

A HISTORY

OF THE

Houongabela **N**avigation **C**ompany.

BY

AN ORIGINAL STOCKHOLDER.



PITTSBURGH:

BY BAKEWELL & MARTHENS, 71 GRANT AND 75 WOOD ST.

1873.

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James McMillan



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A HISTORY

OF THE

Monongahela Navigation Company.

It was early seen that the site of Pittsburgh was a strong position. The two most ambitious kingdoms of Europe fought for its possession; and, after England had won the prize, Virginia sought to wrest it from Pennsylvania, its rightful owner. As then viewed, and truly, its strength was in its rivers; and there it is yet. In the advantages which these give to it, it has no compeer on the continent. Two great rivers, without a fall, or a shoal, to obstruct their navigation—one reaching north, almost to the confines of the nation, and into the northernmost of the middle States; the other coming from the South, draining a large part of the most northern of the southern States—here join their waters, near, and about midway of the western border of the State, and form the Ohio. The “beautiful river,” thus formed, gives, with its parent streams, its Mississippi extension and their navigable tributaries, an uninterrupted, interior, natural water communication between seventeen of the thirty-seven States of the Union. In their unimproved condition the Monongahela and upper Ohio floated to their wilderness homes the founders of half of the western and southwestern States; and

for half a century sent them much of their necessary supplies of food, and of household and agricultural implements. As to the great staples of human subsistence, their descendants and successors now largely supply us; but we in return send them coal, without which they could not live, and manufactures produced by coal, without which they could not keep step in the rapid march of population and wealth. These interchanges ever have been, are now, and ever will be, very largely dependent upon our rivers, and upon none of them more largely than upon the Monongahela. The first of western waters to bear upon its bosom the travel and traffic of civilized life, it will be the last to succumb to any merely artificial contrivance for more rapid movement. During the age of the "broad horn" it was competent to all the demands upon it in the condition wherein nature had made it. Then the current of empire went with it—westward; and no returns. A full river and no ice were all that was wanted. By and by an ascending commerce sprung up, and keel-boats came into requisition. But high stages of water did not suit them. To ease their slow and toilsome voyages, the State provided, from time to time, for opening and deepening channels in the principal bars and ripples. In the mean time Fitch and Fulton had harnessed steam to the keel, and a new era in navigation had begun. About 1820 turnpike roads, and, in 1829, a canal had connected Wheeling and Pittsburgh with the Atlantic cities; and at these rival "heads of navigation," instead of at "Redstone," the commerce of the growing west had to begin and end. For a while the Monongahela was almost ignored. But the very influences and improvements which seemed to have superceded it were gradually raising it to an importance higher than it had ever known. They had stimulated the growth of the West and Southwest. Where had stood the forests which furnished their fuel, were now fields and villages, cities and manufactories. Coal, if not a king, was becoming one of the princes of the land; and its seat of empire was the Monongahela Valley. Its power made it an article of commerce, requiring, for its loading and transportation, deep moorings and a steady navigation. Floods and freshets were few and far between; and the setting pole and cordelle could no longer subserve the wants of a dense and active population. It became manifest that in some way, other than by chutes and wiers, the depth of water upon the bars and ripples must be increased and their resistance diminished. This could be done

only by locks and dams. They had been tried in our own and other States, and had been found effective. But whether as a distinct enterprise, adapted to steam navigation, and unconnected with the emoluments of transportation, such an improvement could be made remunerative, was as yet an unsolved problem. Pennsylvania was too heavily burdened by the debt created for her canals and railroads, to embark in any new scheme of internal improvement, especially in one in the corner of the State, whose bearings were not towards her cherished commercial metropolis. But though coy and cautious, she could not afford to be hostile; and though afraid to undertake, was not unwilling to aid. The work had become a necessity. How it was accomplished, and amid what difficulties and embarrassments, the history of the Monongahela Navigation Company tells.

The earliest known suggestion of an improvement of the navigation of the Monongahela by locks and dams, was in a report of a survey made for the State by E. F. Gay, Civil Engineer, in 1828. It was unheeded, and nothing further done until 1832, when the late Hon. Andrew Stewart, of Fayette, made an effort in the Congress of the United States to have it done by the National Government, as an extension, under the Act of 1824, of the improvement of the navigation of the Ohio, to the National Road at Brownsville. Congress provided for a survey of the river to Brownsville, which was made in 1833, by Dr. William Howard, U. S. Civil Engineer. His plan was locks and low dams—eight in number—of $4\frac{1}{2}$ feet lift, except that No. 1 would be 6 feet; the object being to use them only when the river was low. A public meeting at Waynesburg, Greene county, November 18, 1835, recommended and urged the Improvement by the State, as Congress had declined it. The movement was at once seconded by the citizens of Pittsburgh and Brownsville and intermediate places, and legislation was sought and obtained.

The "Monongahela Navigation Company" was authorized by Act of Assembly of March 31, 1836. It was to make a slack-water navigation from Pittsburgh to the Virginia State line, and as much further as Virginia would allow it to go. The stock was to be \$300,000, in shares of \$50, and as much more as needed. The height of the dams was not to exceed $4\frac{1}{2}$ feet, supposed to mean from pool to pool.

Enough of stock was subscribed in 1836 to enable the charter to issue early in 1837; and on Feb. 10, 1837, the Company was organized by the election of officers.

By the 6th section of the State Act of Feb. 18, 1836, chartering the United States Bank, it was required, among other burdens imposed, to subscribe to the stock of this Company, then in prospect, \$50,000 at the opening of its books, and \$50,000 more when \$100,000 of stock from other sources should have been expended on the work.

The State, by Act of April 14, 1838, subscribed \$25,000 in stock; and by Act of June 11, 1840, \$100,000 more.

The Company started in 1837, upon the following subscriptions of stock:

Citizens of Allegheny county,	948 shares,	\$ 47,400
“ Fayette “	508 “	25,400
“ Washington “	20 “	1,000
“ other counties,	86 “	4,300
Monongahela Bank of Brownsville,	100 “	5,000
Bank of the United States,	1,000 “	50,000
	<hr/>	<hr/>
	2,662 “	\$133,100
To which the State added, in 1838,	500 “	25,000
“ “ in 1840,	2,000 “	100,000
	<hr/>	<hr/>
	5,162 “	\$258,100

This, until after the Work was completed to Brownsville, was its entire capital basis; and much of this, as we will hereafter see, was never realized.

After organization, and calling in some stock, a careful survey of the river was ordered. This was done in the summer of 1838, by an engineer corps, at the head of which was W. Milnor Roberts, now Engineer of the Northern Pacific Rail Road, with Nathan McDowell and Robert W. Clarke, assistants.

