, and a great amount of other charges; and here could be manufactured sails, rigging, and every want of a sail or steam ship. I predict that this will be a great ship building point, at some future day, not very far distant.

COMMERCIAL POSITION OF BON HARBOR.

It is on an outer bend of the Ohio, within eight miles of Green river, to which a railroad can be made over a perfectly level country; but, by taking this road to Rumsey, above Lock and Dam No. 2, over a country nearly as level, and only twenty-two miles distant, one lock additional is avoided, and that point is sixty-two miles from the mouth of Green river.

As the boats navigating Green river are too small to trade to New Orleans—and as, in no event, could they compete in that trade with the large Cincinnati and Louisville boats, because of the greater profit from passengers than freight—and passengers bound further up than Green river, would not, of course, go on a Green river boat; for these reasons, there must be a depot on the Ohio for the Green river trade, and that depot must be in Kentucky, for the citizens, not being able to carry their servants to Indiana, will do their trading on their own side of the river. The laws, manners and customs of the people, all would tend to produce this state of things. The mouth of Green river is too deeply flooded to admit of such a depot. It must be above the mouth of Green river, because nine-tenths of all the intercourse of the citizens of the Green river country is with Louisville, for trading purposes; and the packets all run above, except one gotten up by the citizens of Henderson, below, for the advantage of that place; but, for the reasons stated, it must compete to disadvantage with the packets trading above; and Bon Harbor, being the first point in Kentucky which is not overflown in high water, must be the commercial depot for the Green river, even if the trade comes round by water, for it is preposterous to suppose the present trade to New Orleans, by way of Louisville, can continue from Green river, since the distance from the mouth of Green river to Louisville is near two hundred miles up stream.

But with a good railroad from Bon Harbor to Rumsey, the trade could be landed at the latter point, and brought over the

road in hour, for less cost than it could be drayed to the warehouses in Louisville; or even from the water's edge to the warehouses in Bon Harbor. It is evident, then, that Rumsey must be the discharging and receiving point for the trade of Green river, by which means the distance of about one hundred miles round by water, to Bon Harbor as well as the passage of locks No. 1 and 2, will be saved; and the saving, over sending the trade to Louisville, and then back to New Orleans, will be fully four hundred and forty miles of useless transportation. I think this should suffice to settle the question, that the trade must ultimately take this course. But an additional reason will be found, in fact, that the Georgia and South Carolina railroad is progressing rapidly to Nashville. Soon it will be there, and to connect with Louisville will be the next step in the natural course of things. To do so, it must pass over the slack water navigation of Green river, and within twelve hours run of a steamboat, from Rumsey—say thirteen from Bon Harbor. But one great benefit to Louisville, from this road, would be the supplies of coal which it might be made to command, by bending down to dam No. 3, and crossing at the mouth of Muddy river. The citizens of Russellsville, and Logan country, I understand, already contemplate a railroad from Russellsville, down Muddy, to Green river, thirty-five miles. This would form part of the great Nashville and Louisville line. In that event, boats would connect the two lines at dams No. 2 and 3—running in the intervening basin, and passing no lock, and in about three or four hour's time. Now, while the travel destined for upper Kentucky and Ohio, from this southern road, would go to Louisville, that for lower Indiana, Illinois, Wisconsin, Missouri, Iowa, and the lake region would go by Bon Harbor—returning ditto—and so of freights. When this southern road reaches Nashville, fifty miles more will bring it to Russellsville, or sixty to Bowling-Green, on the slack water of Green river, and very soon it might thus communicate with the Ohio. To be sure, it would do so by means of the Cumberland, while the water was in boating stage—but is too much interrupted to be relied on—and while Bon Harbor could be reached in twenty-four hours from Nashville, by way of the road and Green river, it would require sixty hours by way of the Cumberland, even when the river is in good boating order, All the advantages here claimed for Bon Harbor will also apply to Owensboro', which is near by, (wanting the coal however,) and in time, will doubtless form, with Bon Harbor, one town.

I could expand much upon the trade which could be brought to Bon Harbor, but feel conscious that I have perhaps already overgone the limits you intended me to occupy, and that I should close.

