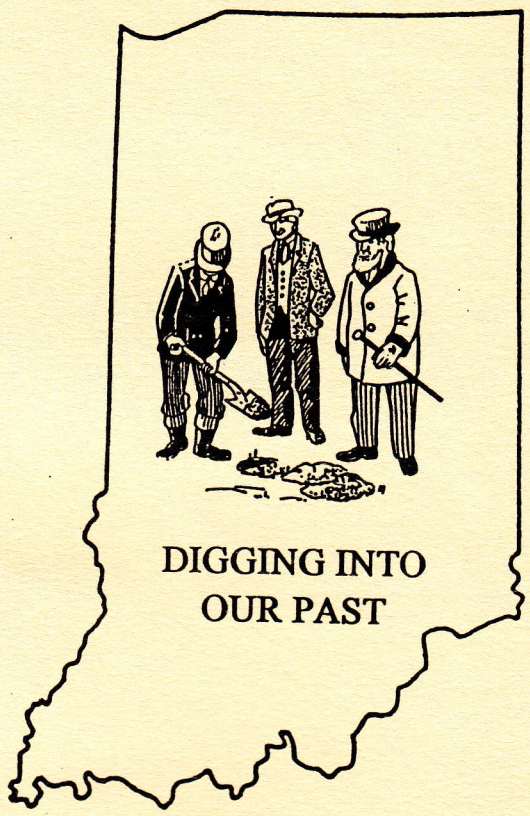


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# INDIANA CANALS



*Journal of the Canal Society of Indiana*  
Vol. 8 No.3-4                      September 1997

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# INDIANA CANALS

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# Indiana Canals

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The Journal of the Canal Society of Indiana

Volume 8, Number 3

September 1997

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## NEW LOOK FOR INDIANA CANALS!

**MORE EYE APPEAL - LESS EYE STRAIN  
- BETTER FOR YOU!**

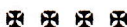
*This issue of Indiana Canals marks a new beginning for those of you on the other end of this communication. A new editor, new software, and ample material will be combined to make this four-times-a-year*

**In this issue...**

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*publication even better for you. As always, we welcome your contributions to this publication. Are you planning a trip to an Indiana area that has, or had, canals? Are you planning to explore those sites? If so, we would love to hear from you as to how what you found, your feelings, what you saw, etc. We may already be familiar with the place you visited, but others may not. So drop us a line and tell us your tale.*

*The first article, submitted by Chuck Hupert, is a bit of engineering information concerning the required slope of a canal between locks. It is presented in our continuing effort to bring you information such as this so that all modern day canawlers can understand better the life on the raging canawl. Enjoy!*



## **SLOPE OF CANALS BETWEEN LOCKS**

by Charles Hupert

**Slope of a "level" portion of canal is another topic discussed at CSI's Fort Wayne tour in April (1997). Between locks, canal waters flow, thereby preventing stagnation.** To obtain this flow, canals were laid out and constructed with a slope. It is generally accepted that a prism constructed with a 26 foot bottom, 40 foot wide at the surface and four feet deep would have a slope of one inch per mile. See Shaw, Ronald E., *Canals for America*, University of Kentucky Press (1990), p. 39, where it is stated that the Erie Canal, originally constructed pursuant to this specification, had a slope in its long level of one inch per mile. To confirm this accepted slope statistic, it was decided to employ fluid mechanics principles. Fortunately a 1960's collegiate engineering textbook

was available.<sup>1</sup> In 1897 H. Brazin, a French hydraulicien, developed an empirical formula for calculating the Chézy factor,  $C$ .<sup>2</sup> The formula is:

$$C = \frac{157.6}{1 + \frac{m}{\sqrt{R}}}$$

where  $m$  is Brazin's roughness factor, and  $R$  is the hydraulic radius. The hydraulic radius is the ratio of the cross-sectional area of the watered prism to its wetted perimeter. The roughness factor is developed empirically. A chart provides this factor:

Earth channel in very good condition	.54
Earth channel in fair condition	2.35
Earth channel in very rough condition	3.17

The cross-sectional area of a 40 x 26 x 4 foot prism is 132 ft<sup>2</sup>. The wetted perimeter is the length of that part of the perimeter of the cross sectional area which is touched by water.

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<sup>1</sup> Pao, Richard H. F., *Fluid Mechanics*, Wiley & Sons, New York (1961). This author taught the writer in the 1960s.

