PENNSYLVANIA STATE CANALS.

The construction of an extensive system of public improvements by the great State of Pennsylvania was a matter of momentous importance both to the commonwealth and the nation.

By the act of 1824 and the supplementary legislation relating thereto, the debt of the State was ultimately increased to forty millions of dollars.

So firmly, however, did the enthusiastic capitalists of Pennsylvania believe in the financial success of the project in the beginning, that five per cent. State bonds, issued for the purpose, commanded a high premium when first offered for sale.

Hence the revulsion of public feeling, incident to the fall in the price of the securities to par, and their further downward course until these bonds were listed on the stock boards at thirty-three cents on the dollar, was a grievous disappointment to those sanguine citizens, for it threatened not only disaster to individuals but ruin to the credit of the State. It also demonstrated that for that time at least, politicians were not successful as promoters, constructors or managers of railways; a fact still further proven by the complete recovery of the State credit soon after the sale of these works to various corporations (1857) twenty-five years after their construction was fairly entered upon.

I shall in the pages that follow describe the construction of what were for many years known as “the Pennsylvania State works,” and record the events which afterwards led to their decadence and the sale of the Main Line to the Pennsylvania Railroad Company.

The interpretation of the constitution of the United States by Presidents Monroe and Madison, and by other statesmen of that period, to the effect that the authority to expend national funds for the construction of canals and railroads did not rest with the Congress except in time of war, put an end to the hopes of those friends of internal improvements who had favored the appropriation of money from the national treasury for this purpose, after the revival of business at the close of the war of 1812.

The extension of public works in which private capital could not be interested was then taken up by several of the States, notably New York, the construction of the Erie Canal being commenced as a State work in the year 1817.

To the shame of the State of Pennsylvania be it said that nearly seven years elapsed after that date before legislation of a similar character was enacted by the General Assembly of that commonwealth.

During the year 1823 great progress had been made in the construction of the Erie Canal in New York, and the necessity for the immediate construction “of a communication between the navigable waters of the Delaware and Ohio” became apparent even to the most conservative citizens of Pennsylvania, if that State expected to maintain her commercial prestige.

The Legislature of 1823-24 assembled at
Harrisburg on the second day of December, 1823; on February 10, 1824, the committee to whom the matter had been referred by resolution made a report recommending that a survey be made from the terminus of the Union Canal at Middletown to Pittsburgh, with a view to a continuous canal between those points. On the 17th day of February, 1824, a bill was introduced in the Legislature “Providing for the appointment of a Board of Commissioners for the purpose of promoting the internal improvement of the State.” This act, published in full in the Appendix, after passing through the usual stages of legislation, finally became a law on the 27th of March, 1824.

It should be noted that the Erie Canal was almost completed when the first bill pledging the credit of the State of Pennsylvania for the survey of a canal was passed by the General Assembly.

For thirty years—1790 to 1820—the State of Pennsylvania had been politically under the control of the Democratic party. In the latter year Joseph Heister, Federal, the defeated candidate of three years before, was elected Governor by the small majority of 1,600 in a vote of 135,000; the Federals, however, held the lease of power only for a single term, and J. Andrew Schulze, Democrat, elected in 1823 by over 25,000 votes, was Governor when this first legislation leading to the construction of internal improvements by the State was enacted.

During the summer and fall of 1824 the Board of Commissioners, consisting of Jacob Holgate, James Clark and Charles Trezyulny, proceeded to make several explorations.

By the act of March 27, 1824, the Board of Canal Commissioners were instructed to explore routes for canals: 1st. From Harrisburg to Pittsburgh by the Juniata and Conemaugh rivers. 2d. Between the same points by the west branch of the Susquehanna river, the Sinnemahoning creek, and the Allegheny river. 3d. Through the country between the Schuylkill and Susquehanna rivers, by the great valley of Chester and Lancaster counties. 4th. From the Schuylkill river, in Schuylkill county, by Mahanoy creek, Susquehanna river, Moshannon or Clearfield creek, Blacklick creek, and Conemaugh, Kiskiminitas, and Allegheny rivers.

The first report of this Board, which was signed by Messrs. Holgate and Clark only, was dated February 2, 1825. From it we learn that the Commissioners were well qualified for the novel and responsible duties imposed upon them, and that in their enlarged and liberal views of the nature and object of the proposed improvements, its prospective effect upon the development of the resources of the commonwealth, the increase of wealth and the encouragement of commerce and manufactures, they were in advance of their fellow-citizens of the age.

In 1824, excepting the engineers of the army of the United States, there were very few Americans whose experience qualified them for the location or construction of canals or railways. “In the whole State of Pennsylvania only one available person could be found”—Jonathan Knight, of Washington county, who, when the office of canal engineer was offered him by the Commissioners, felt compelled to decline “on account of previous engagements in the service of the United States.” The Commissioners then appealed for aid to John C. Calhoun, Secretary of State, who replied that while he would have been glad to aid in the survey of canal routes, he could find no one to take charge of the work.

Finally, after having exhausted all sources of information within reach, the Commissioners themselves determined to undertake the explorations and surveys, and their first report states that “On June 1, 1824, the President of the Board went to Philadelphia to purchase

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1 By the terms of the act of March 27, 1824, members of the Board of Canal Commissioners were to receive $3 a day for their services and travelling expenses.

2 It was opened for traffic on October 26, 1825.
a spirit-level, and if possible to get some surveyor to use it." As the purchase of this level exhausted the supply of instruments in Philadelphia, the Commissioners were compelled to suspend further operations until "four more levels were ordered for future delivery." The Commissioners, however, recorded their belief that "when the commonwealth has the instruments, young men will be found who will very soon learn to use them with accuracy and dispatch, and in this way the fruitless effort to get assistance from abroad will be superseded by the culture and encouragement of genius at home." The report says:

"We have found by observation and experience that purchasing the proper instruments, and encouraging active men who have some general acquaintance with science, to use them, is the most effectual method for the State to get a proper corps of civil engineers, and to have the most and best work done in the shortest time and at the least expense."

In regard to the "accuracy and dispatch" in the use of instruments above mentioned, it is interesting to note an instance of the "remarkable accuracy of the levelling," referred to on another page of the report, which states that "in a circuit of twelve miles the error was only one foot and two-tenths."

The same report contains a consoling statement, indicative of self-satisfaction, at least, in the result of the work of the previous year, to the effect that "The utter impossibility of procuring an engineer has had some beneficial advantages, as it has given the members of the Board an experience and more intimate knowledge of the art of canalling than they would have acquired while trusting a third person."

Under these conditions a "surveying company" having been organized, "Samuel Haines, Esq., of Philadelphia, commenced at Valley Forge a survey of a canal to connect the Schuylkill with the Susquehanna."

On June 19, 1824, the party reached the Gap in Lancaster county, which having been found to be 587 feet above tide, it is recorded that "a canal to the north-east of Lancaster city was declared to be impracticable," also that the "other routes were considered practicable but very circuitous."

Early in 1824 Secretary Calhoun had appointed General Bernard and Colonel Totten of the United States Army, and Mr. John L. Sullivan, as members of a Board of Internal Improvements to convene at Pittsburgh. By direction of the Secretary of War this Board, on September 9, 1824, met the Canal Commissioners of Pennsylvania at that city, to co-operate "in taking a reconnaissance of a route for a canal from Pittsburgh to Philadelphia."

Later a surveying party "to explore the Gap of the Allegheny mountains commenced operations at the head of the Frankstown branch of the Juniata." The surveying was quite difficult; "the mountains being covered with immense forests and impenetrable thickets, it became necessary to employ pilots."

On December 6, 1824, the surveys were closed for the year, 480 miles of levels having been taken. According to the report of this survey the summit of the Alleghenies was found to be 2,585 feet above tide, and 1,677 feet above the headwaters of the Juniata river. The engineers also determined that "a summit level sufficiently low to obtain water for navigation would require a tunnel rather less than four miles long."

Notwithstanding the expense and difficulty of constructing so long a tunnel, the Commissioners thus place themselves upon record in their report: "We avow it as our decided opinion that there should be a leading uninterrupted canal made, and owned by the commonwealth the whole length of the State, so that a boat loaded at Pittsburgh can land her cargo on the wharves of Philadelphia."

The Commissioners, in order to instruct the uninformed, described a tunnel as "a passage

1 This report also called attention to the importance of constructing "a canal to connect the waters of the Susquehanna and Potomac along the Conococheague and Conedogwiniti creeks." An aqueduct across the Susquehanna river is also proposed.
like a large well dug horizontally,” which was to be four miles long, situated 754 feet below the summit, and 1,831 feet above tidewater. If the datum level at tidewater is the same now as then, the location of the proposed tunnel would have been 323 feet lower than the Pennsylvania Railroad tunnel at Gallitzin.

The Commissioners estimated the expense of excavation and arching to be four hundred and eighty thousand dollars, based upon a cost of twenty-two and a half dollars a lineal foot, “equal to an open cut thirty-five feet deep.”

In urging the construction of this tunnel through the crest of the Alleghenies, which, if completed might have modified the difficulties of the transportation problem for all time, the Commissioners assert that—

“Pennsylvania has exceeded the world in building bridges, and it would be counting too much on her supineness to suppose that she would forego the trade of an empire rather than undertake a tunnel that cannot cost over half a million of dollars.”

It is needless to state that this estimate was far below the actual cost of the proposed work, which would have been five or possibly ten times as great.

The construction of this through canal to Pittsburgh was strongly advocated by prominent citizens, who believed that the project for constructing a railroad which John Stevens had so earnestly urged upon the attention of the Legislature of 1818-19 and in subsequent years was “a visionary scheme.” Philadelphia without the canal, it was feared, would become a manufacturing inland town, “but with it she will become the metropolis of the nation.”

In order to strengthen still further their position, the Pennsylvania Commissioners quoted these statistics of the value of goods carried to Philadelphia and New York before and after the opening of the Hudson end of the Erie Canal:  

<table>
<thead>
<tr>
<th>Year</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>1821, before opening</td>
<td>$6,980,750</td>
</tr>
<tr>
<td>1824, after the opening</td>
<td>$12,474,653</td>
</tr>
<tr>
<td>Increase in three years</td>
<td>$5,493,903</td>
</tr>
</tbody>
</table>

It should be borne in mind that there were

In discussing the amount of water supply for feeding the proposed canal and tunnel through the mountains the report states:

At the dry season of the year these streams yielded nearly three and a half millions of cubic feet daily. This quantity of water will fill four hundred and ninety locks of eighty feet long, eleven feet wide, and eight feet deep every day, or a lock full every three minutes. It will fill a lock at each end of the summit every six minutes, and will pass 327 boats daily.

The Commissioners, in urging the speedy beginning of the work, assert that the expense should not “damp the spirit of enterprise and keep back the great and glorious work until every big stone and little brook has been solemnly examined, measured and decided upon.”

By adopting an American system of economical construction instead of copying the expensive structures of Europe, the Commissioners recorded their belief that the canal from Middletown to Pittsburgh could be constructed for the amounts stated below:

- Juniata Section .................. $961,548
- Mountain Section ................ 1,086,735
- Including a tunnel 4 miles long to cost $480,000.
- Western Section .................. 749,344
- $5,797,827

Boats by the proposed route were to be conveyed by the Schuylkill river navigation and Union Canal to Middletown and thence by the State canals to the Ohio river at Pittsburgh. The proposed canal was to be twenty-four feet wide at bottom, forty feet at top and four feet deep, with locks eighty feet long and eleven wide to permit of the passage of boats of forty to fifty tons burden.

According to the plans of the Commissioners, who estimated $3,000,000 as the total cost of the canal, and six years as being the time required to do the work, it was necessary to borrow $500,000 a year on the credit of the commonwealth, at 4½ per cent. interest. At other circumstances that increased New York business. During this period the adjacent New Jersey towns grew rapidly and contributed to the prosperity of New York City.
that year tons of produce passed over the loading for the boat was secured. and without back five cents more. estimated at fifty cents, provided back freight from Pittsburgh to lar and a quarter a mountains in wagons for the seven years	

The report further states:

The Legislature which met December 7, 1824, agreeing with the conclusions reached in the minority report, passed the act of April 11, 1825, repealing the law of 1824; the first Board of Commissioners was thus legislated out of office.

The new act provided for the appointment of five Canal Commissioners, "to consider and adopt such measures as they shall think requisite and proper preparatory to the establish-

1 Entitled "An act to appoint a Board of Canal Commissioners." Under the provisions of this act of April 11, 1825, which was declared to be a substitute for that of March 27, 1824, the five commissioners appointed were to serve without compensation. They were further required to make careful estimates of the cost of the canals, to establish a canal fund, and to make a full report to the next Legislature of all their proceedings.
ment of a navigable communication between the eastern and western waters of the State and Lake Erie."

