

INDIANA PALLADIUM.

By D. V. Culley & V. M. Cole.

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[NO. 2.

ENGINEERS' REPORT—WHITE WATER SURVEY.

To the General Assembly of the State of Indiana:

In compliance with an order from the Board of Canal Commissioners, founded upon an act of the last General Assembly, the undersigned have made a careful examination and survey of the White Water valley, with a view to the construction of a Canal, and now respectfully submit the results.

The upper part of the route, as far down as the vicinity of Somerset, is unusually favorable to the construction of a Canal, except the lockage, which forms the principal item of expense, on this part of the line. The valley is depressed but little below the general level of the county, and the descent towards the river, in most cases, is remarkably gentle and uniform, presenting the most favorable slopes for the location of a Canal, with reference both to cheapness of construction and safety when completed. But the descent of the river through this part of the valley, and indeed through its whole course, is so extremely rapid that the Canal where it might otherwise have been very cheaply constructed, will be rendered expensive by the great amount of lockage. In descending the White Water, its valley becomes deep and narrow, and the slope of the adjoining hills more abrupt. The river, in its serpentine course through the valley, frequently washes the base of these hills, presenting at each point of contact an expensive section of Canal. Some of these washed banks are composed of a kind of clay which is liable to slip; and at such points it will be necessary to guard against this evil by forming the Canal principally in the channel of the river, so that the present base of the hill will not be diminished, but rather increased by the operation of constructing the Canal. The outer slope of the bank must be protected from the abrasion of floods by a thick covering of stone, procured from the adjoining hills and ravines; and in some instances it will be necessary to enlarge the river channel on the opposite side, to give sufficient space for the floods. A short distance below Harrison, the hills recede, leaving a highly favorable route for the Canal to the Ohio, through the wide alluvial bottom of the Miami.

In commencing the survey at the mouth of Nettle creek, the first question that presented itself, was in regard to the relative advantages of the two sides of the river. The fact that all the principal tributaries of the White Water are received from the east side, and must be crossed by the Canal, that route were selected, seem to indicate the west side as the proper route.

Accordingly the survey was commenced and continued on the west side, passing through the towns of Milton and Connersville to Somerset. From this point to the mouth of the east fork, the east side was supposed, from the hasty examination made, to be so much more favorable, as to justify the expense of crossing and re-crossing the river. The line surveyed, therefore, crosses to the east side near Conwell's mill, and re-crosses at Brookville. Both crossings will be effected by means of wooden aqueducts, supported by stone abutments and piers. From Brookville, the line follows the west side to Lawrenceburgh, where it terminates in a basin near the bank of the Ohio. But it is a question worthy of examination, whether a cheaper line could not be obtained, by continuing further down on the east side, and crossing about four miles below Harrison; and the propriety of the survey of this route previous to the construction of the Canal, is here suggested. The time allotted to the examination, did not admit of a careful survey of both sides. The total distance from the mouth of Nettle creek to the basin at Lawrenceburgh, is seventy-six miles and forty-nine chains, and the total descent four hundred and ninety-one feet; which is overcome by fifty-five locks, distributed to suit the inclination of the valley.

The supply of water for the Canal, must be drawn from the White Water, which can be introduced as often as necessary, and with very little expense. In the survey which has been made, seven dams, varying from two to four feet in height, have been located, and their cost, together with that of the feeders, included in the estimates.

On the 5th of October last, the discharge of the stream was as follows, namely:—

One mile below the mouth of Nettle creek . . . 1,280 cubic ft. per minute.
At the National Road 1,670 cubic ft. per minute.
At Milton . . . 2,900 cubic ft. per minute.
At Connersville . . . 5,670 cubic ft. per minute.

These measurements show a sufficiency of water at the time they were made, as far up as Nettle creek, but it is believed that the stream, in seasons of extreme drought, furnishes less water than it passed at that time. Other means have been resorted to, with a view of collecting some further information, from which the minimum discharge of the stream could be correctly ascertained. And the facts obtained have been so far conclusive, as to remove all doubts in relation to the sufficiency of water during the driest seasons, at least as far up as the National road. Whether the Canal can be supplied to Nettle creek, at extreme low water, is a question that must be settled by future examination.