<sup>2</sup> It is noted that the Chézy's  $C$ , while developed in 1775, was not so refined by Brazin until 1897. Today it has been largely replaced by the Manning formula:

$$V = \frac{1.486}{n} R^{2/3} S^{1/2}$$

where  $n$  for an earth channel with some weeds would be approximately 0.03.

That is, the dimension of the wetted banks plus the bottom of the canal. In this case the wetted perimeter is the 26' bottom plus two banks of 8.06' each or 42.1 feet. Thus the hydraulic radius is 3.13. We decided to use the Brazin's  $m$  factor for a channel in fair condition, 2.35. Inserting these numbers into the formula the Chézy factor is calculated at 67.7.

The relationship between the velocity of the current and the slope is expressed as:

$$V = C \sqrt{RS}$$

where  $C$  is the Chézy factor,  $R$  is the hydraulic radius,  $V$  is the velocity and  $S$  is the slope. If the slope is 1" per mile, or  $1.58 \times 10^{-5}$ , the velocity would be .472 mi/hour. This would be in the range of the expected speed of the current in the canal and thus confirms the popular holding (and statement by Shaw) that the slope in a "standard" canal is one inch per mile.

This of itself does not absolutely prove the accuracy of the method used. What was needed was a canal the dimensions of which could be used to calculate the slope which could then be compared to the measured slope. Fortunately this author resides on Indiana's Central Canal. So, with the help of a neighbor and our wives, the various dimensions were ascertained.

The Central Canal. The fall or slope of the Central Canal from Broad Ripple to the Fall Creek Aqueduct was sought using the above formula. If the calculated slope is near the actual measured slope, the formula is further vindicated. First, the various factors had to be determined. To find the velocity of water in the canal, a large stick was thrown to the center of the Canal and the time for it to travel 100 feet was determined with a stop watch. From this reading (107 seconds) it was calculated that the speed of the water was 0.638 miles per hour

or 0.935 feet per second.<sup>3</sup> Next the surface width of the canal was measured with a steel tape measure at 75 feet.<sup>4</sup> The cross-sectional area and wetted perimeter were next measured by using a pole and measuring the depth of the water at several places across the width of the Canal. This was sketched out and triangulated. The wetted perimeter was determined to be 75.6 feet and the area 173 sq. ft.  $R$  is therefore 2.28. The Chézy factor was calculated to be 61.7 using the same Brazin's  $m$  of 2.35.

Finally, the slope was calculated at 6.38 inches per mile, considerably more than the standard one inch per mile. Since the length of the Canal from Broad Ripple to the Fall Creek Aqueduct is 6.5 miles, the total drop would be 41.5 inches.

“...one inch per mile slope for the Wabash & Erie Canal...”

We next called the Indianapolis Water Company and asked the question, "What is the drop in level of the Canal from the Broad Ripple intake gates to the Fall Creek Aqueduct?"

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<sup>3</sup> It is realized that the velocity at the center of the canal on the surface is not the same as the average velocity of the water in the canal. This error as well as error in the roughness factor could cause the result to vary considerably from the measured slope. See also footnote 5.

<sup>4</sup> The Central Canal was originally constructed 60 feet wide. This large width surprised the author. Apparently, there has been considerable erosion over the years.

They reported it to be about 32-34 inches. So, the actual drop was missed by 8.5 inches or so. This error, about 20%, is not too surprising in that (1) the Canal varies in width and depth; (2) its surface quality under the water (roughness factor) may vary substantially; (3) the amount of weeds growing in the canal would effects the calculation; and (4) the velocity of the water at the center of the surface is not the velocity at other points within the cross-sectional area.<sup>5</sup> What is important is that we were close enough to know that we can approximate a canal's slope, and that our historical one inch per mile slope for the Wabash & Erie Canal (it being constructed to Erie Canal standards) is confirmed.

The author wishes to thank Robert J. Houghtalen, Ph.D., P.E., Associate Professor of Civil Engineering at Rose-Hulman Institute of Technology, Terre Haute, Indiana, for reviewing this article and offering appreciated suggestions.

- cbh, June 17, 1997

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<sup>5</sup> It should also be remembered that the Chézy factor is archaic. So, it would be of interest to see if the Manning formula might produce a more satisfactory result. Using the Central Canal factors,  $V=0.935$  ft/sec and  $R=2.28$  along with an  $n$  of 0.03 for and earth channel with some weeds, if we solve for  $S$  using the formula in footnote 2, we find the calculated slope to be 0.000119 which is the same as 7.52 in./mi. Thus the Manning formula does not produce a result any closer than that produced by using the Chézy factor.