The new Commissioners were authorized to employ competent engineers to make necessary surveys, and were directed to prepare complete estimates of the cost of prosecuting the work, and to make "a full and detailed report at the next session of the Legislature."

John Sargeant was chosen President of the new Board.

The act directed the following routes to be surveyed:

1. Philadelphia to Pittsburgh, thence to Lake Erie.
2. Philadelphia to the northern boundary of the State in the direction of Seneca or Cayuga Lake.
3. Through Cumberland and Franklin counties to the Potomac river.
4. Through Bedford county to connect the Juniata route with the proposed Chesapeake and Ohio Canal.

A law was also passed April 11, 1825, by the terms of which the Governor was authorized to negotiate a loan to the extent of $150,000 to be expended in the surveys and construction of canals.

The celebrated "Canal Convention," which assembled in Harrisburg in August, 1825, was composed of one hundred and thirteen prominent citizens, representing forty-six Counties, all anxious to aid the cause of internal improvement.

On February 3, 1826, the new Commissioners made their first report, in which they state that their attention has been "directed exclusively to those routes which were supposed to admit of a navigable communication between the Allegheny and Susquehanna rivers, across the great ridge which divides the eastern and western waters of the State."

The four following routes had been "surveyed and levelled":

1. Summits on the west branch of the Susquehanna.
2. Line from the Sinnemahoning to Toby's Creek.
3. Route between headwaters of west branch of the Susquehanna and Two Lick Creek.
4. Between the Clearfield and the Conemaugh connecting with the surveys made in 1824.

The general map and profile which accompanied the report was prepared by William Strickland, a civil engineer of Philadelphia, from field notes and maps placed in his possession by the four surveyors who had conducted the examination of the four routes: William Wilson, of Lycoming Co., John Mitchell, of Centre Co., John Davies, of Dauphin Co., and Francis W. Rawle, of Philadelphia.

The new Board was opposed to the construction of the four mile tunnel advocated by its predecessor, but preferring to assume that the act of Legislature only empowered it to consider and report upon the best route for a canal, recommended the northern route, which was the only practicable line "by which both the construction of a long and expensive canal tunnel and railway was dispensed with." But politicians as they were, and believing at heart in a canal located on the Juniata route, "which with a railroad portage over the Allegheny mountains presented the best features," they preferred to recommend that since the subject was of such great importance, "without delaying such legislative measures as might be necessary for commencing and prosecuting the work, the final decision between the routes should be referred to a board of disinterested professional engineers, constituted in such manner as the Legislature might think proper, and acting in conjunction with the Commissioners."

Even at that early day were the services of the specialist thus called into requisition, when it seemed the best policy so to do.

The immediate construction of canals on the northern and Juniata routes was decided upon, and within a fortnight of the presentation
of the report of the Board the act of February 25, 1826, was passed:

"To provide for the commencement of a canal to be constructed at the expense of the State, to be styled the Pennsylvania Canal."

The act also directed that the Commissioners of 1825 should locate and contract for the construction of canals:

(a) From Middletown to a point on the east side of the Susquehanna opposite the mouth of the Juniata.
(b) From Pittsburgh along the valley of the Allegheny to the mouth of the Kiskiminitas.
(c) A navigable feeder from French Creek to Conneaut Lake, and to locate a canal from thence to Lake Erie.

The sum of $300,000 was appropriated for executing the provisions of this act.

By a supplemental act passed April 10, the Governor was authorized to appoint four additional commissioners, thus increasing the Board from five to nine members.

The Committee on Inland Navigation of the Legislature of 1825-26, to whom all canal matters were referred, took a still more rosy view of the financial success of a canal than was presented in the report by the old Board of Commissioners.

The Committee in their report state: "From the views taken by the Commissioners it appears reasonable to indulge the hope that within the space of ten years the canal debt may be extinguished; and this copious stream of revenue yielding, according to the most moderate estimates, an annual income of more than $1,000,000 may be turned into the treasury, and the Government may be thereby enabled to remove from the people the burden of taxation, to diffuse the blessings of education in a more abundant manner than at present, and to carry forward this State with increasing progress along its career of general prosperity."

But these expectations fell far short of being realized by the advocates of the canal. The Portage Railroad cost only $1,635,000, as against the estimate of $1,087,000 for a canal through the mountains, and the canals east and west of the mountains had cost the State up to the close of the year 1836 $7,150,000, instead of the $1,710,000 estimated; in other words, more than four times the original estimate, while the ultimate cost of the entire work then proposed proved to be $8,875,000, or about three times the original estimate.

As soon as spring opened in 1826 new surveys were begun, in the language of the report of the Board, "to supply deficiencies and as far as possible to examine the other routes pointed out by law."

The surveys of the northern long route were made under the direction of Judge James Geddes, assisted by William Wilson. The accompanied the Canal Commissioners' Report of the seventh of February, one thousand eight hundred and twenty-six; were directed to be deposited in the office of the Secretary of the Commonwealth.

The following is an extract from the Miltonian, dated Milton, Penna., April 22, 1826:

The Canal.—James Geddes, Esq., engineer, appointed by the Board of Canal Commissioners to survey and locate the line of a canal by the northern route (accompanied by Wm. Wilson, Esq.), passed through this place yesterday on his way to the head stream of the West Branch.

As far as we could learn, it is the intention of Mr. Geddes to commence his survey, location, etc., at the mouth of West Creek, thence down the Sinehmahoning West Branch and Susquehanna to the mouth of the Juniata, from which place the company will return to the point from whence they started, and commence a survey of the summit level and an examination and measurement of the waters, provided they should be in a situation that will warrant the making of an estimate that can at all
lines examined extended from the mouth of the Juniata along the Susquehanna West Branch, Sinnemahoning, Clarion and Allegheny rivers to the mouth of the Kiskiminitas and from that point to the mouth of French Creek.

The new Board was most fortunate in securing the services of Canvass White, a very competent canal engineer, to direct the difficult surveys of the route "between the mouth of the Juniata—up that valley and over the mountains and thence along the Kiskiminitas to its confluence with the Allegheny, thirty miles above Pittsburgh." Mr. White was one of the first engineers employed on the Erie Canal, and at the time of his selection was principal engineer of the Union Canal, then almost completed from Reading on the Schuylkill to Middletown on the Susquehanna river, eighty-one miles.

The final location of the canal along the east shore of the latter river from Middletown to the mouth of the Juniata was begun under Mr. White's directions by William Strickland in March, 1826. The location of the western division was commenced the following month at Pittsburgh by Nathan S. Roberts, civil engineer.

In the location of the canal along the Allegheny river, serious differences of opinion among the engineers led to such difficulty and delay that the Board decided to call upon Major D. B. Douglass, U. S. A., professor of civil engineering at West Point Military Academy, for expert opinion as to the most feasible location. William Strickland was also called from Philadelphia to aid in the examination of both sides of the river. The supplementary surveys from Pittsburgh to the mouth of the Kiskiminitas, which were made at once, did not harmonize the conflicting opinions of the engineers, and it became necessary to convene the Board of Commissioners in order to decide the controversy.

It appears that politics as well as engineering practice had great influence in leading the Commissioners to decide that the canal "be located along the western shore of the Allegheny on such a level as shall permit it to be conducted into that river or the Monongahela."

Judge Scott, a member of the Board, superintended the surveys of the north branch of the Susquehanna. The engineering work from Northumberland to the New York line was done by W. Bennett, of Luzerne County.

Lines through Cumberland and Franklin counties to the Potomac river and by the Monocacy and Conewago to the Susquehanna were also made by John Mitchell, of Centre county, but new "surveys from Philadelphia to the Susquehanna were deferred on account of the large expenditure involved, until the result of the other surveys was ascertained."

Advertisements soliciting bids were promptly issued for the construction of twenty-three miles of canal from the west end of Union Canal at Middletown to the mouth of the Juniata river, and for thirty-one miles of canal through the valley of the Allegheny from Pittsburgh to the mouth of the Kiskiminitas.

During the spring and early summer of 1826 forty-six and one half miles of canals were placed under contract.

In February, 1826, a memorial and remonstrance, numerously signed by citizens of Pittsburgh, was presented to the Legislature against "a contemplated change of the route (of the canal), leaving Pittsburgh without the benefit of a canal."

A communication from John Behan, civil engineer, of McKeesport, and dated May 26, 1826, was addressed to a Harrisburg paper, in which the writer states:
As the commencement of the great work of Internal Improvement is now at hand and may be immediately expected to be embarked upon, under the superintendence of the Canal Commissioners, it is to be hoped that the patriotism and intelligence of that respected body will be evinced by their notice of that part of the Report of the Committee of Congress on Roads and Canals which refers to the improvement of the Allegheny river.

In this letter the writer expresses the opinion that sufficient water exists for steamboat navigation from Pittsburgh up to Warren in the Allegheny river, and proposes a system of locks and dams on that stream; also that the Monongahela river be treated in like manner.

Upon the fourth day of July, 1826, the anniversary of the signing of the Declaration of Independence, the first ground for Pennsylvania's State improvements was broken at Harrisburg with imposing ceremonies.

(To be described in detail in the completed book.)

The Harrisburg Telegram states that contractors were at work on eleven of the half-mile sections of the canal on the 14th of August, 1826, "five between Harrisburg and Middletown, and six between the mouth of the Juniata and Harrisburg. The length of this eastern section of the Pennsylvania Canal is about twenty-three miles, of which five and one-half miles are under the operation of the pick and shovel."

At this date the canal from Reading to Middletown was almost finished. A Harrisburg correspondent writing to a Philadelphia newspaper, in September, 1826, says: "We are happy to have it in our power to state to our distant readers that the works of the Union Canal are rapidly approaching a conclusion." Upon the completion of this work a few months later, boats loaded at the wharves on the Delaware river were conveyed to the confluence with the Schuylkill at Point Breeze, and thence by the latter river at its improved navigation to the eastern terminus of the Union Canal at Reading, and from that thriving town by canal eighty-three miles to the junction with the Pennsylvania Canal at Middletown, on the Susquehanna.

During August, 1826, contractors were generally at work along the Susquehanna, and in September construction along the Allegheny river was fairly under way.

The following extract from a communication dated Beaver, Penn., October 8, 1826, contained in a Philadelphia paper, is of great interest in this connection:

"It is now ascertained by information from General Saycock, that the waters of the Juniata and Conemaugh cannot be connected by a canal with less than four miles of tunnel through the mountains. This project being rather a hazardous one and such as the State would not likely adopt, Mr. Saycock has turned his attention to a carrying-place or portage, and finds that it could be had over the mountains at a distance something less than 20 miles, and a road graded at one degree, or an elevation of 1 foot in 57. On each side of the mountain water can be had in great abundance to supply the canal, and the ground is very favorable for its construction. Mr. Saycock states he found much less difficulty in the whole route than he had anticipated. From this calculation it would appear that the summit of the mountain would be near 1,000 feet higher than any part of the canal.

From the time of Fulton, whose first experimental steamboat was designed for service upon a canal, twenty years before, efforts had been made to dispense with the horse and the tow-path in canal operation. Late in the summer of 1826 a small steamboat was launched on the Susquehanna to run upon the tributaries of that river, and upon the canal when the latter should be completed.

The Harrisburg Argus of November, 1826, gives an interesting description of this early steamboat:

The Steamboat Codorus.—The iron steamboat Codorus, which has for four months been engaged in experiments to ascertain the practicability of navigating by steam the Susquehanna and its tributary waters, has arrived at Newtown, on the Tioga river (in the county of Tioga), about 20 miles from its confluence with the former. The Tioga Register gives the following account of this event and the
reception with which the boat and its enterprising captain were greeted in that remote port.

According to the Register the arrival of the Codorus was celebrated by a banquet and an excursion on the river, in which the principal citizens and oldest inhabitants, accompanied by a brass band, took part, a battery of artillery firing a salute of twenty-four guns. On the next day a procession of 176 school children marched to the wharf and were given a ride, "witnessing the power of the elements rendered subservient to man." It is needless to say that the experiment of navigating the canal by steamboat thus inaugurated seventy years ago never proved commercially successful. The mule team is even in our day the motive power upon our best canals.

The construction of canals and their routes continued to absorb the attention of the people and the press during the early part of the year 1827.