From Pittsburgh to Brownsville was found to be $55\frac{1}{2}$ miles, nearly, and the ascent a little over $33\frac{1}{2}$ feet; from Brownsville to the Virginia line, a little over 35 miles, ascent 41 feet—totals, $90\frac{1}{2}$ miles, and $74\frac{1}{2}$ feet. This would have required seventeen dams of $4\frac{1}{2}$ feet lift, one on an average for every five miles; thereby causing delays and tolls which would have been unendurably vexatious, and an ex-

penditure in construction and attendance which would have made the Work wholly unremunerative. Besides, on some of the ripples the fall was three and four feet—one, at the mouth of Cheat, six feet. It was soon seen that this plan must be abandoned. Accordingly, the Legislature, by Act of June 24, 1839, authorized the dams to be eight feet from pool to pool.

At first it was thought that ten 8 feet dams would be required to carry the Work to the State line—five below, and five above Brownsville; but, by an authorized increase of Dam No. 4 to ten feet, and those above Brownsville (three) to whatever height the banks would allow, it was found that seven would suffice.

Dams and Locks Nos. 1 and 2 having been located—No. 1 a mile above the Smithfield street bridge, at Pittsburgh, and No. 2 at Braddock's Upper Ripple, ten miles above No. 1—they were *let*, No. 1, Dec. 17, 1838, to J. K. & J. B. Moorhead, and No. 2 *relet* May 17, 1839, to Coreys & Adams. Though not entirely completed these two locks and dams were put in use October 18, 1841.

On July 15, 1840, Lock and Dam No. 3, at Watson's Run, two miles above Elizabeth, and fourteen miles above No. 2, was *let* to Bills & Foreman; and No. 4, at Frey's Shoals, fifteen miles above No. 3, and fifteen and a half miles below Brownsville, to Fenlon & Patton, changed in construction to Fenlon & Lonergan. Fearing a lack of funds, the Company reserved in the contract for No. 4 the right to stop the work at any time, and pay for what was done. This right had to be resorted to in May, 1841, for the cause provided against, and work on No. 3 had to be suspended for the same reason.

A most disheartening crisis in the Company's undertaking came upon it in 1842. The U. S. Bank broke, and failed to subscribe and pay its second \$50,000. The State had to give the Company its bonds for a large portion of its second subscription of \$100,000, which had to be sold at a loss of one-half. Many individual subscribers for stock resisted payment; some were unable to pay. The Company had to sue and be sued, and to submit to sales of everything seizable in execution. It was over \$40,000 in debt. The Works needed repair, and there was no money to do it. In 1841 the Company sought further aid from the State; but it was too poor. In 1842 an earnest effort was made to induce capitalists

of Baltimore to replenish the Company's treasury, so as to enable it to carry its Improvement to Brownsville, and thereby make it a feeder to the Baltimore & Ohio Railroad, which about that time was nearing Cumberland, where it was thought it would have to make a long halt. But the Marylanders were too intent on pushing their great work to the Ohio to engage in any side-enterprise, especially one which they could not control. To all these reverses was added, in July, 1843, a breach of 100 feet in Dam No. 1, which, before it could be stopped in 1844, washed a hole forty feet deep. On May 4th, 1841, the Legislature had given the Company power to borrow, and mortgage its Works and tolls. A more extended like power was given by Act of April 5, 1842. But the Company's credit was gone, and these powers were a mockery. For two years the Work made no progress, except to decay and discouragement. The whole project became a "mortification to its friends and projectors, and a nuisance to the navigation." Clouds and darkness enshrouded its prospects. Its friends were almost ready to abandon it to the mercies of the floods and of an indignant public, when light and hope beamed from an unlooked for quarter.

The State's financial condition had become so depressed, that the Legislature, by Act of July 27, 1842, repeated by Act of April 8, 1843, directed sales of all its corporation stocks, among them its \$125,000 in this Company. This induced a number of men, of capital, enterprise, and of unfaltering faith in the ultimate success of the Improvement, to buy this stock—of course at a low figure—and thereupon to engage to repair and complete the work to Brownsville, upon ten year coupon bonds, secured by a mortgage of the Improvement and its revenues, to be applied, first to old debts; second, to interest, and then to reimburse to themselves the principal of their actual expenditure. These men deserve to be held in kind remembrance. They were James K. Moorhead, Morgan Robertson, George Schnable, Charles Avery, Thomas M. Howe, John Graham, Thomas Bakewell, J. B. Moorhead and John Freeman. They did the work, chiefly, through sub-contractors,* under the name of Moorhead, Robertson & Co. Their contract with the Company was made Nov. 9, 1843. It was July, 1844, before they could get effectively at work; but they went at it with such energy

* The lock at No. 3 was built by Alston & Hannay, and the dam by John Lindsay—Lock and Dam No. 4 were built by Lockhart & Thomas.

and skill, with Sylvanus Lothrop for Engineer and J. B. Moorhead for Superintendent, that on Nov. 13, 1844, the entire Improvement was repaired and completed for use to Brownsville.

Before these contractors took hold of the work, there had been expended upon Nos. 1 and 2 about \$160,500, and upon Nos. 3 and 4 about \$53,000, exclusive of engineering, salaries, damages and incidental expenses. They expended in 1844, in repairs on Nos. 1 and 2, over \$35,000, and in construction of Nos. 3 and 4, \$169,500; which, with toll houses and some addition to Locks 1 and 2 in subsequent years, swelled the construction account at the end of 1847 to \$517,225; less than half of which had been paid out of stock. Current revenues were as yet hardly adequate to keep down current expenses and interest, and pay old debts. At the end of 1847 the Company was in debt \$270,000.

The "good time" long looked for, in which the works would pay current expenses, interest and repairs, and reduce the debt, began to come in 1847.

Before the Work had been completed to Brownsville, the Balt. & Ohio Railroad had been made to Cumberland, 75 miles distant, over a fine road, on which were "first class accommodations for man and beast." The Pennsylvania Railroad did not reach Pittsburgh until 1852. Here were eight years of a glorious harvest for the Slack-water, and the Eastern Division of the National Road. It taxed the road's capacities to the utmost extent. It was literally crowded with stage coaches and wagons. In 1850 the Navigation carried 18,379 stage passengers, and in each of the three preceding years a greater number.

From 1845 to 1847 the revenues had almost doubled, thereby enabling the Company in 1847 to nearly extinguish its old floating debt, keep down the interest, and pay \$13,500 of the principal of the \$231,500 of bonds which had been issued to Moorhead, Robertson & Co. Notwithstanding that the tolls from freights and passengers continued about the same for many years, such was the rapid increase of the coal trade, that at the end of 1853 the entire indebtedness to Moorhead, Robertson & Co. was paid; and, but for new debts incurred in 1850, for some additional rights (\$2,000), and a second lock at Dam No. 1 (\$56,800), and in 1853-'4, another lock at Dam No. 2, costing about \$50,000,* rendered neces-

* Alstons & Hannay were the contractors for the new lock at No. 1. Ersman & Hardy for that at No. 2.

sary to accommodate the increased coal trade, and the extension above Brownsville, the Company could have been free of debt. The contractors for the lock at No. 1 took bonds for their work, and by a new issue of mortgage bonds in 1853 (\$125,000), the Company was enabled to pay for the lock at No. 2, carry on the extension, and thus to pay, out of the earnings, its first cash dividend of four per cent. in July, 1853.