However, it should also be observed that the largest error might result from the assumption that the surface speed of the water is the average speed in the channel. If, for example, we halve the surface speed and assume this figure to be the average speed, the slope is 1.88 in./mi. rather than 7.52. Somewhere between is the true average speed.





## TOPOGRAPHICAL DICTIONARY OF THE STATE OF INDIANA

The following article, published in 1849, does a good job of describing the rationale behind Indiana's program of canal building and other internal improvements. It gives the feel of the political pressures for such an undertaking and also points out the inherent weaknesses of the "scatteration" approach. The author even concludes with the assertion that its a good thing the works were not completed.

### THE INDIANA GAZETTEER

OR

### TOPOGRAPHICAL DICTIONARY OF THE STATE OF INDIANA,

Third Edition - 10,000 Copies, Published by E. Chamberlain, Indianapolis, 1849

## Internal improvements

The prairies, rich bottoms, and many parts of the State, were so easily prepared for cultivation, at the out-set, that a large surplus of agricultural productions was found in most parts of the country soon after their settlement. At first the surplus was disposed of to other new settlers; but they too, in a few years, not only supplied themselves, but added largely to the stock on hand. A loose and porous soil, wide swamps, stream occasionally impassable, and in most places very little limestone or gravel to make good roads, offered very little

encouragement for their construction, and therefore it appeared that many of the products of the farmer were likely to become worthless on his hands.

The understanding that New York, Pennsylvania and Ohio, were prosecuting internal improvements successfully, gave a strong impulse to the feeling that something must be done in this State, and when to this was added the influence of those who hoped to profit by the increased value of lands and town lots, or who wished to be

“... it was fortunate that the credit of the State failed...”

commissioners, engineers or contractors, on public works, it became irresistible, and the so called system of internal improvements was adopted at the session of 1835-6, almost without objection, except by those who could expected no benefit from it. If attempts had been made merely to facilitate communication and the transportation of surplus produce, and a prudent course had been pursued, much good might have been done, the resources of one part of the State after another might have been developed, and the business and prosperity of the whole vastly increased. But instead of this, if all the works authorized had been completed, they would have cost \$30,000,000, and the whole tolls would not have paid for repairs the first twenty years. In many places public works were commenced where there was no surplus of labor or produce, where they did not lead to a market, and where the lot speculator was the only person who could be profited. Under such circumstances it was idle to look for good results, and it

was fortunate that the credit of the State failed, before all the indebtedness contemplated had been incurred.

By the Auditor's Report of 1848, it appears that there has been expended as follows:

Jeffersonville & Crawfordsville road	\$ 339,183
Lafayette & Indianapolis road	73,142
Wabash Rapids	14,288
White Water canal	1,092,175
Madison & Indianapolis railroad	1,624,603
Wabash & Erie canal, east of Tippecanoe	3,055,268
Wabash & Erie canal, west of Tippecanoe	1,245,290
Eel River Cross Cut canal	436,189
Southern Division of Central canal	576,646
Wabash & Ohio canal	9,169
New Albany & Vincennes road	696,516
Northern division of Central canal	882,088
Erie & Michigan canal	160,708
	-----
	\$10,204,273

Editor : Over \$2.7 million (27%) of the funds expended were for rails and roads, not canals. It is often overlooked that Indiana also financed other transportation in the Internal Improvements Bill of 1836.

The following sums appear to have been received for tolls:

Madison & Indianapolis railroad	\$ 85,436
Wabash & Erie canal east	1,174,611
Wabash & Erie canal west	526,847
New Albany & Vincennes road	27,311
Northern division Central canal	15,008
	-----
	\$ 1,829,216

Which is about equal to three years interest of their cost. ( \$10 million at 5% for 26 years = \$500,000 per year ) The amount expended on the Jeffersonville and Crawfordsville, and the Lafayette and Indianapolis roads, and on the Wabash rapids, has been abandoned; and all the work done of the northern division of the Central canal and the Michigan and Erie canal, is useless, except a little water power that has been obtained. ( Broad Ripple to Indianapolis / Anderson hydraulic) The White Water canal will never yield any return, as it has been granted to a company, and as suffered so much since by floods, and the cost of repairs has been so great that it will be no object to redeem it. The length of the White Water canal from Lawrenceburgh to Cambridge City is seventy miles. the estimated cost of construction to the State was \$1,567,470. It was completed by the State to Brookville at a cost of \$664,665, and the work above was left unfinished.