In their report to the Legislature the Canal Commissioners, on February 6, 1827, advocated the construction of canals along both branches of the Susquehanna river and a portage railroad over the Alleghenies, as follows:

(1) A canal from the mouth of the Juniata, or point opposite thereto, to Northumberland; thence up the north branch of the Susquehanna river to the northern boundary of the State, and up the west branch to the mouth of Bald Eagle Creek.

(2) A canal from the mouth of the Juniata up that stream to Frankstown, and thence by portage across the Allegheny mountains to Johnstown, and thence by canal down the Conemaugh and Kiskiminitas to join the present location of the western division of the Pennsylvania Canal at the head of the feeder.

The Commissioners also record their opinion that "When to these works shall be added communication between the Delaware and Susquehanna and between the Ohio and Lake Erie, a general system will exist more equal in its operations upon the several sections of the State and better calculated to effect the great purpose of internal improvement than any other that can possibly be devised." The report also includes reference to the results of the surveys made by Major Douglas in 1826 for locating the French Creek feeder.

Great dissatisfaction with the report of the Board was manifested by the Legislature and others interested, and more than two months elapsed before any definite action was taken upon the report by that body. Late in the session during which the extension of the canal system was thoroughly discussed an act was passed, approved April 9, 1827, "To provide for the further extension of the Pennsylvania Canal "up the valley of the Juniata "from the eastern section of Pennsylvania Canal to a point near Lewistown." Also " up the valley of the Kiskiminitas from the western section of the Pennsylvania Canal to a point at or near Blairsville "; also up the Susquehanna valley north to Northumberland.

By one of the sections of the act of April 16, 1827, the pay of the civil engineers was limited to $2.00 a day for the time actually employed, the engineers to pay all their own expenses. Other restrictions upon the Commissioners and engineers increased the dissatisfaction to such an extent that resignations from the service were immediately presented by nearly every engineer employed or engaged by the Board.

Such was the condition of affairs that confronted the Commissioners when they met on May 1, 1827.

Feeling ran high during these eventful days between the friends of the canal and the advocates of the railroad. Nearly a year had elapsed since the first ground had been broken at Harrisburg for the canal, and construction work was in progress on the canals upon both sides of the Alleghenies, but the Legislature, having reached no definite conclusion as to the merits of the controversy concerning the construction of the portage railroad, or fearing from political reasons to decide whether the line over the mountain should be a turnpike, a railroad as recommended by the Commissioners, or a canal, took no official action; although it is recorded that:
At the special request of a number of the members of the Legislature, Messrs. John Mitchell and William Wilson were appointed to make further examinations for a water communication between the Susquehanna and Allegheny rivers.

Of this critical period Mr. W. Hasell Wilson, in "Notes on internal improvements in Pennsylvania," thus writes in 1879:

The Commissioners thus suddenly deprived of valuable assistance at a critical period were of course very much embarrassed, but they nevertheless adopted the most efficient means in their power to remedy the difficulty and prevent any interruption to the work under contract. The care of the eastern division was assigned to F. W. Rawle, and that of the western division to James D. Harris, who were to some extent familiar with the plans and details of the work. Simon Gilford was directed to commence the location of the North Branch Canal from the mouth of the Juniata to Northumberland, and Alonzo Livermore, who had been employed on the Union Canal, was engaged to take charge of the Kiskimintas Division.

But this organization was of short duration, as the term of office of the Commissioners expired by limitation, June 1, 1827.

By the terms of the supplement to the act "to appoint a Board of Canal Commissioners," approved April 16, 1827, it was provided that the Commissioners be appointed annually in June of each year, the Board to consist of nine members.

Of the nine members appointed by Governor Schultze to serve from June 1, 1827, the following eight accepted the appointment:

1. David Scott. 5. Charles Mowry.

It may be remarked that the future action of this Board proved that it was composed of men of great executive ability. The former Board before adjourning sine die on June 1, 1827, had, owing to the urgency of the situation, requested the Governor to convene its successors on the next day. This request was complied with, and at the first meeting, held June 2, David Scott was chosen President, and Joseph McIlvaine, Secretary.

At this meeting the whole question of internal improvement was thoroughly discussed and important changes in the organization were determined upon. The following appointments and assignments of engineers were made, to take effect at once:

Juniata Division: DeWitt Clinton, of New York.
North Branch of Susquehanna Division: John Randal, Jr., of Pennsylvania.
Beaver and Shenango Surveys: Charles F. Whippo, of New York.
Conneaut Lake to Lake Erie Surveys: Major D. D. Douglas (during the summer recess of the West Point Military Academy).
Philadelphia to Susquehanna River: Major John Wilson, U. S. Top. Engineers.

Construction work began on the canal in the spring of 1827, as soon as the weather permitted.

The cornerstone of the first canal lock was laid at Harrisburg on the 4th of March, 1827, in the presence of a great multitude, amid the ringing of bells and the huzzas of the populace.

During the year 1827, 162½ miles of canals were placed under contract, making a total of 209 miles under construction, and on December 31, 1827, the canals completed or under construction extended more than half the distance from Philadelphia to Pittsburgh—396 miles by the route surveyed.

As the Commissioners were politicians sensitive to public criticism, it required considerable courage for them to decide whether they should concur in the recommendation of their predecessors, that a railroad should form part

1 Father of W. Hasell Wilson, President of the Philadelphia and Erie Railroad Company, sometime Chief Engineer of, and for many years connected with Engineering Department of the Pennsylvania Railroad Company. For further discussion of this survey see the chapter, "The Philadelphia and Columbia Railroad."
of the remaining distance, and if so, for how many miles.\(^1\)

In their report presented December 25, however, they boldly declare that "A navigable communication between the eastern and western waters of Pennsylvania is wholly impracticable."

The Legislature of 1827-28 took no action concerning a railroad over the Alleghenies till March 24, 1828, when acts were passed authorizing the extension of the canals along the Juniata and Conemaugh, not to exceed 45 miles\(^2\) on each division, and for the construction of ten miles of canal along the Susquehanna below Middletown towards Columbia, twenty miles distant. During the three months that the report of the Commissioners was before the Legislature the question of the advisability of constructing a portage railway over the mountains was earnestly considered. The surveys and reports of the three Boards of Commissioners were examined and discussed. The project of constructing the four-mile tunnel through the mountains had been abandoned—the long circuitous northern route was the only line upon which a canal could be built and operated.

In England railroads with inclined planes were successfully operated—the coal railroads at Mauch Chunk with steep inclines, completed in the spring of 1827, had been running for several months. Rumors of successful experiments with locomotives abroad and at home had reached Harrisburg, and John Stevens' locomotive running on an inclined railway at Hoboken, N. J., had worked experimentally\(^3\) for two or three seasons.

The advocates of a railway in the Legislature of Pennsylvania at last being in a majority, decided to construct a railroad over the mountains. Major Wilson's report, presented December 17, 1827, and January 12, 1828, upon the surveys of the previous year, being also favorable to the construction of a railway between Philadelphia and the Susquehanna, "An act relative to the Pennsylvania Canal and to provide for the construction of a Railroad" was passed and approved by Governor Shultze, March 24, 1828. The act directed the Commissioners "to locate a railroad across the Allegheny mountains," and "a railroad from Philadelphia through the city of Lancaster to Columbia and thence to York."

The immediate construction of forty miles of railroad—20 miles east of Columbia, and 20 miles west of Philadelphia—was also authorized.\(^4\)

The weighty questions concerning the construction of these two railroads having been decided upon by the Legislature, work on the canals under construction was actively prosecuted during 1828.

The Harrisburg Chronicle in 1828 thus criticises the action of the Canal Commissioners:

The Pennsylvania Canal has had no head from its beginning. The Governor appoints the canal commissioners, who choose a president and secretary, and appoint acting commissioners, superintendents and engineers. The engineers lay down the route for the canal, and the board of canal commissioners meet at some place not far distant, perhaps they reconnoitre the ground and perhaps they do not—they assemble in haste, confirm the recommendation of the engineers, and are off at a tangent. The acting commissioners enter into contract for making the several sections of the canal, locks, aqueducts and culverts, at a stated price, and within a specified time. The engineers, at regular periods, make estimates of the work done by the contractors respectively, so that they may be enabled to make payments to their laborers—reserving a certain percentage on the estimate, as a security that the contractor will faithfully complete the work

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\(^1\) For further discussion of this question the reader is referred to the chapters on the Philadelphia and Columbia and Portage Railroads.

\(^2\) The extension of canals along the Delaware river and North Branch of the Susquehanna, not to exceed 45 miles on each, was also authorized.

\(^3\) This locomotive was operated by a revolving cog wheel upon a rack-rail laid in the center of the track. See figure.

\(^4\) For further information concerning the Portage Railroad and the Philadelphia and Columbia Railroad the reader is referred to the chapters relating thereto.
undertaken. One who has a good job goes on daily until it is finished, but the contractor who has a hard bargain puts his work in a situation for obtaining the most favorable estimate when the engineer comes around; he then draws the cash and abandons his contract. Perhaps this contract thus abandoned may remain a year or eighteen months before it is relet and finished. We believe that some contracts between the Juniata and Swatara have lain longer; and it is only a few weeks since the excavation of the canal from Middletown to McAllister's was finished, although the canal commissioners in their report last winter stated—

"It is nevertheless calculated that from Fishing creek to the mouth of the Swatara the water will be admitted, and that a junction will be formed with the Union Canal before the adjournment of the Legislature." See Canal Report, December 25, 1827.

The eastern division of the Pennsylvania Canal, extending from Swatara to Juniata, is not yet finished so as to admit of navigation, and there is no probability that it will be in that state this season. The canal commissioners, in the same report, said—

"The amount of work done on this division since its commencement is $335,894, of payments made $191,412, and the further payments necessary to its completion are estimated at $142,844: applicable chiefly to the sections of the upper end."—Canal Report, December 25, 1827.

This estimate allows $15,780.75 per mile; and it is now reduced almost to a certainty that the cost per mile will be at least $25,000.

The Harrisburg Spy of March 22, 1828, says that "the first water let in on the Pennsylvania Canal was at McAllister's Mill on Sunday last [March 20, 1828] and a gentleman has just stepped into our office with the information that it has reached and is filling the basin near this place."

Fifteen miles of canals were completed between Middletown and Fishing Creek, and the water let in on the 28th of March.

On the Susquehanna ten miles of canals south of Middletown were contracted for by Samuel H. Kneass, engineer, the question of continuing the canal farther east being held in abeyance until it was decided whether the terminus of the railroad should be at Columbia or farther west.

On the Juniata Division the forty-five miles of canals extending from Lewistown to a point above Huntingdon, authorized by the Legislature, were placed under contract in October by DeWitt Clinton, Jr., engineer.

The French Creek feeder, ten and one-half miles long, was contracted for by James Ferguson, engineer. On the north branch of the Susquehanna fifty-four miles of canals were under way; twenty-seven miles southward from Nanticoke Falls having been put under contract in July, and the remaining twenty-seven miles to Northumberland later in the season by Charles T. Whippo, engineer. On the west branch of the Susquehanna the canal from Northumberland 23 miles to Muncy was put under contract October 1, 1828, by F. W. Rawle, engineer.

On the western division twenty-seven miles of canals along the Conemaugh from Blairsville east to Johnstown were located and placed under contract by James D. Harris and Alonzo Livermore, engineers.

The report of the Commissioners, dated December 11, 1828, states that thirty-five miles of the Delaware Division between Bristol and Easton were placed under contract before November 18, by H. G. Sargent, engineer.

Thus at the close of 1828, 40 1/2 miles of railways and 41 3/4 miles of canals (46 1/4 miles contracted for in 1826, 1624 miles in 1827, and 2044 miles in 1828) were under contract by the State of Pennsylvania, for the construction of which the credit of the commonwealth had been pledged.

During 1829 no new contracts were awarded, and no record of legislation authorizing the further extension of the State works is to be found on the statute-books.

During the session of 1828-29 no decision was reached as to the best method of crossing the Allegheny mountain, and until that question was determined, the extension of the canal west of Huntingdon was deferred, as was the location of any line east of Johnstown.

In the summer a new survey was made over the mountains by Moncure Robinson, by direction of the Commissioners, who instructed
EASTERN DIVISION FORMALLY OPENED, 1830.

Opening of Traffic on the Canal.

In the year 1829, 195 miles of canals were finished and made navigable. The Commissioners then proceeded to establish rates of toll and to formulate rules and regulations for these avenues of commerce. 211 additional miles of canals were completed during the year 1830.