Though the toll on coal over the entire Navigation was but \$2.91 per 1,000 bushels—less than one-fourth of the rates, for the same distance, on the Schuylkill Navigation, which had been made the standard by the Act of 1836—some malcontents on the upper pools raised, in 1848, a loud cry of complaint. Having “fired” the public mind through the press, town meetings were convened; at which long and learned arguments were read to prove from Vattel, the Ordinance of 1787, and the sayings of English and American Judges, that because the Creator had made the Monongahela with shoals and ripples, over which, sometimes for months, for some good and wise reason, so little water flowed as to prevent navigation, therefore it ought to be *free*; and the Commonwealth had no power to authorize dams and locks to be put upon it to overcome those obstacles, and allow their use to be paid for; or, if allowed, they must be so many and *so low* as to be jumped over when the river was high. They demanded that the dams be cut down to 4½ feet. “If the high dams are suffered to remain as they are,” they gravely foretold, “the coal land up the river will never be of any value”! Rival aspirants for official honors harangued the masses upon these radical doctrines. The Legislature of 1839, the Company and its officers, were drenched with torrents of denunciation. The Legislature of 1849 was appealed to, in printed pamphlets, for redress. The result was that the Company consented, in consideration that no further reduction of tolls on coal should be asked until its existing debts were paid, nor so as to disable dividends of eight per cent. per annum to be made to the stockholders, to reduce the tolls upon the pools 3 and 4, on coal in flatboats intended to go down the Ohio, to one-half of the then rates on those pools, so that such lading could pass from Brownsville to Pittsburgh for \$2.46½ per 1,000 bushels, instead of \$2.91; and the Legislature so enacted, by Act of March 21, 1849. But the dams were not razeed. The coal owners found their lands rising rapidly in value, even on the

“upper pools.” The agitation gave no offices. The people came to their right mind. The storm abated, and “there was a great calm;” which, happily, has continued unto this day, with but inconsiderable interruptions, such as are incident to every great branch of business. The relations of the Company with coal owners and transporters could not be more harmonious.

In consideration of the company's loss on capital stock, and its large excess of expenditure beyond its stock below Brownsville, and its consequent indebtedness, the extension of the work above that place had been postponed, from time to time. However, in 1843, the success of the enterprise and the interests of Greene and Upper Fayette began to call loudly for the extension. The Legislature, therefore, by Act of February 9th, 1848, authorized a new opening of books to take stock in the five counties bordering on the river, to the amount of \$200,000; to be expended on additional locks and dams above Brownsville. The books were re-opened accordingly, but without any results.

The same Act (of February 9th, 1848) authorized books to be opened in Pittsburgh, to take stock to pay the debt incurred for the work below Brownsville, in excess of what pre-existing stock had paid. This, too, was done without any increase. And, as the earnings of the work had been taken, and must continue to be taken to pay that indebtedness, the Legislature, by the same Act, very justly, authorized the Company, in the event of failure to obtain the new stock, to double the stock of existing stockholders, and credit to each share its proportion of earnings used and to be used in paying that indebtedness. The stock was doubled accordingly in 1848.

The \$50,000 of stock of the Bank of the United States had been acquired in 1848, after a protracted litigation with an adverse claimant, by some of the members of the firm of Moorhead, Robertson & Co.; and it was ascertained that the entire stock was \$260,600, the doubling of which brought the stock up to \$521,200.

Of the original stock, 312 shares had been acquired by the Company by purchase and forfeiture for non-payment. These sold in 1852 at \$75 per share; and at the end of this year the authorized credits paid the duplication in full. All this, however, have to the Company no *actual* increase of its available means,

which was what was sorely wanted. In the fall of 1853, a renewed effort to obtain stock, in Fayette and Greene, to extend the work, was determined upon. And to encourage the effort, some additional stock was subscribed in Pittsburgh. The effort was earnestly pressed, but with no better success than before.

Notwithstanding these failures, the Legislature, upon the precedent of Pharaoh requiring the Israelites to make brick without straw, by Act of January 25th, 1854, made it imperative upon the Company to put locks and dams Nos. 5 and 6 under contract, and have them completed—No. 5 before June 1st, 1855, and No. 6 before December 1st, 1855. The Improvement to the State line was required to be completed before December 1st, 1857; but this requirement was relaxed by Act of April 8th, 1857, so as not to require No. 7 to be begun until locks and dams to carry the work from the State line to Morgantown should be put under contract, and with the completion of which No. 7 was to be cotemporaneous.

In compliance with the Act of January 25th, 1854, the Company promptly put Nos. 5 and 6 under contract—No. 5 just above Watkins' bar, two miles above Brownsville, to Burns & Ross; and No. 6, at Rice's Landing, ten miles further up, to Messrs. Dull. They were ready for use in November, 1856. Their cost, including raising Dam No. 4 and some dredging, was nearly \$200,000. They have never yet paid any per centage upon their cost. Repairs and attendance of the locks have absorbed the entire receipts.

At the end of 1856, construction account, including extension, damages, interest, repairs, &c., amounted to \$850,598, leaving the Company in debt about \$217,000. Since 1856, the former account has been gradually increased by improvements, repairs, &c., and the latter gradually diminished; so that at the end of 1872, construction account stands, \$1,146,038.69, and mortgage debt, \$110,000.

The second section of the Act of January, 1854, already referred to, authorized a *pro rata* distribution in stock, from time to time, to stockholders, of amounts expended in construction and debt incurred therefor, beyond the duplication under the Act of 1848. Under these provisions, and new subscriptions in 1853, 1855 and 1856, the capital stock has grown to \$1,004,150 on January 1st, 1873.

When the Slackwater of the Youghiogheny was being constructed large expectations were indulged as to its auxiliary influence. They have not been realized. Whether from defectiveness of construction, or from miscalculation of the mighty power of the floods and ice in that river, the locks and dams upon it—two carrying the Navigation to West Newton, eighteen miles—were of short duration. They lasted for only fourteen years, with long intervals of uselessness for lack of repair; and the great ice flood of January, 1865, put an end to them. They are now in ruin, and the charter of the Company extinct. But the vast and valuable coal and lime fields, and sand and rock hills which border it, demand their reconstruction (which will doubtless soon be done), and in a manner to be enduring. The “Yough” sent to Ohio its first colony of settlers. It is a narrow, tortuous, and sometimes rugged stream; but it was made for more than a pathway for a railroad.

It is a consolation to know that its aid has not been needed to keep the Monongahela Navigation in employment. Though with a capacity, below the “Yough,” to lock through a hundred pairs of boats in twenty-four hours, it seldom, during boat freshets, has an hour to spare. When some pools are provided in the upper Ohio, it will have more leisure to devote to its Youghiogheny friends.