The company, chartered in 1842, extended the canal fifteen miles, to Laurel, in October, 1843; to Connersville, twelve miles further, in June, 1845; and in October, the same year, it was completed to Cambridge City, the entire cost to the company being \$473,000. The same year (sic 1843) a lateral branch was constructed from Harrison, thirteen miles above Lawrenceburgh, to Cincinnati, a distance of twenty-six miles, by a company chartered by the State of Ohio.

**“The high flood of January 1, 1847, carried off the aqueduct across Symons' Creek near Cambridge....”**

The Hagerstown canal, extending seven miles north of Cambridge, is nearly finished, and the whole distance thence to

Cincinnati will be ninety miles, or seventy-seven to Lawrenceburgh. The high flood of January 1, 1847, carried off the aqueduct across Symons's Creek near Cambridge, and that across the West Fork of White Water, at Laurel, besides washing immense channels round the feeder dams at Cambridge, Connersville, Laurel, Brookville, the one four miles below, and that at Harrison, and also did much damage along the whole line. The expense of making the repairs was estimated at \$90,000, and during the summer and fall of 1847, about \$70,000 was expended for this purpose, and navigation had just commenced again, when another flood came on the 9th of November, and most of the repairs being incomplete, further damage was done, as estimated, to the amount of \$80,000. Under these accumulated disasters the company by great exertions, commenced operations again, and the whole line was in a condition to be used on the 15th of September, 1848, leaving, however, repairs to be made which were estimated to cost \$30,000.

From these interruptions, there has as yet been no opportunity to show what the business of the canal will be. The water power, if all put to use, is estimated to be worth \$25,000 a year, and the fine country through which the canal runs, and its high state of improvement, promise not less benefit to the company than to the agricultural, manufacturing, and other industry that finds employment there.

The MADISON AND INDIANAPOLIS RAILROAD will probably pay the State from two to three per cent per annum, after 1852, on the amount expended. The State commenced the work and completed twenty-eight miles, and incurred about half the expense of grading and bridging the next twenty-eight miles. The heavy work on the Madison plane, the high embankments and bridges, and deep cuts south of Vernon, occasioned this part of the road to cost at the rate of \$40,000 a mile. The part

finished by the company from six Mile Creek to Indianapolis, when laid with a flat bar, cost the company less than \$8,000 a mile. The business on this road has increased rapidly as it has been extended. The company took possession in February, 1843. The first year the average distance run was thirty-three miles, the passengers twenty-five a day, the receipts \$22,110. The next year the average distance run was forty-two miles, the passengers thirty a day, the receipts \$39,031. The year ending February 1, 1846, the average distance run was fifty-one miles, the passengers fifty a day, the receipts \$60,053. The next year the distance run was fifty-six miles, the passengers seventy a day, the receipts \$83,122. The year ending February 1, 1848, the average distance run was seventy-one miles, the passengers 125 a day, and the receipts \$158,803. The year ending February 1, 1849, the distance run was eighty-six miles, the passengers 200 a day, and the receipts about \$235,000.

A branch of the Madison and Indianapolis railroad has just been completed from Edinburgh to Shelbyville, sixteen miles. The ground was so favorable on this route that the whole expense of grading and bridging was only about \$800 a mile. From Shelbyville an arm of this road is commenced extending twenty miles, to Rushville, and another to Knightstown, twenty-five miles. Both the routes are very favorable, and the grading is nearly completed. They will soon be ready for use, and as they run through a country unsurpassed in fertility by any part of the west, they will directly and incidentally add much to the wealth and prosperity of the State. The capital to complete them has been mostly supplied by the holders of property in the vicinity who are interested in their construction. Other branches to run west towards Nashville and Martinsville are also in contemplation. As these branches are completed, and other roads north and west of Indianapolis shall be brought there, before they reach an eastern market by any other route, the

business of the Madison and Indianapolis railroad will be immensely increased, and even when other routes are opened to eastern and southern markets, so much business will have been created along the line of the road that it will always be profitable and important. The nature of the business done on this road and its rapid increase are not less encouraging to the citizens of the State than to the owners of the stock. There can be no doubt that the increase of the value of real property, within five miles of the road, has been more than double the cost of its construction.