The following rates of toll per mile were charged “on the Pennsylvania Canal, from and after the 1st day of May, A. D. 1831”:

<table>
<thead>
<tr>
<th>Item</th>
<th>Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Agricultural instruments and carts, wagons, sleighs, ploughs, and mechanics’ tools, necessary for the owner’s individual use, when accompanied by the owner emigrating, per ton</td>
<td>1.5 cts</td>
</tr>
<tr>
<td>Mineral coal</td>
<td>1.5 cts</td>
</tr>
<tr>
<td>Dry goods and merchandise</td>
<td>.5</td>
</tr>
<tr>
<td>Household furniture</td>
<td>3.0</td>
</tr>
<tr>
<td>Iron castings</td>
<td>2.0</td>
</tr>
<tr>
<td>Iron bar, rolled, split or hammered</td>
<td>2.5</td>
</tr>
<tr>
<td>Barley, ton of 50 bushels</td>
<td>1.5</td>
</tr>
<tr>
<td>Corn, Indian, ton of 40 bushels</td>
<td>1.5</td>
</tr>
<tr>
<td>Wheat, ton of 40 bushels</td>
<td>1.5 cts</td>
</tr>
<tr>
<td>Whiskey and other domestic distilled spirits, ton of 2 hogsheads or 8 bbls.</td>
<td>2.0</td>
</tr>
</tbody>
</table>

On all articles not enumerated above, 1.5 cents a ton, if passing eastward or southward; and 3 cents if passing northward or westward.

The Legislature not being satisfied with Mr. Robinson’s recommendations for a portage railroad, or for political reasons, by an act approved April 6, 1830, insisted upon still another survey. Mr. Robinson’s services were retained by the Board, but Col. S. H. Long and Major John Wilson were called into consultation, and surveys were made by the two latter during the summer of 1830. Their report, supplemented by a separate report of Mr. Robinson, was submitted to the Commissioners to the Legislature late in the year.

By an act of the Assembly entitled “An act to authorize the loan to defray the expenses of the Pennsylvania Canal and Railroad,” and to continue for a further time an act to incorporate the subscribers to the Bank of Pennsylvania, passed March 13, 1830, that institution was required to lend to the Governor, who was authorized to borrow, on the credit of the commission, a sum not exceeding four millions of dollars at a premium of five and one-half per cent, to be paid into the State Treasury in installments as mentioned in the act, and bearing interest of five per cent a year, to be applied to canal and railroad purposes; and by the same act the Bank of Pennsylvania was required to lend to the commonwealth one million of dollars annually for the term of three years from and after the first of January, 1831, bearing interest at the rate of five per cent a year. By another act passed on the 27th of March in the same year, “entitled an act making further appropriation for canals and railroads,” the Board of Canal Commissioners was directed to cause as much of the contracts already made upon the different lines of railroads and canals as possible, to be completed within that year, and they were enjoined in no way to enter into new
contracts for the extension of any line of canal or railroad except for the erection of a dam at or near Johnstown, and the construction of the canal and necessary works from thence to section number fifty-seven on the Ligonier line, for the purpose of introducing water into the Ligonier line of the western division of the canal. Several surveys were directed by this act, and the sum of $3,459,532 was appropriated to be applied to aid in the payment of the temporary loan theretofore made, and to canal and railroad purposes, to be paid out of the loan of that year. In pursuance of this act three and one-half miles of canal below Johnstown on the western division were put under contract and the sum of $3,137,844.08 was disbursed.

The Commissioners reported that at the close of the year 1830 water had been successfully admitted into 405 miles of canals belonging to the State.

The eastern division of the canal, extending from Columbia to Chiques Creek, was finished late in November, 1830. On the 17th day of December the water was let into it, and the event was duly celebrated at the canal basin in Columbia, as will be seen by the following program, published in the Columbia Spy, December 23, 1830:

ORDER OF CELEBRATION.

Two boats laden with flour will leave the lock near Chiques at 10 o'clock, and arrive at Basin at 11 A.M. The arrival of the boats will be announced by the firing of guns and ringing of bells.

The citizens will meet at the corner of Front and Walnut Streets, at 10 A.M., and march in procession to the Basin to receive the boats.

An address will be delivered by Dr. Cochran at the Basin immediately at the landing of the boats.

The cargoes will then be placed upon the railroad cars and transported to warehouses.

At 12 o'clock the boats will proceed up the canal, having the ladies on board, invited strangers, committees on arrangements and other officers of the day, accompanied by a band of music.

The dinner will be on the table at the house of Mr. Grossler at 3 o'clock, to which the citizens and others are cordially invited to subscribe.

It is recommended to the citizens to illuminate their houses in the evening.

Mr. Joseph Jeffries has been appointed Chief, and Messrs. Joseph Mosher, John L. Wright, George C. Lloyd, and Peter C. Gonter, Assistant Marshals, who are to be respected accordingly.

The following description of the proceedings is condensed from the report in the Spy: "Agreeable therefore to the order of yesterday the citizens met at ten o'clock in the morning and marched in procession to the basin, to greet the canal boat, John Barber, commanded by Capt. Evans, bearing the American flag and Pennsylvania coat of arms. She was laden with flour from the mills of Joseph F. Strickler, Esq., and had on board our fellow-townsmen, John Barber, Esq., the worthy superintendent of the canal. This was followed by the Edward F. Gay, bearing the tri-colored flag, commanded by Capt. Cornwell and loaded with flour from the mills of the Messrs. Johnson. Notwithstanding the cold of the previous night had crusted the basin with ice, the boats descended in fine style amid cheers and acclamation of the multitude assembled to witness the entrée of the first boats upon this portion of the canal.

On their landing at the lower end of the basin, an able and appropriate address was delivered by Dr. R. E. Cochran, which was seconded by another from Gen. Porter; both were responded to by the continued cheers of the lively crowd assembled around.

The flour was then taken from the boats and placed upon Mr. James Wright's self-adapting railway cars, and transported to the warehouse of C. Beneman, Esq., on a railway of more than four hundred feet in length constructed by the committee for that purpose. The road was located by Mr. McCutchen, and owing to the ground in the vicinity of the canal being covered with piles of timber, it was necessary to make one curve of between fifty and sixty feet long on the radius of 37 feet, and another of less than 250 feet, thus
proving the facility of locating railways in a most obstructed and uneven district of our country.

"The ladies, invited guests, strangers, band of music, committee on arrangement, and citizens having embarked on board the boat, proceeded up the basin and canal, and, although crowded, moved rapidly along. After having ascended to near Chiques they returned. The procession again formed, the Superintendent taking his station beside the principal engineer, the place having been assigned him by the committee, and returned to Mr. Grossler's. At three o'clock the company sat down to an elegant dinner prepared by Mr. Grossler in his best style for the occasion. C. Breneman presided, assisted by Jacob Strickler, Robt. Houston, William Dick and C. Halderman, Esqs., Vice-Presidents, and Mr. Beatty and George S. Lloyd, Esq., Secretaries."

During 1830 tolls were collected for the first time upon sections of the canal near Pittsburgh on the west and Middletown on the east. These tolls for the year amounted to a little more than $27,000.

The following, from a newspaper published in Milton, Pa., in July, 1830, illustrates the early operations on the canals:

"The Miltonian," canal boat, James Blair, captain, returned from her trip on Tuesday last, after an absence of six weeks. She left here in May with 1,000 bushels of wheat for Philadelphia, delivered her cargo in prime order, took in a load of oats for Pottsville, loaded at that place with coal for Philadelphia, and has now safely returned to our shore from the latter place with 20 tons Nova Scotia plaster. She had a prosperous trip.

Of the Pennsylvania State canals the following were navigable December 31, 1830:

From Columbia to Duncan's Island .......... 24 miles. $833,036
From Duncan's Island along the Juniata ....... 81 ½ " 4,400,396
From Johnstown to the Monongahela River at Pittsburg .......... 104 " 7,507,467
Total length of main line .......... 209 ½ " $5,889,823
also
From Duncan's Island to Northumberland on the Susquehanna Division .......... 39 miles.

From Northumberland to above Muncy .......... 23½ miles.
North of Bristol on the Delaware Division .......... 25 "
making in all 297 miles of canals completed.
Those nearly complete were:
From Columbia to Duncan's Island .......... 10 miles.
From Northumberland to Nanticoke .......... 55 ½ "
On the Delaware Division .......... 33 "
On different divisions .......... 19 ½ "
or a total of 406 miles, being the total length of canals completed and in course of construction.

It will be noted that though only about two-thirds of the estimated length of the main line between Middletown and Pittsburgh had been completed, the work had cost nearly $6,000,000, or double the original estimate for the entire work including the four-mile tunnel through the mountain.

The cost of 105 miles of canals east of the mountains was $3,322,000, averaging $31,600 a mile, and 104 miles west of the mountains had cost $2,576,000, or $24,700 a mile, the whole 209¼ miles averaging $28,250 a mile.

The Schuylkill Navigation Company's canal, 108 miles long, built by a corporation, from Philadelphia to Port Carbon (begun in 1816 and navigable in 1825), had cost only $21,000 a mile, one quarter less.

The Union Canal, eighty-three miles long from Reading to Middletown, with a tunnel 729 feet long, finished in 1828, had cost a little over $20,000 a mile.

The Erie Canal, 362 miles long (begun in 1817 and finished in 1825), built by the State of New York, had cost less than $21,000 per mile.

Even the Lehigh Canal, forty-seven miles long, from Easton to Mauch Chunk, then regarded as the most perfect canal in the world, since it was sixty feet wide and five feet deep, with locks eighty-five feet long in the clear and twenty-two feet wide, had cost less than $26,000 per mile.

Hence the taxpayer of the Keystone State, whether he compared the cost of the Pennsylvania State works with those built by the

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1 See page 162, Journal of Legislature, 1830-31.
corporations of his own State, or with the canals built by the State of New York, was forced to conclude that the work of construction had been extravagantly managed. The Commissioners, who were held responsible for this condition of affairs, in their report for 1830, themselves admitted that “in some cases unfortunate arrangements have been made and excessive expenditures incurred.” They also stated that “upon the western division extensive repairs and alterations to remedy original defects” made it necessary to interrupt navigation between Pittsburgh and Johnstown for some weeks during the year.

The original estimate for the Western Division was $1,498,910, while the actual cost, including repairs to December 31, 1830, approximated $2,800,000—nearly double the estimate.

The Commissioners also estimated that the cost of the Portage Railroad would be $793,400 with double track and machinery complete.

The remainder of the State works were in various stages of completion. Including the expenditure for the grading of forty and one-half miles of the Philadelphia and Columbia Railway, the sum of $10,283,768 had been drawn from the State treasury to December 31, 1830.

But the end was not yet!

With the record of an expenditure of over $10,000,000 before them, instead of $3,000,000 as originally proposed, and with many thousands of dollars’ worth of work in progress, the Legislature of 1830-31 was compelled to face a condition of affairs that required the exhibition of courage and definite action.

Although the time for temporizing was past, the report of the Commissioners was held up for three months before any conclusion was reached. In the meantime (early in March) Col. Long had submitted a final report on the Portage Railroad in detail, accompanied by plans and full estimates. Mr. Robinson in a supplemental report reviewed and adhered to his recommendation of the previous year, advocating a tunnel at the summit of the mountain with planes of uniform grade even at an increase of the angle of inclination—about nine degrees.

Major Wilson and Col. Long desiring “to obviate the necessity for a tunnel until such time as the exigencies of the trade upon the road should require it, and to avoid the adoption of inclined planes having a greater inclination than five degrees, and if possible than three degrees,” opposed the construction of a tunnel at that time. All, however, agreed in recommending a railway instead of a turnpike, and concurred in the opinion that Blair’s Gap was the most available place to cross the summit of the Alleghenies. The Commissioners submitted these reports to the Legislature without recommendation, and, although it was believed that they favored a railroad instead of a macadamized turnpike, they showed further political sagacity by refraining from placing themselves upon record by referring the Legislature to the reports of the experts for further and full information on the subject.

Finally the die was cast and by the law approved March 21, 1831, entitled “An act to continue the improvement of the State by canals and railroads,” the Canal Commissioners were required to complete as soon as practicable the whole of the railroad between the rivers Schuylkill and Susquehanna, beginning at the intersection of Vine and Broad streets in the city of Philadelphia, and thence extending to the end of the canal basin at Columbia in the county of Lancaster, also the Portage Railroad and the extension of the canal from Huntingdon to Hollidaysburg, as well as the
extension of the canals on the north and west branches.

Thus nearly six years elapsed after the Northwestern States had begun to send their products through the Erie Canal to New York City before the Legislature of Pennsylvania had the courage to decide upon the methods which should be adopted in constructing final links in the line to connect the valley of the Ohio with Philadelphia, and three more years were destined to be consumed in completing and placing in operation the works decided upon by the act of 1831.