North of the National road no stone has been discovered, within reasonable distance of the line, but south of that point this material can in all cases be found. In the vicinity of Connersville and Somerset, quarries of limestone are found, from which excellent cut stone locks can be built, but the quarrying and dressing will be expensive. On all other parts of the line it is believed that stone can be obtained which will answer for building strong undressed walls, though not for cutstone masonry. Four of the locks situated above the National road, are estimated to be built of timber; twenty-three others between Connersville and Judge Mount's cut stone masonry; and the remaining twenty-eight of stone and wood combined. All the streams south of the National road, except the White Water and Garrison's creek, will be crossed by permanent stone arches.

Both the law authorizing the survey, and the order of the Board of Canal Commissioners, under which we have the honor to act, seem to require some estimate of the probable advantages to be derived from the work.

The district of country for which it is supposed

this canal will form the channel of trade, is composed of the counties of Franklin, Fayette, Rush, Henry, Randolph, Hancock, and parts of Wayne, Union, Decatur, and Delaware. The country embraced, is essentially an agricultural district, and from the climate and quality of its soil, as well as the pursuits and habits of its citizens, is capable of furnishing as large an amount of canal transportation, as any district of equal extent in the west. The staple productions are pork, flour, and whiskey—articles for which the canal will furnish the most suitable mode of conveyance. The surplus annually taken to market is already great, and must continue to increase as additional portions of the country shall be brought under cultivation. It is the transportation of this surplus produce to market, together with the salt, iron, and various other articles of merchandise which the country demands in return, that will constitute, principally, the business of the canal; and the saving in the cost of this transportation, when compared with the present mode of conveyance, will form the prominent advantage of the work.

To ascertain with accuracy the amount of exports and imports of this district, is a task of difficulty, since the trade is carried on through so many different channels.—Perhaps the method most to be relied upon, is to compare this district of country with another similarly situated, where the amount of the trade has already been determined. With this view, efforts have been made to ascertain the extent of country which trades to Dayton, at the head of the Miami canal, together with the probable amount of its trade. The similarity which exists between the two districts, with regard to the nature of soil the character of the products, and the occupation of the inhabitants, justifies such a comparison.

With some important aid received through the politeness of the Collector at Dayton, the following facts have been obtained, viz:

1st. That the extent of country which sends its trade to Dayton and receives its supplies therefrom, is equal to about 1,519 square miles, and in 1830 contained a population of thirty-four persons per square mile.

2d. That the exports of this district, shipped from Dayton through the Miami Canal, during the year ending 31st Dec. 1833, consisting principally of flour, pork, whiskey, &c. amounted to about four thousand tons.

3d. That the imports received for the same district of country during the same time, consisting of salt, iron, merchandise, &c. were equal to nearly three thousand tons, which added to the amount of exports, gives 17,000 tons as the whole trade of the district.

On referring to a table annexed, it will be seen that the extent of country which it is supposed, will trade through the White Water Canal, amounts to 3,156 square miles, and contained in 1830 a population of twenty-one and a half persons per square mile. By comparison, it will be seen that the extent of country here embraced, is a little more than twice as great as that trading to Dayton; and that the population in 1830, was more than one third less.

From a calculation founded upon official documents in the office of the Auditor of State, it is ascertained that the increase of population in the White Water district, from 1830 to 1834, was thirty-three and one-third per cent. and allowing the same ratio of increase to continue until the time when the Canal could be completed, say 1838, it will then be about thirty-nine per square mile, which must be as great as that which the upper Miami country contained in 1833—the period when these facts were collected.—The average of population then being the same, and the extent of the White Water district being twice as great as the district north of Dayton, it follows that its trade would be twice as great, which, will give 34,000 tons as the amount of exports and imports that would annually pass through the White Water Canal. But this amount of tonnage is calculated to apply to the circumstances and business of the country on the completion of the work, and must be increased as the improvements and products of the country increase.

The cost of transportation in wagons to and from the Ohio river, under existing circumstances, may be averaged at ten dollars per ton.

The Canal transportation for the same distance, could not exceed \$3 50 per ton, including tolls, showing a saving of \$6 50 per ton, or an annual saving to this district of country, of two hundred and twenty-one thousand dollars.

An important advantage will be found in the water power created by the Canal. Above Connersville, however no advantage should be expected, but on the contrary, the power already in use, especially near the head of the Canal, will be somewhat diminished. Here the bed of the stream is narrow, and its floods inconsiderable; and owing to these circumstances, the water in its natural channel, is susceptible of being applied to machinery with very little cost.—But after the larger tributaries are received, the case is different.