The act of Congress making the first grant of lands for the construction of the WABASH AND ERIE CANAL has passed in the year 1827. The act of the Legislature authorizing the commencement of the work was passed at the session of 1830-32. A second grant of lands for the continuation of the canal from the mouth of the Tippecanoe to Terre Haute was passed by Congress in February, 1841. A third grant of half of the unsold lands in the Vincennes land district for the continuation of the canal from Terre Haute to the Ohio River was made by Congress in May, 1845.

The canal was commenced in 1832 and completed to Lafayette in 1841: to Covington in 1846: to Coal creek in 1847: and will be finished to Terre Haute in 1849. Below Terre Haute it is under contract as far as Newbury, in Greene county, fifty-eight miles, forty miles of which are nearly completed. The remainder of the line from Newbury to Pigeon Dam, in Warrick county, will be placed under contract the present year, and the whole canal is expected to be finished to Evansville by the year 1852.

The length of the canal in the State of Indiana north of Terre Haute is 225 miles: from thence to Evansville 150 miles: in the whole 375 miles. The length of the canal in Ohio is eighty-four miles, making when completed, a continuous line of 459 miles.

In addition to this, it connects with Cincinnati through the Miami canal, 181 miles long.

Editor : Official mileage was 88 miles in Ohio & 380 in Indiana for a total of 468 miles

This author appears to short the mileage for each segment. Terre Haute to Evansville was 42 Crosscut + 111 = 153. Terre Haute to State line was 227. Indiana was 380 miles

The collectors' offices are at Fort Wayne, Lagro, Logansport, Lafayette and Covington, and there will be another at Terre Haute when the canal is completed to that point.

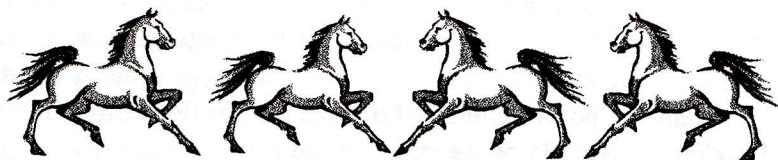
Year	Toll and water rents	Tonnage	Transportation miles	Passenger miles
1846	\$105,234	-	-	-
1847	125,982	117,739	457,927	1,022,160
1848	146,148	157,831	-	1,357,364

During the year 1848, the expenditures on the canal for superintendence, ordinary repairs, &c., were \$34,833.64. The present trustees of the canal are Charles Butler, Thomas H. Blake and A. M. Puett, Esqs.

A company has been incorporated to make a RAILROAD from Terre Haute, through Indianapolis and Richmond, to the Ohio line, and \$220,000 of stock subscribed mostly in Vigo and Putnam counties. The portion of this road lying between Terre Haute and Greencastle, thirty-three miles, has been put under contract, and the grading and masonry of this part of the line will be completed by January 1, 1850. The location of the road



from Greencastle to Indianapolis, thirty-nine miles, is now being made, and this part of the line is to be put under contract this summer. This road is expected to connect with St. Louis on the west, and it will also connect with the eastern lines through Ohio, and must become the great central thoroughfare of Indiana. It runs through the great coal region, embracing the counties of Vigo, Clay, and part of Putnam, and will cross the canal contiguous to the great coal beds of the Wabash valley, both north and south of Terre Haute. Some of the veins of coal, on a level with the road and easy of access, are of a superior quality and ten or eleven feet in thickness.



## HORSES STOLEN

On last Thursday night a valuable mare with saddle, bridle, halter & collar, belonging to D. R. McKinney, and a BLIND horse belonging to Joseph Peterson, together with a saddle belonging to H.M. Stephenson, and a bridle of Jeremiah Flinn, were stolen from this place.

Seven persons started in pursuit of the thieves next morning, but as yet neither they or the horses have been overtaken. The rogues evidently were not much acquainted here, or they would not have made such a mistake as to select a blind horse. It will be three years to coming summer since a gang of thieves along our canal was broken up by the civil authorities, and we doubt not that these thieves belong to another gang, who as soon as

the canal is in operation, will begin their depredations at various points along or near the line. We hope our citizens will be on their guard and keep an eye on all suspicious looking strangers about town the coming summer.