In his annual message, dated September 17, 1831, Governor Wolfle calls the attention of the Legislature to the following facts:

In compliance with the provisions of the act of March 21st, 1831, entitled "An act to continue the improvement of the State by canals and railroads," public notice was given in newspapers published at the seat of government and in the city of Philadelphia, that proposals would be received at the office of the Secretary of the Commonwealth until a certain day mentioned in the notice, for loaning to the Commonwealth for internal improvement purposes the sum of $2,483,101.88, reimbursable at any time after the expiration of 25 years. Among the several proposals received, that of the Bank of Pennsylvania, containing an offer to take the entire loan at a premium of six per cent., or $1.00 dollars in money for every one dollar of stock to be created under the act, bearing an interest of five per cent., was accepted, by which transaction the State received a bounty of $188,090.75.

The loan of three hundred thousand dollars authorized by the act of March 30th, 1831, entitled "An act authorizing the loan of moneys to be invested in the internal improvement fund, to be applied to the payment of repairs, damages and other demands upon the State fund, and for other purposes," was also taken by the Bank of Pennsylvania; that institution agreeing to pay the same premium, yielding to the commonwealth the further sum of eighteen thousand dollars in the shape of bounty. The whole amount of this loan has been drawn and expended upon the several objects and for the several purposes to which by the act aforementioned it was directed to be applied. The season having been unusually humid and rainy, breaches in the canal, where the banks had not yet become firm, were more frequent than would have been the case in an ordinary season, besides some of the streams were raised by sudden freshets to such a height as to cause great injury and destruction, not only to works in their immediate neighborhood, but also to the dams erected upon them, which called for a larger expenditure of money for repairs than would otherwise have been required. As there is no fund left, therefore, to meet the claims for repairs or for damages along the several lines of canal and railway, or for the payment of wages of superintendents, collectors, supervisors and lockkeepers, an immediate duty will devolve upon the General Assembly to make such provision to meet the several enumerated objects as in their wisdom they shall find to be expedient and necessary. . . .

The magnificent enterprise in which Pennsylvania is now engaged in the construction of her stupendous work of internal improvement, the magnitude and extent of her loans to enable her to successfully prosecute those works, and the necessity that has occurred to resort to the enactment of revenue laws to secure the establishment of a permanent fund for the payment of interest, are all of them subjects in which the people have the deepest interest, and about which they have a just claim to be correctly and minutely informed. The alarm and apprehension, however unfounded, which the imposing grandeur, the extent, the diffuseness and the supposed expensiveness as they are entered into the grave discussion and are introduced into the serious speculations of the day excited, and the gross misrepresentations to which they are most unfrequently, most unjustifiably subjected, will furnish a sufficient justification, it is presumed, for submitting to the people through the medium of executive message transmitted on the present occasion to their representatives, a brief account of the origin and progress of the system of internal improvement adopted and prosecuted in this State, and it is the more gratifying that the occasion of entering upon the performance of that part of my duty to our common constituents happens at the time when the public works have been so far progressed in that a large portion of them are giving earnest evidences of extensive usefulness, when others of them of considerable extent will be in a condition for active business early in the next season, and when the residue of those will, it is confidently believed, be finished and in operation in all the next season, or early in the summer of 1833.

Several additional sections of the canal being open in 1831, the amount of tolls collected increased about forty per cent over the previous year, the amount received being over $38,000. The necessity for repairs had already become urgent, and during the year about $100,000—over four times the gross receipts—were expended for repairs upon 238 miles. The
annexed table shows the divisions between ordinary repairs and extraordinary repairs, made by the State accountants. It is interesting to note that in the last three divisions one-third of the amount expended was charged to "ordinary repairs," and the remaining two-thirds to "extraordinary repairs." Thus before any system of railroad accounting had been devised, the officials of Pennsylvania set the example of charging expenses to an account which could be transferred to capital if circumstances required it.

EXPENDITURES FOR REPAIRS.

<table>
<thead>
<tr>
<th>Length, Miles</th>
<th>Ordinary Repairs</th>
<th>Extraordinary Repairs</th>
<th>Total Disbursements</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Columbia Line, Eastern Division</strong></td>
<td>10</td>
<td>$1,657.74</td>
<td>$7,316.30</td>
</tr>
<tr>
<td><strong>Harrisburg Line and part of Susquehanna</strong></td>
<td>34</td>
<td>3,108.04</td>
<td>6,216.08</td>
</tr>
<tr>
<td><strong>Juniata Division</strong></td>
<td>89</td>
<td>22,325.55</td>
<td>44,651.00</td>
</tr>
<tr>
<td><strong>Western</strong></td>
<td>108</td>
<td>24,405.91</td>
<td>48,511.70</td>
</tr>
</tbody>
</table>

The canal was opened for navigation late in the spring of 1831. The first boat arrived at Huntingdon on the 31st of May. The event was announced by the Gazette in the following manner:

SOMETHING NEW!!!

Port of Huntingdon! Arrival of Boats!

On Thursday evening last, a keel boat, the property of Mr. Jonathan Leslie, having on board plaster and fish, arrived at this place by the canal from Waynesboro.

ANOTHER ARRIVAL.—On Friday the boat Marguerite, Captain McCoy, arrived, freight 13 tons of merchandise.

Another extract from the Gazette states:

On Saturday last (June 11, 1831) hundreds of our citizens witnessed the launching of the James Clark, a new and very handsome canal boat, into the basin at the west of the borough, and owned by Messrs. Williams and Miller. When safely launched into the basin she was greeted by a hearty acclamation of those who witnessed the pleasing and interesting sight.

What, a canal boat launched in the vicinity of Huntingdon? Had any one predicted an event of this kind some years back, he would in all probability have been yealped a wizard or set down as beside himself. When the mail stage commenced running once a week from Philadelphia to this place, our older citizens considered it a marvellous affair. What will they say now?

In the spring of 1831 the western division of the canal was greatly damaged by flood, requiring the expenditure of a large amount for repairs. Similar damage, but not to so great an extent, also occurred on the eastern division.

"Owing to the unusual protracted rainy season, and the continued state of humidity and moisture produced in consequence of it, the public works which had been finished in the spring of the year 1831 were not so productive as had been anticipated." The work being new, the frequent heavy rains affected the banks of the canal, which had not become sufficiently solid, and produced repeated breaches, in consequence of which the navigation was often interrupted and many delays were occasioned, "which begat a want of confidence in the security against hindrances and want of expedition to which the transportation of produce to market, or for return lading upon the canal, would thus necessarily be exposed."

The heavy freshets which swelled the Cone monaugh and Kiskiminitas rivers and the extraordinary high water caused so great injury and destruction to the public works along the western division of the canal, that the dam at Leechburg was carried off and it became necessary to construct a new one.

The grading of the section between Huntingdon and Hollidaysburg was finished on the first of June, 1831.

The completion of the canal was greeted by the people with great enthusiasm. The extent of the illuminations at Huntingdon, at Lewistown and Waynesboro, in fact at every place along the line, indicated the general appreciation of the importance of the work.

Governor Wolfe in the annual message above referred to speaks of Pennsylvania's early enterprise in this laudatory manner:

It is a fact that redounds greatly to the honor of this State, and the recollection of it must always be gratifying to the citizens, that Pennsylvania was...
with here and there a hut, and slovenly, careless, indifferent state of agriculture which the want of encouragement by opening the necessary avenues and conveyance to market will always produce, and a state of squalid poverty and wretchedness that would contrast badly with the richness of our soil and the numerous advantages with which the God of nature has favored us, and which he designed we should improve with a view to increase of our comfort and happiness.

Early in 1832 the canals were completed and in use from Columbia to Hollidaysburg, and from Johnstown to Pittsburgh. Passengers were at that time carried a distance of thirty-three miles over the mountain in stage coaches in from six to eight hours, and freight was hauled in wagons consuming the time between dawn and darkness, twelve to fourteen hours.

The Commissioners in their report for 1832 (page 25) called attention to the fact that "the canal repairs have been a prolific source of vexation."

The repairs during the year on the main line amounted to nearly $195,000, of which sum $116,500 was charged to "extraordinary expenses," increasing the cost of this class of repairs to nearly a quarter of a million of dollars in the first two years that the canals were open. During the same period the gross receipts were $89,000 and the ordinary repairs amounted to $129,900.

The Commissioners estimated the expense of extending the canal from Huntingdon 41.6 miles to Hollidaysburg, of which they speak as the "Frankstown Line," at $756,841.63, or about $18,000 a mile.

Although the through line from Philadelphia to Pittsburgh was not completed until the following year, a very satisfactory amount of business was done upon the detached portions of the canals which were operated during the year 1833. The tolls on the canals of what was afterwards known as the "Main Line" were nearly $90,000. On the branch lines the gross receipts were over two-thirds of that amount.
The report of the Commissioners for 1833 says that the following amounts had been charged to repairs during the year:

<table>
<thead>
<tr>
<th>Division</th>
<th>Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>Eastern Division</td>
<td>$12,463.33</td>
</tr>
<tr>
<td>Juniata Division</td>
<td>$15,748.33</td>
</tr>
<tr>
<td>Western Division</td>
<td>$23,854.15</td>
</tr>
</tbody>
</table>

The gross receipts for tolls on these lines were $89,760.64

The gross receipts for tolls from branch lines were $61,688.36

About $30,000 was added to the estimated cost of the Portage Railroad, which had been placed at $1,526,030.

1834

The year 1834 is memorable in the history of the State of Pennsylvania.

As the Commissioners state in their annual report: "All the canals and railroads authorized by law are so far completed as to admit of transportation throughout their whole extent."

On the 15th of April, 1834, the Governor of the State of Pennsylvania, the Canal Commissioners and members of the Legislature embarked on a canal boat from Harrisburg bound for Columbia, to take part on the following day in the opening of the railroad from Philadelphia to Columbia, the final link in the Main Line of the State works.

The event was hailed with joy throughout the State.

With the opening of the lines through from Philadelphia to Pittsburgh the tolls collected on the canals and railroads increased to $323,535—more than double the amount received during the previous year.

In the language of the Commissioners, "Merchandise is now carried between Philadelphia and Pittsburgh in eight days at one dollar per 100 lbs. and to Cincinnati at $1.30. Flour from Pittsburgh to Philadelphia at $1.12\ 1/2 per barrel."

The Commissioners in the same report expressed the belief that "the 720 miles of canal and railroad belonging to the State will in a few years yield $2,107,749 per annum."

This prediction concerning the future revenues of the canal, which were expected to increase rapidly, was based upon the fact that the season on the Pennsylvania canals was eight weeks longer (opening five weeks earlier in the spring and continuing three weeks later) than on the New York canals.

The following from the Harrisburg Reporter of April 30, 1834, bears directly upon this point:

We have been credibly informed that arrangements are making in the city of New York for organizing a company with an extensive capital to carry trade to and from New York and Pittsburgh via the Delaware and Raritan Canal and Pennsylvania Canal and Railway.

Of the reasonableness of such a project no one can doubt. The Pennsylvania Canal opens from six to eight weeks earlier in the spring than that of New York. Merchants in New York must either make arrangements to transport merchandise to the West on the Pennsylvania Canal and Railway or they must lose the spring sales. In addition, it appears that arrangements are making for running a regular and daily line of steamboats to and from Pittsburgh next season.

The Pennsylvanian of May 7, 1834, makes the following announcement:

The several lines of the Pennsylvania Canal are now in excellent navigable order. The difficulties at the North Bridge Dam have been overcome and the line has been navigable for a week past. Large amounts of toll are taken by the collectors, and the accounts from the different lines are of the most cheering character. The increase of trade and business since last year is immense and equals the most sanguine calculations. To give our readers an idea of the business doing upon our canals when they are yet in their infancy, we state the fact that upwards of 500 canal-boats have been regularly registered and are in constant use.

The canal Commissioners are making great exertions to facilitate the trade upon the Pennsylvania and Portage Railroad. They have engaged fifteen locomotive engines for the former and five for the latter. The greater portion of them will be placed upon these roads in the course of the present season.

The Harrisburg Reporter of May 14, 1834, presents the following gratifying picture:

The several lines of the Pennsylvania Canal are now in excellent navigable order and in full operation. The slight breach on the Juniata, which inter-
ruptured the navigation of that division for a few days, has been repaired. The Portage Railroad is also in full operation, and immense quantities of produce and merchandise daily pass over it. The receipts of toll on our public improvement since amount to upwards of one hundred and ten thousand dollars. During the corresponding period of last financial year the receipts were thirty-eight thousand dollars, showing an increase thus far of upwards of seventy-five thousand dollars.