Yours very respectfully,

ROBERT TRIPLETT.

The annexed certificates as will be seen by the date, were given some years ago. The Bon Harbor coal has been constantly improving since, as will be seen by those that follow:

ON BOARD STEAM-BOAT JUNIATA, AUG. 15, 1842.

Capts. Jones and Thacker.—As I am anxious to make known the quality of my coal to captains of steam-boats and others, and as you have both tried it, you will oblige me by saying how it answers your purpose.

Your obedient servant,

ROBERT TRIPLETT.

(Answer.)

I believe it is equal to any coal that I have ever tried for steam-boat use, and I except none.

RESIN JONES.

I agree with Captain Jones, and think it superior to the Pittsburgh coal.

H. S. THACKER.

To similar inquiries a few years ago, the following answers were given in 1838:

My opinion of the above coal is that it is equal, if not superior, to any coal I have ever used.

EDWARD WILLIAMS.

I am now using the Bon Harbor coal, and think it superior to any I have ever used for grates. I used the Richmond coal for twenty years, and consider the Bon Harbor coal much the best.

PETER F. SMITH.

I have burnt the Bon Harbor coal two years, and have no hesitation in saying it burns equal to any I ever used.

D. MORTON.

OWENSBORO', DEC. 20TH. 1848.

To Robert Triplett, Esq.—The undersigned answer your interrogatories as to the coal from Bon Harbor, that from our use of it we consider it preferable to any we have ever used, or seen used, for grate purposes, from its entire want of slate, and leaving a smaller residuum than any we have tried or seen used. It burns brilliantly, gives a fine light, and makes but little dust. We also have noticed a continual improvement in its quality, as the seam is further opened.

We have also observed that it is getting into general use by the steam-boats on the Ohio river, and in every instance, they appear to approve of it for fuel.

J. H. BLAIR.
W. B. TYLER.
S. M. WING.
PHILIP TRIPLETT.

WHEELING, NOV. 28, 1848.

Mr. E. W. Stephens.

DEAR SIR.—If agreeable, I would be glad to have the following queries answered in regard to work done at your nail factory, which, I understand, embraces all modern improvements:

1st. What quantity of pig iron do you use per week? 2nd. Quantity of nails made per week? 3rd. Quantity of coal

used per week? 4th. Number of hands and weekly pay roll? 5th. Wholesale prices of nails? 6th. Capital invested? 7th. Dividend per annum?

Yours respectfully,

ROBERT TRIPLETT.

To which Mr. Stephens answers, as to the 1st. Fifty tons: 2nd. 1,000 kegs (100 pounds each): 3rd. 3,000 bushels: 4th. 150 hands, and $1,000 pay roll: 5th. average $4 per keg: 6th. $100,000: 7th. 25 per cent.

OWENSBORO' 31ST. DECEMBER, 1848.

GENTLEMEN.—To complete my answer to queries from the Western Journal of Agriculture, Commerce and Manufactures, it is necessary to have information as to the health of Bon Harbor. As you have practised there for years past, I ask the favour of your opinion on the subject.

Very respectfully,

ROBERT TRIPLETT.

To Drs. R. W. Murray and Wm. H. Howard.

(Answer.)

OWENSBORO', 1ST. JANUARY, 1849.

Mr. Triplett.

DEAR SIR.—In reply to your note we can state, that from experience, based on our practice at Bon Harbor for a number of years, upon the operatives, we consider it more healthy than any part of the county of Daviss.

As to the future, we think there will be less disease than in times past, judging from the progress of improvements there, in clearing out the timber, building comfortable houses, &c.

and from the natural location, there seems very little cause for disease, after this.

Respectfully yours,

(Signed) R. W. MURRAY.
W. H. HOWARD.

Annexed is an extract from the National Intelligencer relative to the probability of the west being the great manufacturing region of the United States: also remarks by the Louisville Currier in regard to a letter of Professor Johnson on the subject of coal as steam-boat fuel for the west.