Wabash Weekly Gazette

June 27, 1849



## PASSAGE OF THE BUTLER BILL

by Carolyn Schmidt

Not everyone was in favor of continuing construction of the Wabash & Erie Canal in 1847. By 1845 Indiana was deep into debt and hadn't paid bondholders their interest due for six years. Charles Butler came to Indiana from New York to represent the bondholders, who were mostly the Rothchilds of London. The credit of the state was so low that no bonds were being sold. The state legislature dickered for two years until the Butler Bill, which was entitled "An Act to provide for the funded debt of the State of Indiana, and for the completion of the Wabash & Erie Canal to Evansville," was finally passed in 1847. This act gave Governor James Whitcomb authority to transfer the canal and all that went with it to the Trustees, namely Charles Butler, Thomas Blake, and Nathan Palmer, who were responsible to the bondholders for half of the indebtedness and who issued bonds for the other half of the debt. Also the state had to redeem other mortgaged bonds presented for payment to make title good to the first bondholders. The bondholders thus obligated themselves through this Board of Trustees to complete the canal to Evansville. This relieved Indiana from its obligation to pay the Federal Government for the grants of land received.

When the Butler Bill was up for passage in Indiana's House of Representatives, a brief speech quickly led to a vote for passage as reported in *Early Indiana Trials And Sketches: Reminiscences* by Hon. O. H. Smith that was published in Cincinnati by Moore, Wilstach, Keys & Co., Printers in 1858. Jerry and Mary Ann Getty submitted the following:

### **A CONCLUSIVE SPEECH ON THE IMPROVEMENT OF THE WABASH CANAL.**

I am tempted, lest I forget it, to sketch an incident on the passage through the House of Representatives of Indiana, of the Wabash Canal Bill, by which the State was largely involved, and the European bond-holders, by subsequent legislation procured by their indefatigable agents, Charles Butler, of New York and Michael G. Bright, of this State, were enabled to get possession of the Wabash and Erie Canal.

The bill had been engrossed, and was to come up the next day on its final passage. The House and galleries were jam full. At an early hour the aisles were seated with ladies, and the doors and windows opened to give fresh air to the suffocating audience. The Speaker worked his way to the chair with difficulty, and called the house to order: not a sound was heard, all eyes were turned to the opposition benches.

The bill was announced by its title. "This is the third reading of the bill, and the question is, shall the bill pass?" A pause ensued, when Col. David Wallace, one of the most eloquent men in the State, arose, his fine black eye fixed upon the Chair, and with his musical voice and brilliant imagination, delivered a splendid eulogium upon the measure. He took his seat amid applause from all parts of the house.

Mr. Rariden, his brother-in-law, the leader of the opposition benches, followed against the bill, in a most powerful common sense speech, that told with killing effect upon its friends. He took his seat; another pause, deep anxiety bordering on despondency depicted in the countenances of his opponents, when there was seen rising by the side of Col. Wallace, the tall and commanding figure of Col. John McNairy, the chosen orator of the Wabash Valley, and deeply identified with the passage of the bill. All eyes were upon him; it was known the he always stuck to the question, while his speeches were brief as a telegraph dispatch.

*"...our population  
on the Wabash  
am great, but our  
resources for salt  
am slim."*

The Colonel added to his fine person a loud, clear voice. Raising himself almost on tip-toe, at the very highest pitch, his eyes fell upon the Chair: "Mr. Speaker, our population on the Wabash am great, but our resources for salt am slim. SALT! they can not emigrate up the Wabash." The Col. took his seat with great applause from the benches favorable to the passage of the bill. This speech was conclusive. No one asked for the floor to reply. The question was put from the Chair, and the bill passed by a triumphant majority. The cannon fired, the bells rang, the city was illuminated, and all was joy and hilarity at the capital for weeks afterward.



## **DELIVERANCE AND EXECUTION OF THE BUTLER BILL**

*Document submitted by Dr. Ralph Gray*

THE STATE OF INDIANA

To all to whom these presents shall concern send Greeting.

WHEREAS the General Assembly of the said State at their session commenced on the first Monday of December in the year of our Lord one thousand eight hundred and forty-five did pass a certain act, entitled "An Act to provide for the funded debt of the State of Indiana, and for the completion of the Wabash & Erie Canal to Evansville" which said Act was approved by James Whitcomb, Governor of the said state, on the nineteenth day of January Eighteen hundred and forty-six reference being thereunto had will more fully appear.