To Pittsburg

BY THE

NEW LINE
OF
RAIL ROAD CARS
AND CANAL PACKETS.

THE WESTERN TRANSPORTATION COMPANY
(LEECH, ROBERTS & TOLAND'S LIFE)

Respectfully inform the Public, they have made arrangements with Messrs. Stever, Shoemaker, Peters & Coaker, of the Union Rail Road Company, to convey passengers to Columbus in their Cars, which leave the Corner of Broad and Vine Street at 7 o'clock, and 8 o'clock, every morning; arriving at Columbus in time for the Packets, which leave at 8 o'clock in the evening, for Holidaysburg. Passengers there take the Western Transportation Company's Cars across the Mountains, and proceed to Johnstown, from whence they will be conveyed by Packets to Pittsburg, making the journey with visiting bolgus, in 6 days.

The Boats have each a Ladies and Gentlemen's Cabin, with 25 berths and appropriate conveniences. The Tables are plentifully provided, and the accommodations such as to insure comfort and render the tour most interesting for the traveler and invalid.

For further information, apply to W. J. Stude, Red Lion Hotel, Market Street, above Sixth Street, and for Passengers George W. Morgan, Agent, at the White House, Race Street, between 2d & 3d Streets, or at the Company's: Gentleman's Store, North Street, Chestnut Street, Shaeufield.

Prices to

HARRISBURG, ........................ 8.00
LEWISTOWN, ........................ 4.30
HOLIDAYSBURG, ...................... 6.75
PITTSBURG, ........................... 8.00

Card poster advertising transportation via canal. Containing woodcuts of a canal boat and one four-wheeled stage-body passenger car. 1835.

The Commissioners also expressed their belief that the canal would assist in the rapid development of the coal and iron industries and that a large amount of mineral freight would be transported over the canal.
"registered capacity of the canal in 1834 was
664 boats of all kinds." In order that the
reader may form some idea of the business
done during the sixth month after the public
works were opened for traffic through to Pitts-
burgh, the following statement from the Penn-
sylvania of September 24, 1834, is quoted:

CANAL TOLLS.
Tolls received on the Pennsylvania Canal and
Railway for the week ending September 13, 1834:

<table>
<thead>
<tr>
<th>Location</th>
<th>Tolls Received</th>
</tr>
</thead>
<tbody>
<tr>
<td>Philadelphia</td>
<td>$4,934.47</td>
</tr>
<tr>
<td>Paoli</td>
<td>176.40</td>
</tr>
<tr>
<td>Lancaster</td>
<td>67.38</td>
</tr>
<tr>
<td>Columbia</td>
<td>681.85</td>
</tr>
<tr>
<td>Portsmouth</td>
<td>1,128.96</td>
</tr>
<tr>
<td>Harrisburg</td>
<td>1,000.35</td>
</tr>
<tr>
<td>Duncan's Island</td>
<td>38.05</td>
</tr>
<tr>
<td>Newport</td>
<td>22.45</td>
</tr>
<tr>
<td>Lewistown</td>
<td>235.47</td>
</tr>
<tr>
<td>Huntingdon</td>
<td>89.11</td>
</tr>
<tr>
<td>Hollidaysburg</td>
<td>1,769.11</td>
</tr>
<tr>
<td>Johnstown</td>
<td>1,535.08</td>
</tr>
<tr>
<td>Blairsville</td>
<td>20.47</td>
</tr>
<tr>
<td>Lecichburg</td>
<td>22.97</td>
</tr>
<tr>
<td>Pittsburgh</td>
<td>604.46</td>
</tr>
<tr>
<td>Beaver</td>
<td>76.05</td>
</tr>
<tr>
<td>Liverpool</td>
<td>35.09</td>
</tr>
<tr>
<td>Northumberland</td>
<td>145.72</td>
</tr>
<tr>
<td>Easton</td>
<td>1,132.28</td>
</tr>
<tr>
<td>New Hope</td>
<td>72.79</td>
</tr>
<tr>
<td>Bristol</td>
<td>435.03</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>$11,241.63</strong></td>
</tr>
</tbody>
</table>

It will be observed by all who feel an interest
in the welfare and prosperity of Pennsylvania that
the receipts for tolls upon the public works are
steadily and uniformly increasing. This advance
is not the result of adventitious circumstances, but
a fair and conclusive proof of the value of improve-
ment.

The construction of the public works had
not been accomplished without effort. The
appropriation of money from the State Treasury
was made a prominent issue at each State
election during the ten years following the
enactment (1826) of the initial law relating to the
State works.

An idea of the bitter feeling which was en-
gendered by public discussion is shown by
the following extract from the Pennsylvania
of September 24, 1834:

All that could be done by a most powerful
money aristocracy and a violent political party,
animated with zeal and possessed of talents to de-
press the trade and business of Pennsylvania, has
been done.

But the solid foundations upon which rests the
prosperity of this State could not be shaken by the
combined efforts of money and party zeal.

Our improvements, in their infancy, like Hercules
in his cradle, have strangled a serpent. This en-
ergy and redeeming strength of this system of
inter-communication, founded as it is upon the
true interest of the State, and sustained as it is by
the progress of political science and true policy,
must, before long, rank amongst its friends all
true friends of the State.

As to those itinerant speculators in politics who
come amongst us, as they have a right to come,
and degrade themselves in their vain attempts to
degrade the State, they are too selfish to be satis-
fied with anything but their own advancement.

1835.

On the first of March, 1835, the Pennsylvania
and Ohio Transportation Company had
begun the running of a daily line from Phila-
delphia to Pittsburgh. Its boats ran from
Philadelphia to Reading, by the Schuylkill
canal, and thence to Middletown by the Union
Canal, where a junction was made with the
Pennsylvania Canals and Portage Railroad.

The following advertisement of this line is
taken from the Pennsylvania of February 11,
1835:

PE consistency & OHIO TRANSPORTA-
TION COMPANY.

The Proprietors of this line will commence running
their Daily Line from Philadelphia to Pitts-
burgh, via the Union and Pennsylvania Canals and
Portage Railroad, on the first of March next, or as
soon as the navigation will permit.

A boat will leave J. Bunting & Co.’s wharf,
foot of Callowhill street, on the Schuylkill, Phila-
delphia, and one the Canal Basin from George
Mulholland, Jr’s Warehouse, Pittsburgh, daily (Sundays excepted).

The Boats and Cars on this line are all First
Class, with experienced Captains, and every des-
patch will be given goods sent to their care.

Back freight and expenses will be paid by the
subscribers on all goods shipped by this line.

Freights will be those customary on the Canal,
and goods will be delivered in as short a time as
by any other line.

Royer & McLanahan, Hollidaysburg.
George Mulholland, Pittsburgh.
During the season of 1835 improved passenger packets were placed in use on the Pennsylvania canals. These boats were "furnished in the most superior style, fitted of the fourth day. As advertised, he passed "over the Columbia and Philadelphia and Portage Railroads both by daylight." Travelling on the roomy canal boat was regarded

up exclusively for the accommodation of passengers and will carry no freight." The passenger who took his seat in the train at Broad and Vine Streets at eight o'clock in the morning, expected to reach Pittsburgh by the night as a great improvement over the cramped stage coach.

The beauties of the scenery have been described in prose and in song by distinguished authors, who obtained their impressions from
the decks of the “Excelsior,” “Good Will” and the “Keystone.”

In 1880, during the Garfield campaign, R. S. Elliott, who served as engineer in the construction of the canals in 1834, thus described the transition of passengers from the stage coach to the canal packet:

I have noted the advent of the stages and their drivers when our turnpike road came into use. But what is human glory after all? The canal came, with packet boats for passengers, and where was the glory of the stage driver then?

Gone, like the snowflake in the silver fountain,
Or as the daylight fades o’er vale and mountain.
For the boat captain outshone any driver that had ever held rein or sounded his brass horn as he swept proudly round on a high trot to the tavern door. The stages still ran and carried mails, for boats could not run in winter; but the charm had gone out of the driver. No more the expectant gatherings at the tavern portals. They were down at the canal to greet the packet.

And when the boat came gliding into the lock and her captain, fearless on her bloodless deck, gave the sonorous order “Snub her!” what was Wellington at Waterloo to him? And, in sooth, not to be despised were those canal packets. Kitchen at the stern, table from end to end of the cabin, three square meals and at night a double tier of shelves on either side for beds, what was all this but comfort and luxury, if not grandeur, and the journey still going on! What are the din-
team on the tow-path. Nor can you enjoy
and analyze the scenery at forty miles an hour as you could from the quietly gliding packets. And then our rival packet lines—the “Pioneers” and “Good Intent”—what ardent emulation, with three horses to each boat, tandem on the tow-path! Noble ambition to excel!

In the early days of the Pennsylvania canals, D. Leech and Company became the proprietors of the “Western Transportation Company,” with which they were identified for many years. Many of the old way-bills bearing their name are still in existence, and are highly treasured by antiquarians who have secured them for collections relating to the early history of the State of Pennsylvania.

Leech and Company was a power in the politics of those early days. Many of the regulations which were adopted upon the State works were suggested by them. From 1834, when the through line to Pittsburgh was opened, until 1857, when the Pennsylvania Railroad Company obtained control of the State works, this firm was probably more powerful in politics than any other small body of men in the State of Pennsylvania. At their office, on the north side of Chestnut street, below Second, then known as No. 43, many men interested in the City and State politics frequently called to discuss matters of legal and general moment.

The following advertisements of D. Leech and Company’s line appeared in the Pennsyl-
vanian of July 25, 1835:

PHILADELPHIA & PITTSBURG
PIONEER LINE.

For the accommodations of passengers only.
Through in three days and a half.

RAIL-ROAD CARS & CANAL PACKETS
From Philadelphia to Pittsburg.

By this line passengers will leave Philadelphia at 8 o’clock A. M. and arrive at Pittsburg on the afternoon of the fourth day, being only three nights on the way.
They will pass over the Columbia and Philadelphia and Portage Railroad both by day and night. These boats are an improvement on the best model now in use on the Erie Canal, and furnished in the most superior style. They are fitted up exclusively for the accommodation of PASSENGERS and will carry no freight.

The Proprietors of this Line have spared no expense in fitting it, so as to promote the speed and comfort of passengers.
The boats will be drawn by three splendid horses, and they will run short stages. Their Captains are all experienced and accommodating.
The cars are an improvement upon the most improved models.
As this Line will afford travellers a full view of the Main Line of the Pennsylvania improve
between Philadelphia and Pittsburg, they respectfully solicit public patronage.

An Omnibus will always be in readiness in each city for the purpose of calling for and conveying passengers to any part of either city, free of any additional charge.

This Line will go into operation as soon as the Canal opens in the Spring.

Office, 89 Chestnut Street, 2 doors from 3d.

J. K. MOORHEAD,
N. P. COOPER,
Agents for the Columbia and Pittsburg Packet Boat Co.

Proprietors.—D. Leech, Leechburg; Thomas S. Clarke, Pittsburg; Jacob Forsyth, Pittsburg; John Tustin, Philadelphia; Thomas Tustin, Philadelphia.

For further information apply to the office, No. 43 Chestnut Street, below Second, Philadelphia.

JOHN CAMERON, Agent for the Proprietors.

THE WESTERN TRANSPORTATION COMPANY.
(D. Leech & Co.’s Line.)

Having made extensive arrangements for transporting passengers and freight, between Philadelphia and Pittsburg, on the Pennsylvania Canals and Rail-Roads, will despatch two substantial decked boats, daily, (Sundays excepted), from Walnut Street Wharf, Schuylkill, with Merchandise, for Pittsburg and intermediate ports, and from their stores in Broad Street, two trains of Burthen Cars, by the Philadelphia and Columbia Rail-Road. By this route goods will be delivered at Pittsburg in 10 days.

Midship or steerage passengers will leave the Depository in Broad Street, daily, at 8 O’clock A. M.

FARE BY THE ABOVE LINE—$6.00.

Also, a Packet Line, with Cabin accommodations, viz.—

The Packet Boats for Cabin Passengers are fitted up in the most comfortable manner, each having a gentlemen’s and Ladies Cabin, with comfortable berths, exclusively for the accommodation of passengers. The Cars on the Philadelphia, Columbia and Portage Rail-Roads are of the best description. Through by this line as soon as any running the above route. Seats may be taken at their office, No. 43 Chestnut Street, below Second, north-side, and at their Ware-House, Broad Street near Vine, west side. Hour of leaving 8 O’clock A. M. Daily—passing over the Philadelphia, Columbia, and Portage Railroads, in daylight.