The stream is more subject to floods, its channel becomes wider, and the cost of building and sustaining dams is so great, as to reduce materially its value, and much of the fall will therefore remain unimproved. By turning a part of the water into the Canal, the whole fall of the stream will at once be made available, and the safety and certainty of the power will be so much greater, that capitalists will be more ready to invest in valuable machinery, and the improvements will be made upon a more permanent & useful plan.

By measurement of the stream, it is ascertained that below the mouth of Green's fork, it passes, at common low water, a considerable surplus in addition to the quantity required for the purpose of navigation.—From the feeder above Connersville, it will be practicable to introduce, say 2,200 cubic feet per minute for hydraulic purposes, and by replenishing the Canal at the several feeders below, the same surplus may be continued throughout the whole length of the line, without serious injury to the existing improvements on the river, affording a valuable water power at each lock. Between Connersville and Harrison there are thirty-nine locks, averaging nine feet lift. The results of actual experiment show that on a fall of nine feet, three hundred and sixty cubic feet per minute will drive a pair of four and a half feet mill-stones, which gives a power at each lock sufficient for six pairs, or two hundred and thirty-four pairs on this por-

tion of the line. One fourth of this power will be at and near Connersville, and the remainder distributed throughout the line. On the lower part of the Canal, a greater amount of power may be safely relied upon, as the stream is much larger after receiving the east fork. From the Harrison feeder, the quantity of water introduced may be limited only by the capacity of the Canal to convey it. It may be safe to say that four thousand five hundred cubic feet may be delivered at Lawrenceburgh, and be used also at each lock on its passage down. On this portion of the line, there are four locks, averaging nine feet lift; at each of which twenty pairs of mill-stones may be driven, or forty-eight pairs at the four locks. From the level of the basin in Lawrenceburgh, to low water of the Ohio, probably fifty feet. Throwing off one half this, which will be rendered useless by the floods, and will remain a fall of twenty-five feet. Dividing this into two falls of twelve and a half feet each, there will be water sufficient to propel at each fall, eighteen pairs of stones or thirty-six pairs at both.

If these premises and computations be correct, the power which might be brought into use, on the whole extent of the Canal, would be sufficient to keep in motion three hundred and eighteen pairs of mill-stones, or other machinery to an equal amount.

It is not to be supposed that all of this power would be immediately brought into use, yet a large portion of it could be profitably employed soon after the completion of the work, and the remainder would be improved as the increase of business might warrant. The current that would be given by the passage of the surplus water in the Canal, would rather improve than injure the navigation, inasmuch as the descending freight will greatly exceed that which will ascend the Canal. The value and usefulness of the work would be increased by the employment of the water power.

Besides being a direct source of revenue in itself, it would add to the revenue of the Canal by increasing the business and trade of the country. It is an important advantage, that Canals have over every other species of internal improvement, that while they furnished a safe and cheap conveyance to market for the surplus products of the country, they also put in motion along their banks, the necessary machinery for the manufacture of these products.

Perhaps some of the greatest benefits to the State, from the construction of the Canal, will be found in the encouragement it will afford to the settlement and cultivation of lands that are now unproductive; in the stimulus that will be given to every branch of agriculture and mechanical industry, and the inducement that will be offered to the introduction of capital which will add to the wealth of the State, and be employed for the benefit of its citizens.

All which is respectfully submitted,
J. L. WILLIAMS, &
WM. GOODING, &
Engineers.
Indianapolis, Dec. 23, 1834.

From the N. Y. Transcript.
GANG OF LAND PIRATES BROKEN UP.

Huntington, one of our most active police officers, has been for the last fortnight engaged in ferreting out and arresting the members of one of the most extensive gangs of land pirates that ever infested the United States. The simple facts of the case are these:—About two months since, the *James Fisher*, (bound hence for Philadelphia, and laden with crockery, silks, calicoes, muslins, &c. to the value of nearly \$8000) was cast away on the beach at Barnegat Inlet, Monmouth County, New Jersey. The night after she was cast ashore, she was boarded by a gang of one hundred land pirates, who carried off the whole of her cargo in small boats, and (as it now appears) ultimately secreted the goods in their own dwellings on the beach, and on the main shore across the bay, leaving the ship where she now is, on the shore. She was not insured. Two weeks after the wreck of the *James Fisher*, the schooner *Henry Franklin* was stranded at the same place.—She was bound from Boston for Philadelphia, and was laden with coffee, barrels of mackerel, &c. This vessel was insured at the United States Commonwealth Insurance Office, Boston; and the captain made his protest, stating the circumstances of the wreck, &c. to the Justice of the Peace (William Platt, Esq.) living close by, and told him what his cargo consisted of.