AND WHEREAS the General assembly of the said State, at their session commenced on the first Monday of December in the year of our Lord one thousand eight hundred and forty-six, did pass a certain other Act, entitled "An Act supplementary to an 'Act to provide for the funded debt of the State of Indiana, and for the completion of the Wabash & Erie Canal to Evansville' approved January the nineteenth eighteen hundred and forty-six" which said last mentioned act was approved by James Whitcomb, Governor of the said State, on the 27th day of January one thousand eight hundred and forty-seven, reference being thereto had will more fully appear.

AND WHEREAS the Bonds of the said State of Indiana referred to and contemplated in and by the aforesaid acts of the said General Assembly of more than five millions five hundred and forty-five thousand dollars of principal exclusive of interest,

have been surrendered for exchange and cancellation as contemplated by the said acts and the holders of not less than four millions of dollars of said Bonds exclusive on interest, have subscribed twenty per cent on said amount, prior to the date of these presents, and notice thereof has been given to the Governor of the said State.

AND WHEREAS the subscribers aforesaid towards the completion of the said canal in the said acts mentioned, have in pursuance of the said acts, and in accordance with the provisions of the same elected Charles Butler of the City of New York and Thomas H. Blake to discreet persons and Trustees both of whom are citizens of the United States, one of them to wit Thomas H. Blake is a citizen and resident of the State of Indiana.

AN WHEREAS notice of the said election together with a copy of the said subscription to the said canal was given to James Whitcomb Governor of the said State on or about the twenty-second day of May last: and the said Governor in pursuance and by virtue of the said acts, did thereupon on the ninth day of June A.D. eighteen hundred and forty-seven, during the recess of the Legislature of said State appoint Nathan B. Palmer a citizen of the State of Indiana as a third discreet person to act as Trustee with the said Charles Butler and Thomas H. Blake and to constitute with them a Board to be known by the style and description of "The Board of Trustees of the Wabash & Erie Canal" which said Board is in and by the said acts made and created a body politic and corporate by the name and style aforesaid.

AND WHEREAS the said three Trustees have before entering on their duties, each taken the oath required by the said acts, and have also each of them, given bond with surety, which has been approved by the Governor in the penal sum of one

hundred thousand dollars conditioned as is required by the said acts.

AND WHEREAS the said Governor is satisfied from proper evidence submitted to him that Bonds to the amount of more than five millions, five hundred and forty-five thousand dollars, exclusive on interest have been surrendered for exchange and cancellation, and are in the hands of the agent of the State for that purpose and that five per cent on certain of the said Bonds, amounting exclusive of interest to more than four millions of dollars has been paid over by the said subscribers to the said Charles Butler and Thomas H. Blake the two Trustees elected by them as herein before mentioned, as provided and required in and by the said acts.

NOW THEREFORE KNOW ALL MEN BY THESE PRESENTS, that the State of Indiana, in consideration of the premises and in pursuance of the provisions of the said acts, and in fulfillment of the pledge therein given by the said State, and in consideration also of one dollar to the said State in hand paid by the said "The board of trustees of the Wabash & Erie Canal" hath given, granted, bargained, sold, conveyed, confirmed, as signed and transferred and doth by these presents give, grant, bargain, sell, convey, confirm, assign and transfer unto the said "The Board of Trustees of the Wabash & Erie Canal their successors and assigns forever, upon the terms and conditions in said acts named, the bed of the Wabash & Erie Canal and its extensions by whatever other name the same may now be designated, finished and to be finished from the Ohio State Line to Evansville including its banks, margins, tow paths, side cuts, feeders, basins, right-of-way, lots, dams, water power, and structures and all materials provided or collected for its construction, and all the property, right, title and interest of the State in and to the same, and all its appurtenances AND ALSO ALL THE LAND AND LOTS (NOT SOLD OR DISPOSED

OF) HERETOFORE GIVEN, GRANTED, OR DONATED, BY THE GENERAL GOVERNMENT TO THE STATE TO AID IN THE CONSTRUCTION OF THE SAID CANAL OR ANY PART OF IT OR WHICH MAY HEREAFTER BE ACQUIRED UNDER OR BY REASON OF ANY EXISTING GRANT, and all moneys due and to grow due and remaining unpaid on account of any sale or sales heretofore made of any canal lands so donated, and all monies due or to grow due on account of any existing leases of any waterpower or other privilege on said canal its sidecuts, feeders, basis (sic) or other appurtenances. TO HAVE AND TO HOLD unto the said "The Board of Trustees of the Wabash & Erie Canal" and to their successors and assigns forever, as fully as the said State can or could be, subject nevertheless to all the existing rights and equities against the State on account of the same or any part thereof, or liabilities of the State growing out of or in relation thereto. UPON TRUST however to hold and apply the said herein above granted and described premises and the tolls and revenues of the said canal and the proceeds and produce of the said lands sold and unsold after first defraying thereout all needful and proper expenditures for repairs attendance and other necessary things appertaining thereto in security and for the uses and purpose particularly declared expressed and set forth in the said several acts of the said General Assembly as by reference to the same will fully and at large appear.