Floods, unattended by ice, have been, sometimes, very mischievous. Since the flood of 1843, which in the end made such havoc of Dam No. 1, the worst have been the two, of seven days each, in April, 1852, which entirely submerged the Works, carrying away the office-houses at Nos. 2 and 3, and doing great injuries to the locks, and that of May, 1856, which swept out about two hundred feet of Dam No. 2. In May, 1858, occurred a greater flood than that of 1852, but it did little harm to the Works. When attended by ice they are often fearfully destructive, and seem to be becoming yearly more and more so, baffling all the care and skill of the Company and its officers to defend the Works against their ravages. That which occurred in January, 1865—the same which tore out the two dams on the Youghiogheny—made great havoc of Dam No. 4. But the fiercest assaults (unless those of 1873 shall surpass them,) were those of 1867 and 1868—the former carrying off the heaviest ice formed for twenty years—greatly injured Dams Nos. 2 and 6, and the Locks at Nos. 4 and 5. That in 1868 did like harm to Dam No. 2. The repair account of 1867 exceeded

\$70,000, and that of 1868 ran to nearly \$66,000. Altogether, since 1846, *repairs* have cost \$473,493.27, constituting over forty-one per cent. of the entire construction account. Since the second year of the Rebellion era the enhanced prices of labor and materials, added to other causes, have trebled the cost of attendance and repair.

In addition to these exhausting burdens upon the Company's revenues, it is taxed at all points. Since 1863 it has paid to the United States, in taxes upon its dividends, \$35,662.26. And beginning with 1850, it has paid to the *State*, out of its earnings, in taxes upon its capital stock (dividends), coupons of its bonds, and its gross earnings, \$74,447.53; besides \$74,639.21 of tax upon its transportation, called "Tonnage Tax," of which the State made it the collector, without compensation. After five years of exaction, this most unjust tax was abolished. The State has therefore got back from the Company and its business, in direct taxation, more than it subscribed in stock, and nearly twice as much as the Company realized from its subscriptions! A more startling fact is, that, while the aggregate of tolls received by the Company, beginning with 1845 (prior to which year they were inconsiderable, and absorbed in incidental expenses), and ending with 1872, is \$2,758,353.97, the sum of its cash dividends to its stockholders has been only \$944,649, a little more than one-third of its earnings; the other two-thirds, besides cash capital stock, having been absorbed in construction, repairs, interest, taxes, and expenses of attendance and management! Add to this its funded debt (\$110,000), and deduct what has been set off to account of construction (\$1,146,038.69), and a tolerably proximate estimate may be made of the Company's current expenses. It, however, has lived, through trials and troubles, for nearly one-third of a century; and, unless the elements become more hostile than they have been, it will continue to live. Its prosperity is grounded not merely upon the preservation of its existing works, but upon the treasures of the everlasting hills which sustain them, and which would soon renew them if destroyed. Those treasures are but beginning to be developed; and the Company has fully proved its readiness, and always beyond its ready means, to keep abreast of the increasing demands upon them, by extending, enlarging and strengthening its works.*

* We cannot forbear here to quote from the Report of Sylvanus Lothrop, the Company's Engineer, made to the President and Managers, in January, 1847:

It should not be supposed, because of the frequent and costly breaches which have occurred in the Company's works, that therefore they have been carelessly or defectively constructed. Their general plan and materials were such as were commended by all the experience and science of the times ; and subsequent experience has shown them to be the best, although in some minor details not involving their stability, improvements have been made. The goodness of the materials used is beyond question ; and all the dams, and all the locks, were constructed under the vigilant personal supervision of skilful and experienced engineers and assistants.* But

“Although but two years old, and just beginning to struggle into notoriety as an avenue for the trade and travel between the east and the west, it has already yielded a revenue which, after paying expenses, ordinary repairs, and interest upon its large debt, exhibits a surplus equivalent to about eight per cent. upon its whole capital stock. This, I am inclined to think, is without an example in the history of our public works ; and may perhaps be mentioned without offence as a most striking commentary upon the supineness and indifference, and apparent want of sagacity which, a few years ago, while running after chimeras, would, but for the enterprise of a few public-spirited individuals, have suffered this great work, the most important to this city which has ever been constructed, to perish for the want of a few thousand dollars. It is a remarkable fact that with so many unanswerable arguments to recommend it to, and enforce it upon the public attention, no work in the country has ever encountered greater obstacles than this. Instead of being, as it ought to have been, fostered by our citizens and hailed by the inhabitants of the Monongahela Valley as a blessing to themselves, it met with nothing but the most chilling regards from the one, and with either the most violent prejudices, or the most determined hostility from the other. And yet it has already lived to subdue and triumph over both. * * * It is now, I am happy to say, among the most popular of all our public improvements. Its present advantages are already universally felt ; while its future is rapidly unfolding in prospects as flattering to the land-holder of the Monongahela, as to the owners of the Improvement themselves.”

* W. Milnor Roberts was the Company's Engineer in the plans of Nos. 1, 2, 3 and 4, and supervised the construction of the dams and old locks of Nos. 1 and 2, in which his assistant was Nathan McDowell.† The inceptive construction of Nos. 3 and 4 was under the same direction, and supervised personally by Geo. W. Cass. No one who knows these men will challenge their competence or vigilance. The completion of Nos. 3 and 4, the general repair of Nos. 1 and 2, in 1843-'4 and '5, and the plan and construction in 1854-'5 and '6 of Nos. 5 and 6, were executed under

† This most worthyman was seriously injured in the passage of the first steam-boat through Lock No. 1, in Oct., 1841. He seemed to have recovered from it, but it hastened his death in ——. His son, N. M. McDowell, now chief engineer of an Indiana railroad, has also done the Company some service. He gives promise of eminence in his profession.

water seems to delight in revenge upon all obstacles to its natural flow. It is both insidious and open in its attacks. It penetrates unseen, and what it cannot overwhelm it undermines. Its most amazing and frequent, though not most disastrous inroads upon the Company's works, have been under the walls and floors of the locks, demanding repeated and most searching repair. And yet the lock walls have maintained their positions and integrity from the beginning without serious injury. That the dams have not enjoyed like immunity is attributable not to inherent defects in their construction, but to the inherent forces of flood and ice, which have pushed rocks from their bases and made sand-bars of once cultivated islands. No structure of man, certainly none of wood and stone, has yet been devised which can come out of a direct, continuous combat with them otherwise than with wounds and fractures.

A pleasing feature of the Company's history is, that it has escaped one of the misfortunes and absorptions of revenues which has become but too common with corporations having moneys to collect and disburse. It has never lost anything by the defalcation or embezzlement of any of its officers or agents; and its losses of its rightful dues from any cause have been inconsiderable. On all hands it has had to do with men of more than average soundness, morally and moneyly.