The night after, a gang of about one hundred of these pirates (partially disguised & with blackened faces) boarded the stranded vessel while the captain was on shore, ordered the mate to leave her, threatened the guard with death if they interfered, drove them off, forced the hatches open, and carried off 71 bags of coffee, (value of \$788 10) and 35 barrels of mackerel (value \$183 75.)

The mate went and told the captain what was going on; the captain and mate armed themselves, and, taking with them arms for the use of the guard who had been driven from the wreck, went down and put a stop to the plunder, or the entire cargo would have been carried away. As soon as the Boston Insurance Companies received information of the robbery, they despatched an agent to the New York Police Office. He applied to Huntington, and gave him full powers to proceed as he thought proper, and to spend any reasonable amount of money in order to arrest the pirates and recover the property. Huntington immediately started on the scent, and before night he arrested one of the ringleaders, Capt. Hulshart, who was then on board of his sloop, (the *New Jersey*, of Barnegat) lying in the North river. After he had lodged the captain in our Bridewell, he sought out and secured two sailors, (Halcomb Everingham and another) who were also concerned in plundering the *Henry Franklin*. He then procured a warrant from Judge Bettis, to empower him to remove them to New Jersey, to have them tried before the U. S. Circuit Court there, and he lodged them safely in Newark goal.

[It is here worthy of notice that nearly twenty Barnegat vessels were lying in the North river, close to the *New Jersey*, at the time of Hulshart's arrest; and they all set sail, and left the city the same night, and have not been heard of since.]

The scene of the robbery, and the residences of the pirates, not being in the jurisdiction of our Police, Huntington next applied to Garrett D. Wall, Esq. the U. S. District Attorney for New Jersey,

for him to issue process against the offending pirates. Having procured these, Huntington took Gen. Darcy, Marshal of New Jersey, along with him—applied to Swartout, the Collector of this port, for the revenue schooner *Alert*, Capt. Gold, which was placed under his direction, and he also employed Capt. Henry Schenck, with his vessel, to aid in arresting the robbers. They sailed from here, and met one of the pirates, Capt. Edward Wainwright, who was coming to New York in his vessel, with a load of wood. They arrested him and proceeded up to the inlet; they surrounded the beach, and Huntington proceeded to the tavern of Mr. John Allen, Sen. The old man had made his escape, but he arrested his three sons, *Isaac*, *John* and *Abraham*, all pirates; he searched the house, and found goods which he knew to have formed a part of the cargo of the *James Fisher*, for he had been to Philadelphia to obtain the private marks from the merchants who owned the goods. He next arrested *Reuben Grant*, another tavern keeper on the beach, in whose house he also found goods that were stolen from the *James Fisher*. He then crossed the bay to the main shore, and arrested *Joseph* and *Thomas Bunnell*, sons of Dr. Bunnell, store keeper and farmer; after this he visited the house of no less a person than *Wm. Platt, Esq.* a justice of the peace, for the purpose of arresting him and his son, but they had fled; in this house Huntington found some of the property that had been plundered from the *Gen. Putnam*, wrecked here in 1832, when goods to the value of \$50,000 were stolen from her. *Zeph. Johnson*, a pirate, in the employ of the Justice, was however arrested. Three of the prisoners, Wainwright and the two Bunnells, were held to bail by E. E. Boudinot, Commissioner of the District Court, who went with them for that purpose; the others were ironed and put on board Capt. Schenck's sloop, to be sent to Newark to await a trial.