WE commend to our readers the subjoined article, from the pen of a Western Correspondent, who takes a deep interest in building up Factories on the lower part of the Ohio. The writer does not espouse the ultra doctrines either of protection or free trade; but he undertakes to show that, in the present condition of the world, it is our policy to look carefully to our internal commerce and to a home market. The immense coal formation which crosses the Ohio river below the Falls will, in all probability, sooner or later, cause factories of almost every description to be established there; and it may in time become the great Manufacturing District of the United States.

FUEL FOR STEAMBOATS.

WE publish to-day a valuable letter from Professor Walter N. Johnson, on the subject of coal fuel for steamboats. Professor Johnson was employed by Secretary Upshur, to make a series of experiments with the various coals of the United States, for the purpose of ascertaining the most appropriate article for use in the Government vessels. The report of Professor Johnson is one of the ablest scientific papers we know of, and it conclusively establishes his reputation as a man of extensive attainments, and an experimenter of the highest ability. The country is deeply indebted to Secretary Upshur, not only for the investigation he instituted, but for the aid and encouragement he gave Professor Johnson throughout the

examination. We have Professor Johnson's report, and appreciate it as one of the best documents ever printed by Congress.

The remarks of Professor Johnson on coal as a fuel for steamboats will arrest attention, and they should set some of our steamboat men to studying out results. The country is full of produce far beyond the wants at home, and in order to seek a market, even the present low rates of freights must be lowered. In order to accomplish this, a system of greater economy in working the boats must be introduced, and the item of fuel is the most important one to commence with. If $30 worth of coal fuel will answer in place of $100 worth of wood fuel, a fine opening for economy is at once made.

Boats can be worked from Pittsburgh to St. Louis with coal. From Pittsburgh to Louisville there is no difficulty—below this point, at Cannelton, 120 miles from Louisville, at Bon Harbor 150 miles below, and at Trade Water, 290 miles, coal can be obtained in abundance, and can be placed at the mouth of the Ohio from these points. Then there is coal of an excellent quality 12 or 14 miles back of the Grand Tower between the mouth of the Ohio and St. Louis. A depot is soon to be made at the Grand Tower, it is said, by a Boston company.—That boats which use coal, can run at a great saving is certain, and all that is necessary to make a supply for them, is to commence the use of the article. The use of wood is becoming a serious expense to steamboats, and some means must be devised for economising in this important article of consumption. The letter of Professor Johnson is to the point, and we hope it will receive the attention of steamboat owners and captains.

WASHINGTON, JUNE 20, 1848.

Hamilton Smith, Esq.

DEAR SIR.—I have never entertained a doubt that sooner or later coal is destined to supersede wood as fuel for steamboats. It is not now ten years since wood was almost the only fuel used on all the finest boats, on the Eastern waters especially, those on the Long Island Sound, the Hudson, the Delaware, and the less important streams. Now scarcely any other

than anthracite is used on those waters, and with such advantage that the rates of freights and passage are essentially reduced, while the profits of running are such as to induce the building of larger and larger vessels—all with a view to that species of fuel.

As to the question of the relative value of coal, compared with dry beach, ash and cotton wood, I am not aware that any direct experiments on the latter kinds of wood, have as yet furnished the data for computing that relation. You may have observed that in my report on coals, I have stated that the subject is yet unexhausted, and particularly that the coals of the West and South-west were but very imperfectly represented in the series of samples sent for trial in 1843. Mr Bull, who made experiments on the woods some twenty-five years ago, also experimented on certain coals, and obtained comparative results between weights of coal and cords of wood. But the western coals, those of Illinois, Indiana and Kentucky, were not, I think, then brought into notice, and I am under the impression that cotton wood was not among the kinds submitted to trial by him. One object I had in view in requesting the Government to continue the experiments on coal was to perform at the West a second series of trials on the coals and woods found on the Western Lakes and rivers. From all that I do know of the Western coals, and from all that I have learned from others, of the wood of the Western country, I do not entertain a doubt as to the great economy of using coal wherever it can be had at a moderate price.

It is very certain that with prices such as have hitherto ruled on the Ohio and its branches, one could hardly suppose any other fuel than coal would be used, if the trips were confined to the coal region, or to a moderate distance beyond it.