AND IT IS HEREBY declared and provided and these presents are executed and delivered by the said State of Indiana and accepted by the said "The Board of Trustees of the Wabash & Erie Canal", with this express intent, and upon this express conditions, that is to say that these presents, and the grant, conveyance and assignment herein and hereby made, and everything herein contains are designed and intended to the end and for the purpose of fulfilling the directions and requirements



of the said several acts of the General Assembly of the State of Indiana and upon the terms and conditions therein set forth, according to the force and effect, true intent and meaning of the said several acts, as the same are now in force; and that all and singular the provisions of the said acts, as the same are now in force, touching and concerning the nature, continuance and termination of the trusts herein before declared and set forth, the powers, duties, proceedings and liabilities of the said Trustees; the termination of the offices of the said Trustees and the appointment of new Trustees; the rights, privileges and liabilities of the subscribers in the said acts mentioned, the time to be allowed for the completion of the said canal, the application of the tolls and revenues thereof and of the proceeds of the canal lands in the said Acts mentioned, the powers and rights reserved by the said State of Indiana and all other the provisions of the said several acts as the same are now in force, are to be deemed and taken and are hereby declared to be, a part of these presents with the like force and effect as if the same were herein particularly recited and incorporated, according to the true intent and meaning of the said several provisions.

IN TESTIMONY WHEREOF the said James Whitcomb Governor of the State of Indiana has caused these presents executed in triplicate to be made patent and the great seal of the said State to be hereunto affixed.

Given under my hand at Indianapolis, in the said State this 31st day of July in the year of our Lord one thousand eight hundred and forty-seven.

Jas. Whitcomb.

By the Governor,  
Jno. H. Thompson,

Secretary of State.

A red State Seal is affixed to the document. Behind it is attached the following document:

STATE OF INDIANA  
OFFICE OF AUDITOR OF STATE

In, J. O. Henderson, Auditor of State of the State of Indiana, do hereby certify that the foregoing is a full, true and complete copy of Letters Patent executed and issued on the 31st day of July, 1847, by the State of Indiana to the Board of Trustees of the Wabash & Erie Canal as the same appears from the original said Letters Patent now on file in my office and of which In am the legal custodian.

Witness my hand and official seal, at the city of Indianapolis the 23rd day of July, 1892.

signed J.O. Henderson Auditor of State Red seal affixed.

Wabash Weekly Gazette  
April 25, 1848



So how did you like the first issue of the “new look” for Indiana Canals? Future issues will not look exactly like this one. Hopefully, they will be better!

Remember, send us your stories or other information for inclusion in issues to come! Until next time, happy canawlin’!

# CANAL SOCIETY OF INDIANA

Organized on May 22, 1982 as a not-for-profit corporation, the Canal Society of Indiana was established to bring together those who share a common interest in Indiana's historic canals. The Society helps focus attention on these early interstate waterways through a variety of programs. Its aim is to provide interpretation of the era, to preserve canal bed and structural remains, and to support restoration of historic canal related sites.

## BENEFITS:

- Canal Society of Indiana Newsletter
- Indiana Canals
- Membership Card
- Spring & Fall Tours of Canal Sites
- Books, Maps, Videos
- New Member Welcome Package

## MEMBERSHIP:

\$15.00 -- Single/Family

\$30.00 -- Contributor

\$50.00 -- Patron

\$100.00 -- Frog Prince



Mail membership to:

**CANAL SOCIETY OF INDIANA**

**P.O. BOX 40087**

**FORT WAYNE, IN 46804**

Include name, address with 9 digit zip code,  
and phone number.

**CANAL SOCIETY OF INDIANA**

**P.O. BOX 40087**

**FORT WAYNE IN 46804**

**ADDRESS CORRECTION REQUESTED**

**NON PROFIT ORG.**

**U.S. POSTAGE**

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**FORT WAYNE, IN**

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