It is so obvious as hardly to justify its mention here, that much of this Company's success and efficiency is owing to the energy, skill and unceasing vigilance of its President. It is no detraction from the fortitude and faith of his departed predecessors, who led it through the perils of its early history, to say that he had much to do in the inauguration of the plan which extricated it from those perils. Intimately and practically acquainted with the construction, preservation and management of its works from the beginning, it is not enough to say of him, that his large interests in it have been the motive of his care, for he has ever shown a generous regard for the interests of all who have rights in its uses and revenues. Is a defect

the engineering of the late Sylvanus Lothrop, who was never known to permit any work under his control to be otherwise than well done. In the construction of Nos. 5 and 6, his assistant was Mr. Charles Stewart, of Lycoming, who gave to the work his constant supervision, and who, upon the failure in health of Mr. Lothrop, became Chief Engineer in their final completion.

in its laws to be remedied, or a wrong to be redressed requiring legislation? He procures it to be done. Is a repair needed? He goes right at it, leading his efficient corps of subordinates, into whom he transfers his spirit. Are tolls to be modified, and increased facilities for the safe and steady use of the Navigation to be made? He invokes the counsel and co-operation of the Board, and they are modified and made accordingly. Indeed, so completely has he become identified with the "Slackwater," that it has given to him his most familiar sobriquet. But he is growing old. It cannot be long--long *may* it be--until a serious question will be, Who can be got to take his place?

Nor must subordinates in the care and operation of the works be overlooked. Their integrity has been already noted. But that is not all of their merits. The duties they perform demand constant attention, and are often specially exhaustive of both mind and muscle. But they shrink not, though they cannot but sometimes tire. The positions of lock-tenders are responsible; and the best commendation that need be given of those who are filling and have filled those positions is, that, almost without an exception, they have been allowed to keep their places as long as they wished to stay, or were able for the duties demanded. The office of Cargo Inspector, whose duties are to keep ward and watch over shipments, supervise, audit and condense the accounts of lock-keepers, and make report, monthly, to the Board, of the business of the entire Navigation, is one of vital importance, and its duties have been well performed. William McElroy, senior, was the first Cargo Inspector. He had for several years previously been the State Collector of canal tolls in Allegheny City, and to him the Company is mainly indebted for its admirable system of keeping account, issuing clearances, permits, &c, at the locks. He was appointed in 1845, and died in —. He was succeeded by his son, William McElroy, Jr., who retained the position until April, 1865, since which time the office has been filled by Samuel L. Connell for the next year, by Capt. Wm. J. Moorhead for the two succeeding years, and by Benjamin L. Wood, Jr., since April, 1868.

No one having knowledge of the frequent disasters to the Company's works and their constant decay, will doubt the need of a first rate man for Superintendent of Repairs. Such was found in Thomas McGowan, who, for more than twenty years prior

to April, 1865, served the Company in that and in other arduous positions. And of his successor, the present incumbent, Elisha Pancoast, it is enough to say, as was said by the President in his report of January, 1872, "he is admirably fitted for his position."*

The works of this Company, when completed to the State line, will extend upon less than half of the improvable length of the Monongahela river. It rises in the western slopes of that high cluster of mountains which now form the border lands of Virginia and West Virginia, and in which the James, the Kanawha, the Shenandoah and the Cheat have their sources. Its longest branch is the Tygart's Valley river, which rises in Randolph county, on which are Beverly, Phillippi and Grafton, and an important affluent of which is the Buckhannon river, which rises in Upshur county, and on which is the thriving town of Buckhanonn, which aspired to be the capital of the new State. Its other chief branch, and that which is considered the Monongahela proper, is the West Fork, which rises also in Upshur county, and on which are Weston, in Lewis county, and Clarksburgh, in Harrison county. These two great branches unite near Fairmont, in Marion county, some thirty miles above Morgantown. At present the effort in West Virginia is to carry the Improvement to that place, where it will intersect the Wheeling branch of the Baltimore and Ohio Railroad. Ultimately it may be extended to Clarksburgh, some ninety miles from the State line, and even to Weston, some forty or fifty miles further. All of these branches drain a fertile but hilly country, and are without any great falls to break the continuity of their navigation. Their borders are rich in ores and minerals, and in forests of some of the finest timber in the nation.

Like all our rivers which flow through hills, the upper, no less than the lower reaches of the Monongahela, are subject to sudden high floods and to long continued lowness. But its banks are high,

* The experienced engineer, W. Milnor Roberts, then in charge of the Ohio River Improvement, in the summer of 1868, during the absence of the President of the Company in Congress, at his request supervised the repair of Dam No. 2, occasioned by the great breach of the preceding May. In a letter to the President, referring by name to Capt. B. L. Wood, Thomas McGowan and Mr. Pancoast, under whose combined direction that repair was made, he says, "If you could always secure the services of such men as you have on that work, you would not require much engineering or other supervision. * * * I have never seen any repairs of the sort better managed in every department, from the beginning to the end."

and its channel not too wide to disable its pools from being enduring reservoirs, notwithstanding the longest known seasons of constant evaporation. Striking features of the river are, that the plane of its ascent and its banks increase in proportion as its channel contracts towards its sources. From Pittsburgh to Brownsville its average ascent is but a little over seven inches per mile; from Brownsville to the State line it is over fourteen inches, and from the State line to Morgantown—about eleven miles—it is over seventeen inches per mile. Its banks rise in about the same ratio. Dam No. 7, at Jacobs Creek lower ripple, some two miles below Geneva and Greensboro, will not exceed 450 feet of overfall, and may be made sixteen feet high, which indeed it must needs be, to put slackwater to a suitable site for a dam, about a mile above the State line.

It is thus seen that the works of this Company in Pennsylvania, when Dam No. 7 is built—which it may soon have to be—will consist of seven dams, with the requisite locks, the dams and the lift of the locks ranging from eight to sixteen feet, in all about $77\frac{1}{2}$ feet, their respective heights being 8, 8, 8, 10, $13\frac{1}{2}$, 14 and 16 feet.

It is difficult to describe in writing the works of the Navigation. Even seeing them gives but an imperfect conception of their massiveness and mode of structure. An attempt may not be wholly a failure.