At least two-thirds of the inhabitants of that district, for an extent of four or five miles, are implicated in this demoniacal business, in which they were led on by a magistrate. They have carried on the work of piracy there, for years past it has been the main stay of the majority; many of them have grown rich, and bought farms with the proceeds of their plunder. Heads of families, farmers, store keepers, &c. have, for fear of punishment, absconded and left their families and property behind them; but measures have been taken by which they will doubtless all be arrested; for their names and persons are all well known, to the number of above a hundred. In fact, so numerous have they been, that although the authorities (and a few others not implicated) in the neighborhood, knew of their piratical proceedings, they were absolutely afraid to give information, or to molest them, for fear of being murdered or burnt in their dwellings at night; and when Huntington started to arrest them, the general impression was that he would not return alive; and such was the dread inspired, that he could get scarcely any one to assist him. He spent three nights on the coast trying to catch the justice, who is still at large. These infamous wretches used to lay in wait for coasting vessels, hoist decoy lights at night on the shore, to ensnare vessels passing and repassing; and it is believed that numbers of vessels have been wrecked in this way, their cargoes stolen, and their crews murdered. The pirates would rise in the morning and with their spy glasses look out for wrecks. As soon as they saw one, they would notify the squire; he would come down to a tavern on the beach; his scouts would tell the captain of the stranded ship that if he wanted to make his protest, there was a justice of the peace close at hand. In this way the latter would learn what cargo the vessel had, and tell his gang of the same, and in the night they would be sure to plunder the vessel. They had even been known to take the budgets of clothes away, by force, from the passengers that were saved from the wreck; and latterly they have become so numerous and bold, that they would plunder a vessel openly in the day time.

Too much praise cannot be given to Huntington for his activity and intrepidity, and we rejoice that the State will be rid of such a set of lawless and heartless rascals. Before the officer left, an offer was made to him from the runaways (through a mediator) to pay whatever the Insurance Companies claimed, and to restore all the plunder, but this, of course, was rejected.

The Oration, on the life and character of Gen. LAFAYETTE, was pronounced yesterday, by Mr. ADAMS, agreeably to appointment, in the Hall of the House of Representatives, in the presence of the two Houses of Congress, the President of the United States, and all the principal officers of the Government, and an immense concourse of citizens and strangers, including some of the Representatives of foreign Governments, who attended in accordance with special invitation. It occupied in the delivery, nearly three hours, and well it might, for wide was the ground it covered, being no narrower than the history of the last half century, and numerous and various were the topics which it embraced.

To say that the oration was of great ability, it is enough to know who was the author. To attempt any analysis of it would be unjust and supererogatory besides, for the Oration will doubtless be published under the direction of Congress, eagerly sought after, and universally and delightedly read.

The circumstances of this ceremony were of a nature calculated to effect any mind of ordinary sensibility.—There was a moral beauty in the whole scene, seldom equalled in public exhibitions; under the influence of which, it may be hoped, a pure and elevated patriotic feeling pervaded the whole assembly. Who, indeed, could listen unmoved to the eloquent accents of the accomplished Orator, pouring forth the gushings of a grateful heart in memory of the benefactor of his country, and of mankind? Who, that bore in mind the station which the Orator had filled, and the presence of illustrious men in which this mark of respect was paid to the memory of LAFAYETTE, but felt the inspiration of the occasion, rejoiced in it, and responded, from the inmost recesses of his heart, to the strains uttered in honour and gratitude to the deceased, as well as to the pious aspirations of the Orator for the future welfare and prosperity of his beloved country? None, none; we hope not one.

Nat. Intel.

St. Louis, Nov. 25th.

Murder. Perhaps no case in the annals of crime surpasses that which we are about to record, for cold-blooded and atrocious barbarity.

Immediately back from the Arsenal, and a few steps from the public highway, stands a house, built and occupied by an old man of the name of Windham, a gardener and an attendant upon the St. Louis Market. A daughter, seventeen or eighteen years of age, was with her father, the only inmate of the house—her mother being dead. Early on Sunday morning last, the attention of a citizen, who happened to be passing, was attracted to this house, by an appearance of fire issuing from it. Upon opening the door, he found the room filled with a dense smoke rendering every thing inside imperceptible, and perfect silence all round. He immediately procured a bucket of water, and threw it in the quarter where he supposed the fire to be; but a voice from the bed directed his efforts to the 'chest.' This he at last found, picked it up, threw it out of doors, and then extinguished the fire. He then proceeded to kindle a blaze on the hearth, and having done so, a scene of horror presented itself to his view. Upon the floor, by his side lay the