Fare to Harrisburg, 111 miles, $3.00
New Port, 138 " 3.50
Mexico, 155 " 3.87
Lewistown, 171 " 4.00
Huntington, 216 " 4.87
Alexandria, 226 " 5.00
Williamsburg, 238 " 5.25
Hollidaysburg, 254 " 5.50
Johnstown, 390 " 6.50
Blairsville, 320 " 6.08
Pittsburg, $7.00

BEDFORD SPRINGS.

VIA RAILROAD AND PACKET TO HOLLIDAYSBURG, in
D. Leech & Co.’s Passenger Line.

FARE FROM PHILADELPHIA TO HOLLIDAYSBURG $5.50.

The public is respectfully informed that the above line of superior boats run daily from Columbia to the termination of the Railroad at Hollidaysburg, where stages are always in readiness, to convey passengers to Bedford thirty miles distant. To those who wish to combine healthful air, beautiful scenery, gentle exercise, undisturbed sleep, and occasional change in the mode of travel, this route presents every possible inducement.

No pains have been spared to fit up boats, in the most comfortable manner, and also to set a table that shall invite the dullest appetite and satisfy the most craving; and the boats are all in charge of civil and attentive captains, who know their duty and will perform it.

P. S. Horses and carriages can always be procured at Hollidaysburg, should a private conveyance be preferred.

For passage and other information apply to the Great Western Rail-Road and Packet Office, 43 Chestnut Street, 3d door below Second, north side.

The firm of Reeside and Company had become prominent in transportation circles in New Jersey before the opening of the Camden and Amboy Railroad. In 1835 they also conducted a line over the Philadelphia and Columbia Railroad to Bedford Springs. The following advertisement appeared in the Philadelphia Inquirer of August 1st, 1835:

BEDFORD SPRINGS.
(Cut of Cars & Loco.)

PERSONS intending to visit the Springs, are informed that they can be conveyed in the Pioneer Line, via Philadelphia and Columbia Rail-Road, and Pennsylvania Canal to Hollidaysburg, thence take
Reeside’s Line of Stages, making only 30 miles by Stage in the whole route. This route is particularly recommended to those who may be travelling either for health or pleasure, as they will have their regular rest on board the Canal boats, which are fitted up in the very best style, exclusively for the accommodation of passengers.

There is a livery stable in Hollidaysburg, where those preferring it can have private conveyance to the Springs. For further particulars inquire at the office 39 Chestnut Street, 2 doors below Third.

In the elections in the autumn of 1835 the appropriations for public works were the prominent issues. The debt of the State had been increased two millions of dollars during the previous ten years, and many men, prominent in financial circles, who had formerly given their support to the Democratic party, felt it to be to their self-interest to inaugurate a different rule at Harrisburg. With these questions as the issue, Joseph Ritner was nominated for Governor as an anti-Mason and reform candidate. He was elected by a majority of 28,219 votes, and immediately after his inauguration on the 15th of December, 1835, he began to institute a system of reform in the expenditures of the State, as will be indicated by the following extracts from his message of January 2, 1836, in which he vetoed the bill passed by the Legislature, entitled “An act further to continue and promote the Improvements of the State,” which contained a section appropriating a large sum of money for the purchase of locomotives for the Philadelphia and Columbia Railroad and for the Portage Railroad.

In returning the bill to the House of Representatives without his signature, he said:

I regret to be obliged to withhold the executive approbation from an act which involves no question of constitutional right. Nothing but a firm belief that the best interests of the State demand it could induce me to do so. This reluctance is increased when duty requires the disapproval of a bill for continuing the internal improvements of the State. Could I believe that the measure was calculated to hasten the completion and promote the usefulness of those works, it would receive my sanction without reference to the amount of money appropriated. True economy demands that the main lines of our canals and railways now under contract or partially completed shall be pushed on with the least possible delay to the points of their original destination. But it seems that this bill is calculated to materially retard their progress by dissipating the funds of the commonwealth upon a great variety of objects, which, however meritorious in themselves, and interesting as local improvements, are not part of the main lines, but lay the foundation for a vast increase of the public debt.

The Governor’s reasons for vetoing the bill were as follows:

1. It distributes a greater portion of present resources of the commonwealth among works not owned by the State.
2. It bestows upon capitalists and speculators money which is the property of the whole people.
3. It fritters away money by partially completing work, then falling back on the State for appropriations, thereby increasing the State debt.
4. It increases the debt of the State in four years to $45,000,000.
5. If this act became a law the treasury would be empty.
6. It is a total departure from our true policy, to husband our means.
7. Its passage will have a most disastrous effect on all of our present undertakings.
8. Its consequences will be injurious not only to the finances but to the morals of the State, for “the bare probability of the passage of the bill has already unsettled the condition of whole sections of the State and has given a new stimulus to the over-excited spirit of speculation.”
9. Its signature would be a violation of every principle and pledge made during the late election.

Regretting that many valuable provisions were incorporated with the objectionable features of this bill, and expressing his belief that “the rising sun of prosperity is bound to come, if we do not prevent its arrival by embarrassing the present,” Governor Ritner concluded his message as follows:
GOVERNOR RITNER'S REFORM ADMINISTRATION.

I regard this as the first question that has arisen involving those principles of reform and economy for the support of which I stand pledged before my fellow-citizens. I therefore send the resolution back with my objections, respectfully but earnestly asking you to take them into your serious consideration.

If more mature deliberation should lead you to coincide with the views here presented I shall then have no doubt of the propriety of my course. In that hope I would further respectfully suggest the great propriety and necessity of at once going into a general examination of the whole internal improvement system, and the adoption of such measures of retrenchment and reform as the best interests of the commonwealth demand.

Investigation and reform are, by a great majority of our common constituents, asserted to be proper and necessary. Permit me to add that the earlier they are commenced the better.

JOSEPH RITNER.

Harrisburg, January 2, 1836.

During the year 1836 the expenditures of the State works were closely supervised by the party in power, and for many years Governor Ritner's incumbency as Governor was referred to as "the reform administration." At the close of the year 1836, 591 miles of canals had been constructed by the State of Pennsylvania at a cost of nearly fourteen millions of dollars, as will be shown by the following statement:

<table>
<thead>
<tr>
<th>Cost of Pennsylvania State Canals to December 31, 1836.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Miles</td>
</tr>
<tr>
<td>------------------</td>
</tr>
<tr>
<td>Eastern Division, Columbia to Duncan's Island</td>
</tr>
<tr>
<td>Juniata Division to Hollidaysburg</td>
</tr>
<tr>
<td>Western Division, Johnstown to Pittsburg</td>
</tr>
<tr>
<td>Delaware Division, Brindal to Easton</td>
</tr>
<tr>
<td>Susquehanna Division, Junction to Northumberland</td>
</tr>
<tr>
<td>West Branch Division, Northumberland to Dunmore</td>
</tr>
<tr>
<td>North Branch Division, Northumberland to Lackawanna</td>
</tr>
<tr>
<td>Beaver Division, Beaver to New Castle</td>
</tr>
<tr>
<td>French Creek Division, Franklin to Feeder</td>
</tr>
<tr>
<td>French Creek Feeder to Conemaugh Lake</td>
</tr>
</tbody>
</table>

It will be noted that the average cost of these canals was $23,500 a mile or 12½ per cent more than the Erie canals, completed two years earlier.

In the report of the Commissioners for the year 1836 it was stated that "the revenue from the public works is derived almost entirely from the Main Line." In December, 1837, the Philadelphia Commercial List prepared a comparative statement to show the tolls taken on the Pennsylvania public works and the New York canals during the year. In this statement they included the receipts on seven New York canals, together with the tolls taken on the Pennsylvania canals, the Columbia and Portage railroads, the Schuylkill, Lehigh and Union canals, "as forming a great chain of communication with the West." It will be perceived that according to these figures the revenue derived from the Pennsylvania State works exceeded those of New York by nearly three hundred thousand dollars.

**Receipts of Tolls, 1837.**

| State Canals | $473,661.11 |
| Railroads | $285,503.01 |
| Schuylkill Canal | $664,890.57 |
| Lehigh Canal | $147,266.74 |
| Union Canal | $107,590.37 |

Total receipts Pennsylvania... $1,619,814.80
Total receipts New York... $1,357,781.17

Balance in favor of Pennsylvania works... $262,033.63

The gross receipts of the public works in 1837 amounted to nearly one million dollars, as follows:

**Main Line.**

| Railway tolls | $285,504.01 |
| Motive power tolls | $216,585.37 |
| Canal tolls, Eastern Division | $215,867.50 |
| Canal tolls, Western Division | $132,523.49 |

Total Main Line... $850,480.37
Canal tolls, branches... $124,870.12

Total all sources... $975,350.49
THE PENNSYLVANIA RAILROAD COMPANY.

PIONEER
FAST LINE.

BY RAIL ROAD CARS AND CANAL PACKETS,

From Philadelphia to Pittsburgh,
THROUGH IN 3½ DAYS;

AND BY STEAM BOATS, CARRYING THE UNITED STATES MAIL,

From PITTSBURGH to LOUISVILLE.

Starts every morning, from the corner of Broad & Race St.

In large and splendid first class cars, via the Lancaster and harmonica Rail Roads, moving at the latter short, at 6 o'clock, in the morning, whose passengers will take the Eastern, which are all more built upon a more spacious measure, being here built expressly for the accommodation of Passengers, also the most approved mode of their road in the Erie Canal, and are not surpassed by the same used upon any other Lines.

The Baths are constructed by old and experienced匠, several of whom have been connected with the Line for the two last years.

For speed and comfort, this Line is not equaled by any other in the United States.

Passengers for Cincinnati, Louisville, Natchez, Nashville, St. Louis, &c.

Will always be favored at being taken on without delay, on this Line coming from the North at Pittsburgh, carrying the Mail.

OFFICE: N. E. CORNER OF FOURTH AND CHESTNUT ST.

[Post mark: April, 1837]

A. B. CUMMINGS, April

Poster advertising routes between Philadelphia, Pittsburgh, Louisville and Western cities, by canal packets, Philadelphia and Columbia Railroad and old Portage Railroad, issued April, 1837.
PORTABLE IRON BOATS INTRODUCED, 1840.

1838-39.

The tolls on Main Line of public works in 1838 were as follows:

<table>
<thead>
<tr>
<th>Description</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Philadelphia and Columbia Motive Power</td>
<td>$164,052.74</td>
</tr>
<tr>
<td>Philadelphia and Columbia Road Tolls</td>
<td>233,988.76</td>
</tr>
<tr>
<td>Portage Railroad Motive Power</td>
<td>44,517.60</td>
</tr>
<tr>
<td>Portage Railroad Road Tolls</td>
<td>73,744.98</td>
</tr>
<tr>
<td>Eastern Division Canal Tolls</td>
<td>164,073.73</td>
</tr>
<tr>
<td>Western Division Canal Tolls</td>
<td>116,130.92</td>
</tr>
</tbody>
</table>

$826,108.73

For 1837 ........................................... 850,860.37

A decrease of .................................. $24,371.64

About 37 per cent. compared with the previous year.

The year 1840 completed the first decade of the railway era in America. Improved methods of construction of track and bridges had been introduced, and the locomotive had been improved both in skillful construction and in increased power. The first great step had been taken in the solution of the problem of carrying a heavy load on wheels. During this decade the canal had been brought to a high state of perfection, both in New York and in Pennsylvania, but its eventual decadence as the most important factor in transportation began to be apparent to those who appreciated the immense possibilities of the future railroad.