The grates for using coal will in general be of less depth than those for the use of wood; the bars will be from $\frac{1}{2}$ to $\frac{3}{4}$ of an inch apart. But for different coals different dimensions of grate will be required. I suppose one difficulty experienced on the Western boats will arise from the attempt to burn too much coal at a time on the bars, by which means the iron will become over-heated and fused, and if the clinken be also heated to the fusing point, the sulphur will attack the iron and run into compact masses with it, preventing the clearing of the fire. A thin stratum of coal on a grate raised to within a few inches of the bottom of the boiler will be probably found the most ad-

vantageous mode both for the economy of grate bars and for that of fuel. If the boilers do not make steam as rapidly as with wood, the obvious expedient is not to increase the depth of the stratum of coal, but to enlarge the area of the grate.

Very respectfully, your obedient servant.

WALTER R. JOHNSON.

ZWICKAU, SAXONY, JULY 5, 1849.

MR. WILLIAM GEUTHER,

DEAR SIR,—As I wish to be certain in regard to the information obtained to-day at the coal mines of Planitz, having a partner interested with me in Kentucky in coal mines there, and having also friends who will be interested in knowing accurately the facts I shall present, I annex queries embracing the information given us to-day by the manager of said mines about two miles from this place, and will be obliged to you to answer them, with an understanding that I may publish your answer, and therefore with a full sense of the importance of being certainly correct.

QUERIES.

1st. What quantity of coal is delivered daily from those mines at one shaft?

2nd. What price is paid for digging it?

3rd. What additional cost is there for delivering it?

4th. What is the value of it at the mines?

5th. How many of such mines are there near Zwickau?

6th. Where is the market for this coal?

7th. What is land valued at containing this coal?

Please give your own weights and measures, and then reduce them into English.

(Answer.)

I answer the foregoing queries as follows:

To those questions put to the manager the following answers were given. To the

1st. From 400 to 600 tons daily: a ton is equal to 906 English pounds, and contained in one car elevated at a time from the shaft, making from 400 to 600 car loads daily.

2nd. Three and a half new groschen per ton is paid for digging. A new groschen is worth 1¼d sterling, making the cost about 4¼d per ton, or reducing it to English measure, about 9¼d for 2240 lbs. or a ton.

3rd. The additional cost was the balance of 12½ groschens; the total cost being 12½d for delivering, of which the digging was 3½n—of course the remainder was nine.

4th. The value stated at the mines, was 25 groschens per ton, being about 62¼ per English ton, or six shillings and four pence.

5th. I have never made any estimate—perhaps forty or fifty.

6th. The chief market heretofore has been for the manufactories in the vicinity, though a vast quantity (of coal) goes to distant towns upon the railways.

7th. The value as stated was 4000 to 20,000 thalers, even to 54000 in one instance per acre, according to the number of veins and the quality and thickness of the coal. The one we were at, had three veins, and would not be sold under the highest price. The thaler is about three English shillings, which would therefore make said price 600 to £3000 per German (Saxon) acre, but the English acre is 44,040 square feet, and the German 17,328, and therefore an English acre

would cost over 2½ times the above price, say 1500 to £7,500 sterling per English acre.

I know of a number of persons who were at one time poor, but on whose land coal has been found, and who have therefore become very rich, (say) some of them are considered worth a million of thalers, such as Mr. Kastwer, who perhaps owns one hundred German acres.

W. GEUTHER,
VON L'LIENSLERN.

As Mr. Triplett seemed very anxious that there should be no mistake as to the correctness of the foregoing information, I took this paper to Mr. v. L'lienslern, to whom Mr. T. had a letter of introduction, but being prevented from calling on the gentleman had not yet seen him, who has been a manager of coal mines, he pronounces the statements correct, and as evidence to it adds his signature to mine. I also submitted the same queries to Mr. Deumel, himself an owner of a coal mine, who also pronounces the statements correct, and added the additional sale of 54,000 thalers in one instance for coal property per German (Saxon) acre, being about 125,000 per English acre.

W. GEUTHER.

Zwickau, July 6, 1849.

FINIS.

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