The dams are constructed of logs, squaring at least a foot, built up perpendicularly from the bed of the river to near the water level, when they begin to slope, on both sides, to the comb, after the manner of an old-time log cabin. They are tied together by cross timbers parallel with the line of the river, bolted to the longitudinal timbers so as to form a net-work, with interstices of seven by nine feet, filled with stone. Their breadth at the base is about 65 feet; their depth below the slopes, as originally built, is from three to six feet, though, by reason of breaches, they are now much deeper in places.* Dams 1 and 2 run straight across the river. No. 3 is in three straight lines of unequal length—the middle one 280 feet, the

* It required more stone (14,297 cubic yards) and timber to repair the great breach of May, 1868, in Dam No. 2, than were used in its original construction, by reason of the washing out of the bed of the river, which is generally an incompact conglomerate of sand and rounded gravel. The breach of 1843 in No. 1 required to fill it, in the language of Mr. Lothrop, the engineer, "an immense mass of timber and stone that no power can remove." And generally, if not uniformly, such repairs have never had to be repeated.

other two aggregating about 420 feet—the middle one being at right angles with the channel, the other sloping from it downwards to the shores, about 22 feet from the line of the middle part. Dam No. 4 is a segment of a circle—about 605 feet in length—curves up stream, having a versed sine of 15 feet. Dams 5 and 6 are also segments of a circle, with the convex sides upwards, and are each about 600 feet long. These, by reason of their increased height, $13\frac{1}{2}$ and 14 feet, have the longest slopes on the lower sides. The others slope about equally above and below—from three to four feet of slope to one foot of rise. They are sheeted above with double courses of oak plank, closely laid, five inches thick, spiked to the timbers, and covered with gravel. The sheeting below is of heavy oak timbers, or spars, flattened to eight inches and spiked to the crib timbers. The dams are further secured at their ends by high, strong cribs filled with stone, and above by double courses of heavy sheet piles, driven vertically into the bed of the river to such depth as to be secure anchorage to the entire structure. In some cases, since their original construction, piles have been driven in below, vertically, and above, slopingly. Dam No. 7 will be on rock, and will be otherwise fastened.

The locks first built in Dams 1 and 2, also those in Nos. 3 and 4, are 190 by 50 feet in the chambers, between the points or mitres of the gates, and the side walls. The entire length of the walls is 252 feet, and their height about 25 feet. They are 10 and 12 feet thick, built of heavy blocks of dressed stone, laid in hydraulic cement and securely clamped. Except those at Nos. 1 and 6, which have rock bases, they are built upon heavy oak timber, deeply laid and covered with heavy oak plank. Each of the old locks contains over 5,300 perches of stone. The new ones have proportionally more. These are 250 by 56 feet in the chambers, built in other respects as were the old ones. The locks in Nos. 5 and 6 are of the size of the old ones in Nos. 1 and 2. All the locks are guarded by substantial cribs and fenders, above, below and at their sides. They are constructed so as to allow at least five feet of water above the mitre cills, against which the gates close at their lower entrances. The locks are floored with heavy longitudinal timbers, covered with heavy plank, well spiked.

Since the Works were first put in use experience and skill have taught great improvements in the modes of emptying and filling the

locks, and of working the gates. The objects were speed, ease and security. At first the water was let in and discharged by sluices in the lock walls and floors of the chambers, and the gates were worked by rollers at their bottoms, running upon arcs of iron railways, and moved by sheaves, chains and crabs. The water is now let in and out by series of wicket gates at the lower ends of the gates, fitting closely and worked by rods and levers. The gates—their tops working in wing journals, securely fastened to the walls, and their feet on pivots—are worked by capstans on the walls, with chains and heavy wooden spars or levers.

For some time past the increasing coal trade of the upper pools, especially the third, has been calling for another enlarged lock in No. 3. To facilitate the passage of boats in high freshets, a chute, designed to be self-working, was authorized to be inserted in Dam No. 1, by Act of May 20, 1864. For this the Company has been preparing, and will consummate it, if not deterred by the ice floods, whenever a satisfactory design can be agreed on. These improvements, with the additional dam and Lock No. 7, will be exhaustive of the Company's resources for some time to come. They can only be justified by the increasing demands of the coal trade, and increasing revenues therefrom. In justice to the Company, and in requital for what it has done and is expected to do, the restrictions upon its tolls, imposed by the Acts of 1848 and 1849, ought to be removed, and they allowed to be adjusted to the times and exigencies of the business, as other things are.

The great obstacle to an extended increase of the Company's revenues, and the usefulness of its Works, is the want of deeper water in the upper Ohio, during an average of four months in the year. That stream is a national one, and its improvement is a national object. When the national Congress shall come to so regard it, and put upon it improvements, the use of which by navigators will put them to no greater expense than what they now endure by inaction, delays, guarding their cargoes, uncertainties and exposure to losses by having to run in hazardous seasons and stages of the river, the value of the Monongahela Navigation to its stockholders, and to the shippers and consumers of coal, will be incalculably enhanced. This done, as it will be, and the canal to Lake Erie made of a capacity to carry coal, as it should be, and the fuel that will come

from the Monongahela and its tributaries may be made to warm the habitations and run the manufactories of half the continent ! But this is not history, yet.

Appended are some tables, which are realities. They are strong enough to sustain any amount of speculation in which the reader may incline to indulge.

SHIPMENTS OF COAL, &c.

Through the Monongahela Navigation Company's Locks, since November 11, 1844.

Year	POOLS.					Totals in Bushels.	Tolls.
	No. 1.	No. 2.	No. 3	No. 4.	No. 5		
1844	737,150	.....	.....	.....	.....	737,150	\$ c.
1845	2,527,879	1,328,604	314,342	434,360	.....	4,605,185	5,283 79
1846	3,167,528	3,001,639	767,708	752,036	.....	7,778,911	10,221 28
1847	3,377,703	4,188,258	1,227,201	851,905	.....	9,645,127	13,241 04
1848	3,536,761	3,986,643	1,436,666	859,291	.....	9,819,361	12,438 43
1849	2,944,044	4,420,347	1,434,723	909,393	.....	9,708,507	13,533 39
1850	3,988,200	5,540,470	1,862,548	906,749	.....	12,297,967	17,023 57
1851	4,105,624	5,846,168	1,769,302	800,134	.....	12,521,228	17,850 24
1852	4,797,704	7,188,539	1,736,622	907,976	.....	14,630,841	20,014 18
1853	5,372,732	7,325,062	2,015,250	1,003,323	.....	15,716,367	21,291 86
1854	4,756,263	9,251,532	2,006,633	1,317,518	.....	17,331,946	25,079 51
1855	6,829,282	11,485,072	2,633,555	1,286,100	.....	22,234,009	31,050 58
1856	3,910,978	3,213,740	1,031,613	427,764	.....	8,584,095	10,566 42
1857	7,859,775	17,255,226	2,731,959	1,126,636	.....	28,973,596	37,111 41
1858	7,082,600	15,143,868	2,500,025	970,176	.....	25,696,669	34,353 49
1859	7,591,500	15,732,845	3,469,137	1,493,189	.....	28,286,671	39,085 65
1860	10,550,384	20,861,200	4,878,704	1,603,344	54,100	37,947,732	52,082 17
1861	4,483,717	11,495,900	3,595,705	1,290,400	.....	20,865,722	30,945 02
1862	4,801,856	10,094,100	2,739,500	948,500	.....	18,583,956	26,709 29
1863	5,935,392	14,182,600	4,481,810	1,844,450	.....	26,444,252	40,532 08
1864	7,202,175	18,415,700	6,549,700	2,903,342	.....	35,070,917	61,384 29
1865	8,013,692	19,132,400	8,915,600	3,402,200	58,900	39,522,792	69,608 48
1866	8,813,200	23,064,500	7,577,600	3,059,100	100,900	42,615,300	77,811 26
1867	6,139,200	16,075,200	5,555,200	2,274,900	28,200	30,072,700	54,855 63
1868	8,796,400	23,802,700	7,622,600	5,072,500	9,800	45,301,000	91,376 38
1869	8,868,900	29,129,800	8,988,400	5,501,900	23,600	52,512,600	104,936 01
1870	8,070,700	32,132,000	10,012,400	7,361,300	20,000	57,596,400	118,705 68
1871	6,966,200	27,348,700	8,300,400	6,006,000	.....	48,621,300	100,338 64
1872	8,989,000	28,614,500	9,176,000	7,429,300	.....	54,208,800	115,609 20
Totals	170,216,539	389,347,313	115,330,903	62,743,846	292,500	737,931,101	\$1,253,041 37

At 100,000 bushels per acre, this aggregate will make 7,380 acres (nearly) run out in twenty-eight years; of which 258,240,100 bushels—more than one-third of the whole amount—have been run in the last five years, averaging 516 acres per year! But little has come from the long pool of No 4 (over 17 miles), but a trifling amount from that of No. 5, where it abounds, and none from above Dam No. 6, where it is still more abundant, as well in West Virginia as in Pennsylvania.

PASSENGER BUSINESS.

Year.	Between Pittsburgh and Brownsville.		Between Brownsville and Geneva.		Tolls.
	Through.	Way.	Davidson's	Geneva.	
1845	22,727	20,675	.....	.....	\$ 8,122 03
1846	34,984	30,268	.....	.....	12,680 55
1847	45,826	39,777	.....	.....	16,674 25
1848	47,619	51,739	.....	.....	18,271 79
1849	35,158	56,004	.....	.....	15,337 85
1850	38,988	77,351	.....	.....	18,702 30
1851	32,115	98,123	.....	.....	19,299 85
1852	25,613	88,233	.....	.....	17,011 01
1853	22,181	87,599	.....	.....	16,114 14
1854	23,104	75,675	.....	.....	15,019 50
1855	21,126	76,391	.....	.....	14,753 20
1856	7,434	27,345	193	133	5,288 36
1857	17,210	67,860	2,517	679	12,483 49
1858	13,851	64,066	2,468	1,872	11,289 95
1859	15,245	65,692	1,992	1,496	12,077 67
1860	15,704	79,967	1,412	1,880	13,735 95
1861	13,101	51,793	2,689	3,553	10,885 41
1862	13,516	43,574	2,597	4,118	10,019 60
1863	18,337	78,407	3,782	5,720	13,081 63
1864	25,940	124,225	9,375	4,982	23,757 54
1865	24,539	110,899	9,544	8,792	22,267 84
1866	26,798	105,742	11,304	8,201	22,856 08
1867	18,598	83,688	7,097	4,531	16,677 09
1868	21,071	78,563	7,616	4,295	17,023 07
1869	20,593	97,737	6,988	3,930	18,299 63
1870	21,624	99,281	7,886	4,126	19,067 48
1871	14,139	55,879	5,340	3,162	11,672 82
1872	15,814	53,149	5,236	3,278	12,175 68
					\$424,646 35

AGGREGATES OF RECEIPTS, YEARLY,

From the several Sources.

Year.	Coal, Coke, &c.	Other Freights.	Passengers.	Totals.
1845	\$ 5,283 79	\$ 15,173 88	\$ 8,122 03	\$ 28,579 70
1846	10,221 28	20,520 56	12,680 55	43,422 39
1847	13,241 94	24,345 71	16,674 25	54,261 90
1848	12,438 43	25,913 71	18,271 79	56,623 93
1849	13,533 39	24,875 09	15,337 85	53,746 33
1850	17,023 57	28,587 95	18,702 29	64,313 81
1851	17,850 24	28,824 52	19,299 85	65,974 61
1852	20,014 18	30,493 41	17,011 61	67,519 20
1853	21,291 86	25,260 91	16,114 14	62,666 91
1854	25,079 51	23,399 99	15,019 50	63,499 00
1855	31,050 58	27,250 60	14,753 20	73,054 38
1856	10,566 42	17,454 32	5,288 36	33,309 10
1857	37,111 41	31,658 29	12,483 49	81,253 19
1858	34,353 49	27,455 29	11,289 95	73,098 73
1859	39,085 65	32,635 19	12,077 67	83,798 51
1860	52,082 17	34,083 49	13,735 95	99,901 61
1861	30,945 92	20,975 30	10,885 41	62,806 63
1862	26,709 29	25,675 04	10,019 60	62,403 93
1863	40,532 08	33,560 31	13,081 63	87,174 02
1864	61,384 29	53,939 38	23,757 54	139,081 21
1865	69,608 48	60,979 01	22,267 84	152,855 33
1866	77,811 26	69,520 96	22,856 08	170,188 30
1867	54,855 63	54,854 73	16,677 09	126,387 45
1868	91,376 38	60,892 45	17,023 07	169,291 90
1869	104,936 61	72,064 36	18,299 63	195,300 60
1870	118,795 68	80,119 27	19,067 48	217,892 43
1871	100,338 64	62,239 13	11,672 82	174,250 59
1872	115,609 20	67,913 40	12,175 68	195,698 28
	\$1,253,041 37	\$1,080,666 25	\$424,646 35	\$2,758,353 97

RECEIPTS

Yearly from all sources at the several Locks, and Totals.

Year.	No. 1.	No. 2.	No. 3.	No. 4.	No. 5.	No. 6.	Totals.
1845,	\$16,640 80	\$ 3,464 38	\$ 1,769 07	\$ 6,725 45	.....	.....	\$ 28,579 70
1846,	24,609 56	6,735 11	3,173 06	8,904 66	.....	.....	43,422 39
1847,	30,582 30	8,307 05	3,759 72	11,612 83	.....	.....	54,261 90
1848,	34,271 21	8,256 30	4,346 61	6,749 81	.....	.....	56,623 93
1849,	30,396 06	10,009 25	4,114 84	9,226 17	.....	.....	53,746 32
1850,	37,456 64	11,731 80	5,709 25	9,416 12	.....	.....	64,313 81
1851,	38,489 82	13,109 85	4,878 02	9,496 92	.....	.....	65,974 61
1852,	36,483 09	15,311 31	5,316 06	10,408 74	.....	.....	67,519 20
1853,	34,173 97	13,924 52	5,313 80	9,254 62	.....	.....	62,666 91
1854,	31,745 90	16,538 55	5,103 98	10,110 57	.....	.....	63,499 00
1855,	36,591 62	20,283 47	7,163 13	9,016 16	.....	.....	73,054 38
1856,	16,117 54	7,196 41	2,975 54	6,580 89	\$ 209 63	\$ 229 09	33,309 10
1857,	33,600 68	27,128 96	6,876 09	8,545 94	3,365 99	1,735 53	81,253 19
1858,	31,643 73	24,529 81	5,797 18	5,713 74	1,695 98	3,718 29	73,098 73
1859,	35,792 63	26,524 35	8,360 09	8,188 62	1,510 35	3,422 47	83,798 51
1860,	40,708 67	33,914 68	11,592 45	8,443 72	2,228 94	3,013 15	99,901 61
1861,	24,095 35	18,650 05	8,405 85	6,608 15	2,859 32	2,187 91	62,806 63
1862,	24,990 76	16,447 37	7,668 83	7,099 49	2,729 26	3,468 22	62,403 93
1863,	34,627 81	24,870 06	11,106 00	9,810 43	2,533 01	4,226 71	87,174 02
1864,*	60,367 03	43,895 30	21,686 33	14,662 06	2,770 79	4,743 90	139,081 21
1865,*	70,425 26	56,538 15	32,489 19	17,833 42	1,476 36	6,207 80	152,855 33
1866,*	81,235 01	68,458 19	28,961 32	17,572 06	1,727 28	8,168 44	170,188 30
1867,*	59,143 26	49,831 20	20,462 13	14,563 52	2,392 25	5,630 34	126,387 45
1868,*	66,348 57	55,017 16	24,405 65	22,652 31	1,762 21	6,604 44	169,291 90
1869,*	75,382 66	72,257 67	30,739 03	26,391 75	1,755 45	7,147 12	195,300 60
1870,*	76,792 58	81,825 48	32,226 58	30,926 69	2,274 79	8,452 36	217,892 43
1871,	55,341 02	61,139 10	24,059 97	24,113 64	2,079 65	7,517 21	174,250 59
1872,	63,534 44	68,518 02	27,109 85	28,275 06	1,373 65	6,887 26	195,698 28
							\$2,758,353 97

* The *totals* for these years are the true or net amounts of tolls received by the Company; but the amounts set to each lock are subject to reduction for their pro rata proportions of the "Tonnage taxes" collected for the State, which are included in the returns from the locks; to extract which would not now be worth the time required to make the calculation. The amounts of those taxes, so included, were as follows:

	On Coal, &c.	On other Freights.	Totals.
1864,†	\$ 6,826 35	\$2,217 85	\$9,044 20
1865,	28,897 82	3,217 03	3,114 85
1866,	31,649 13	4,284 87	35,934 00
1867,	22,257 02	3,383 23	25,640 25
1868,‡	3,952 47	3,545 97	7,498 44
1869,‡	14,492 44	3,880 64	18,373 08
1870,†	14,121 53	484 52	14,606 05
			‡ \$143,210 87

† The Act of Assembly imposing the tax went in force September 10, 1864, and was repealed by Act of March 31, 1870.

‡ From March 31, 1868, to June 30, 1869, no tax was collected on coal and freight going out of the State.

† Of this amount \$74,639.21 was paid to the State, the residue was disposed of as in Company's Report of January, 1871.

OFFICERS

*Of the Monongahela Navigation Company, from its Organization in 1837
to 1873, inclusive.*

PRESIDENTS.

*JAMES CLARKE, - - - - -	February, 1837, to October, 1840.
*THOMAS BAKEWELL, p. t., - - - - -	October, 1840, " January, 1841.
* do. - - - - -	January, 1841, " October, 1841.
*WM. EICHBAUM, p. t., - - - - -	October, 1841, " January, 1842.
* do. - - - - -	January, 1842, " January, 1844.
*SAMUEL R. JOHNSTON, - - - - -	January, 1844, " January, 1845.
*JOHN B. BUTLER, - - - - -	January, 1845, " July, 1846.
JAS. K. MOORHEAD, p. t., - - - - -	July, 1846, " January, 1847.
do. - - - - -	January, 1847,

TREASURERS.

*JOHN D. DAVIS, - - - - -	February, 1837, to January, 1844.
THOMAS M. HOWE, - - - - -	January, 1844, " January, 1854.
WM. B. COPELAND. - - - - -	January, 1854, " January, 1864.
WM. BAKEWELL, - - - - -	January, 1864,—

SECRETARIES.

JESSE H. DUNCAN, - - - - -	February, 1837, to January, 1838.
BENJAMIN PATTON, Jr., - - - - -	January, 1838, " July, 1839.
*NATHAN McDOWELL, p. t., - - - - -	July, 1839, " January, 1840.
S. F. VON BONNHORST, - - - - -	January, 1840, " October, 1840.
*CHAS. VON BONNHORST, p. t., - - - - -	October, 1840, " January, 1841.
*THOMAS LIGGETT, Jr., - - - - -	January, 1841, " January, 1843.
WILLIAM BAKEWELL, - - - - -	January, 1843,—

MANAGERS.

NOTE.—The figures prefixed indicate the year when first elected. The figures annexed indicate the number of times elected, which, however, were not always in successive years. One star prefixed (as well to these names as to those of the officers) signifies deceased, so far as known. Two stars prefixed means in office when they died.

Of these, Mr. John P. Bakewell died in 1842, Judge Jones in 1862, N. B. Craig, Esq., in 1863, Mr. Thomas Bakewell in 1866, and Mr. John Graham in 1869.

1837,...	**Thomas Bakewell,.....	25	1844,...	*John T. Logan,	3
"	*James L. Bowman,	4	"	*Rees C. Townsend,	8
"	John H. Ewing,	1	1846,...	**Neville B. Craig,	18
"	*John Freeman,.....	7	"	*Samuel R. Johnston,.....	6
"	*Cephas Gregg,	2	"	Jas. K. Moorhead,	1
"	*George Hogg,	3	1850,...	Wilson McCandless,	3
"	*John Lyon,	1	1852,...	**John Graham,	18
"	*John Tassey,.....	6	"	Reuben Miller, Jr.,	5
"	William Wade,	6	1853,...	Joshua Hanna,.....	14
"	Samuel Walker,.....	3	"	*Morgan Robertson,	2
1838,...	*William Eichbaum,	13	1855,...	**Samuel Jones,	8
"	*James May,	6	1856, ..	*George Darsie,.....	5
"	Lewis Peterson,	5	"	Adam Jacobs,	10
1839,...	*John L. Dawson,	27	1857,...	John Harper,.....	17
"	*Benedict Kimber,	1	1861,...	Isaac C. Woodward,	2
1840,...	*William F. Coplan,	6	1863,...	Felix R. Brunot,	11
"	John Taylor,.....	1	"	James Veech,	11
1841,...	*John Anderson,	13	1864,...	Wm B. Copeland,	5
"	Jas. W. Burbridge,	8	1865,...	M. K. Moorhead,.....	9
"	John F. Kelly,.....	5	1866,...	Nathaniel B. Hogg,.....	8
"	John Shipton,	5	1867,...	William K. Hart,.....	7
"	John Snowdon, Jr.,.....	1	"	M. Whitmore,.....	7
1842,...	George W. Cass,.....	23	1869,...	Benj. Bakewell, Jr.,.....	5
"	**Jno. P. Bakewell,.....	1	"	Daniel Wallace,.....	5
"	Edward Hughes,.....	4	1870,...	William Morrison,	4
1843,...	*Thomas H. Baird,.....	1			