The number of miles of railroads and canals belonging to the State in 1840 were as follows:

<table>
<thead>
<tr>
<th>Description</th>
<th>Miles</th>
</tr>
</thead>
<tbody>
<tr>
<td>Delaware Division, from Bristol to Easton</td>
<td>59¼</td>
</tr>
<tr>
<td>Columbia Railroad, extending from Broad and Vine Streets, in</td>
<td>82</td>
</tr>
<tr>
<td>Philadelphia, to the basin in Columbia</td>
<td></td>
</tr>
<tr>
<td>Eastern Division, extending from Columbia to the junction</td>
<td>44½</td>
</tr>
<tr>
<td>of the Juniata and the Susquehanna Divisions on Duncan's Island</td>
<td></td>
</tr>
<tr>
<td>Juniata Division, extending from the junction at Duncan's</td>
<td>127½</td>
</tr>
<tr>
<td>Island to the basin at Hollidaysburg</td>
<td></td>
</tr>
<tr>
<td>Portage Railroad, extending from Hollidaysburg to Johnstown</td>
<td>37</td>
</tr>
<tr>
<td>Western Division, extending from Johnstown to the Monongahela</td>
<td>104½</td>
</tr>
<tr>
<td>River at Pittsburgh</td>
<td></td>
</tr>
<tr>
<td>Beaver Division, extending from the Ohio River, at the mouth</td>
<td>30½</td>
</tr>
<tr>
<td>of Beaver, to the head of slack water on the Shenango, six</td>
<td></td>
</tr>
<tr>
<td>miles above Newcastle</td>
<td></td>
</tr>
<tr>
<td>Erie Extension, extending from the head of the Beaver</td>
<td>42</td>
</tr>
<tr>
<td>Division to the town of Greenville</td>
<td></td>
</tr>
<tr>
<td>French Creek Feeder, extending from the head of navigation,</td>
<td>27</td>
</tr>
<tr>
<td>in the pool of Bemus' Dam, three miles above Meadville, to</td>
<td></td>
</tr>
<tr>
<td>the junction of the Erie Extension, including the Conesusit</td>
<td></td>
</tr>
<tr>
<td>Lake</td>
<td></td>
</tr>
<tr>
<td>Franklin Line, extending from the Feeder Aqueduct, seven</td>
<td>22½</td>
</tr>
<tr>
<td>miles below Meadville, to the town of Franklin, on the</td>
<td></td>
</tr>
<tr>
<td>Allegheny river</td>
<td></td>
</tr>
</tbody>
</table>
Susquehanna Division, extending from the junction at Duncan's Island to Northumber-land ........................................ 39
West Branch Division, extending from Northumber-land to Farrandsville ............... 73
North Branch Division, extending from Northumber-land to Lackawanna ............... 72\frac{1}{2}
Lewisberry Side Cut, extending from Lewis-berry to the West Branch Division ...... 96
Bald Eagle Side Cut, extending from the pool at the Dunstown Dam on the West Branch Division to the Bald Eagle Creek ......... 356

freight and passenger business had constantly increased, as will be shown in the chapters describing those portions of the State works.

In 1840 the high tolls in force in 1839 were reduced and 136,252 bbls. of flour were shipped from Pittsburgh east over the canals.

In the spring of 1840 portable iron boats were introduced upon the Pennsylvania Canals. The manner of conducting these boats over the mountain is explained in the

Lackawanna Feeder, at the termination of the North Branch Division ........................ 34
Allegheny Branch of the Western Division, in Alleghenytown ---------------------- 34
Feeder at Johnstown, on the Western Division 1\frac{1}{2}
Feeder at the mouth of the Raystown Branch of the Juniata Division ............... 1

Number of miles Canal and Railroad completed ........................................ 768\frac{1}{4}

During the six years that the Columbia and Portage railroads had been in operation the following advertisement published in a Pittsburgh newspaper on the 14th of March, 1840:

Pittsburgh newspaper, March 14, 1840.

PORTABLE IRON BOAT LINE.

Cut of Canal boat.

FOR FREIGHT AND PASSENGERS.—
The public are respectfully informed that the above Line will commence operations immediately on the opening of the Canal. It is expected the Canal will be filled by Monday, the 16th instant,
at which time we will dispatch our first Boat, and continue daily throughout the season, from both Philadelphia and Pittsburgh, Sundays excepted.

This Line from the mode of conveyance, affords great facilities for carrying both freight and passengers, the boats being formed in sections, which are separated and carried over the mountains and railroad without removing the cargo, thus saving the time, trouble, and risk of trans-shipment at three different points. It also furnishes great advantages to families who are removing and to merchants who wish to accompany their goods, and have them under their own charge from point to point.

The warehouses of this Company are large and spacious, affording sufficient room to store all goods committed to their charge, and the subscribers, thankful for past favors, solicit a continuance of that liberal patronage heretofore bestowed upon this Line. They are now fully prepared to receive merchandise and produce for shipment, and the public are assured that any goods committed to their care shall be forwarded in as good order, as short time, and upon as fair terms, as by any other Line. For freight or passage apply to

JOHN McFADEAN & CO.,
Canal Basin, Penn Street, Pittsburgh.

JAMES M. DAVIS & CO.,
No. 365 Market St., Philadelphia, Agents.

---

**SCHEDULE OF TIME,**

AND

**RULES & REGULATIONS**

FOR TOWING PACKET BOATS.

**FROM PITTSBURGH TO**

<table>
<thead>
<tr>
<th>Location</th>
<th>Miles</th>
<th>To</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tarentum</td>
<td>10</td>
<td>4</td>
</tr>
<tr>
<td>Freeport</td>
<td>7</td>
<td>1</td>
</tr>
<tr>
<td>Leechsburgh</td>
<td>7</td>
<td>1</td>
</tr>
<tr>
<td>Warren</td>
<td>7</td>
<td>1</td>
</tr>
<tr>
<td>Saltsburgh</td>
<td>14</td>
<td>3</td>
</tr>
<tr>
<td>Tunnel</td>
<td>7</td>
<td>1</td>
</tr>
<tr>
<td>Blairsville</td>
<td>10</td>
<td>3</td>
</tr>
<tr>
<td>Lockport</td>
<td>10</td>
<td>4</td>
</tr>
<tr>
<td>Ninoveh</td>
<td>10</td>
<td>3</td>
</tr>
<tr>
<td>Johnstown</td>
<td>10</td>
<td>3</td>
</tr>
</tbody>
</table>

Time through,

31:50

The above time is intended for the Evening Boat. The Morning Boat must go up at least forty-five minutes quicker than the Evening Boat.

**FROM JOHNSTOWN TO**

<table>
<thead>
<tr>
<th>Location</th>
<th>Miles</th>
<th>To</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ninoveh Station</td>
<td>10</td>
<td>3</td>
</tr>
<tr>
<td>Lockport</td>
<td>10</td>
<td>3</td>
</tr>
<tr>
<td>Blairsville</td>
<td>10</td>
<td>3</td>
</tr>
<tr>
<td>Saltsburgh</td>
<td>14</td>
<td>3</td>
</tr>
<tr>
<td>Warren</td>
<td>14</td>
<td>3</td>
</tr>
<tr>
<td>Leechsburgh</td>
<td>11</td>
<td>2</td>
</tr>
</tbody>
</table>

Time through,

28:20

Drivers must have their teams on the "Tow Path," ready for the Boats when they arrive at the Stations. If not ready, Captains will wait on past the Station, and report all Drivers who are not ready, to the Tow Path Agents.

**D. LEECH & Co. Proprietors.**

Schedule of time and regulations for towing packet boats between Pittsburgh and Johnstown. Issued by D. Leech & Co. 1840.
At this time the office of the Express and Pioneer Canal Packets and D. Leech and Company's packet and freight boats in Pittsburgh was located at "the Exchange Buildings, St. Clair street, and nearly opposite the Pittsburgh Hotel, in Wood street, and at the Canal Basin, head of Penn street," the proprietors being D. Leech and Co.

The proprietors under date of March 16, 1840, published a notice to the effect that: The water being now in the several divisions, the subscribers will, as soon as they have positive information that there will be no detention on the way (which will be about the 20th), start their lines of packets.

Captain J. H. Hanna, who was captain of a passenger packet in 1840 and for many years afterward, thus describes an eastern trip from Pittsburgh at this period:

We would start from Pittsburgh at nine o'clock in the evening and run to the end of the Western Division, at Johnstown, in 28 hours, a distance of 103 miles. In that distance we would change horses thirteen times. A passenger packet left Pittsburgh every evening, and generally the boat would be crowded with passengers. When we got to Johnstown the passengers would be taken over the mountains in coaches. Half way across the coaches would meet those making transfers from the canal on the other side, and each would turn and go back with the other coach's load. Several years after the canal was in operation the old Portage Railway was built across the mountain, and section boats were then built and taken across in that way without a transfer of passengers being made.

During 1840 and 1841 great objection was made to the expenditure of so large a sum annually for the repairs to the public works, and a resolution approved by the Governor on June 24, 1842, directed that no work except urgent repairs should be done on the public works of the commonwealth "until ordered by law."

The records show that in 1840, for the first time in the history of the State works, they were operated at a loss of over seventy-five thousand dollars. The following statement of receipts and expenditures of the Main Line of the Pennsylvania State works covers the first ten years of their operation. As it was prepared by the Canal Commissioners, it must, therefore, be taken cum grano salis.

The receipts for tolls collected on the several lines of the public improvements, for the year ending the 31st of October, 1840, were, according to the reports of the Commissioners, as follows:

<table>
<thead>
<tr>
<th>Description</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Canal</td>
<td>$520,098.91</td>
</tr>
<tr>
<td>Railroad</td>
<td>292,045.45</td>
</tr>
<tr>
<td>Motive Power</td>
<td>296,354.36</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>$1,108,498.72</td>
</tr>
<tr>
<td>Deduct drawback on flour</td>
<td>22,983.00</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td>Actual amount collected</td>
<td>$1,085,515.72</td>
</tr>
</tbody>
</table>
LIMITED CAPACITY OF THE CANAL.

85

MAIN LINE, TEN YEARS, 1835-44.

<table>
<thead>
<tr>
<th>Years</th>
<th>Receipts</th>
<th>Expenditures</th>
<th>Net Revenue</th>
<th>Loss</th>
</tr>
</thead>
<tbody>
<tr>
<td>1835</td>
<td>$597,670.40</td>
<td>$333,394.20</td>
<td>$244,276.20</td>
<td></td>
</tr>
<tr>
<td>1836</td>
<td>734,890.28</td>
<td>501,533.31</td>
<td>251,356.97</td>
<td></td>
</tr>
<tr>
<td>1837</td>
<td>850,479.37</td>
<td>733,999.03</td>
<td>116,510.34</td>
<td></td>
</tr>
<tr>
<td>1838</td>
<td>848,538.69</td>
<td>543,306.28</td>
<td>305,232.41</td>
<td></td>
</tr>
<tr>
<td>1839</td>
<td>920,489.57</td>
<td>546,444.97</td>
<td>374,044.60</td>
<td></td>
</tr>
<tr>
<td>1840</td>
<td>1,002,885.07</td>
<td>1,085,683.44</td>
<td>$77,798.37</td>
<td></td>
</tr>
<tr>
<td>1841</td>
<td>904,397.28</td>
<td>605,501.15</td>
<td>298,896.13</td>
<td></td>
</tr>
<tr>
<td>1842</td>
<td>733,027.45</td>
<td>602,040.38</td>
<td>131,007.07</td>
<td></td>
</tr>
<tr>
<td>1843</td>
<td>841,092.24</td>
<td>559,577.38</td>
<td>281,514.86</td>
<td></td>
</tr>
<tr>
<td>1844</td>
<td>948,995.69</td>
<td>446,141.66</td>
<td>502,854.03</td>
<td></td>
</tr>
</tbody>
</table>

$8,433,107.04 $5,935,009.20 $2,574,996.21 $77,798.37

Net revenue, $2,497,197.84

The Philadelphia Inquirer, commenting on this statement in January, 1845, indulges in the following remarks:

Certainly an immense and mighty work—and one that is creditable in the highest degree to the enterprise of the commonwealth. Would that the debt incurred in its construction could be promptly liquidated, and thus the people relieved from taxation and the State from embarrassment and obligation.

In 1844 an act to reduce the State debt and to incorporate the Pennsylvania Canal and Railroad Company was passed by the Legislature with the hope that a corporation might be organized to purchase and operate the State works, which year after year had been the cause of increased taxation to the citizens of Pennsylvania. This act, together with subsequent similar laws, are discussed in the chapter entitled “The Decadence of the State Works.” During the ten years immediately succeeding the opening of the State works the coal and iron business in the western portion of the State grew to large proportions. It was stated by the American Railroad Journal of March 1, 1846, that “The produce of iron in its various forms, from the pig, for the year 1846 in Pittsburgh City will be an average of 1,000 tons per week. About one-fifth of this will be in the form of nails.”

The act incorporating the Pennsylvania Railroad Company was approved by the Governor on the thirteenth of April, 1846, and the question of a through rail line from Philadelphia to Pittsburgh was then decided, so far as legal enactment was concerned.

The expense of conducting the canals, including a certain amount of necessary repairs, was $68,000 in 1844, and increased to $79,000...
in 1845, $141,000 in 1846, $180,000 in 1847; on account of the damages caused by the flood of this year they were increased to $412,000 in 1848, and continued to vary between $150,000 and $250,000 during the remaining years of the second decade of the operation of the State works, as will be shown in the following table of receipts and expenditures prepared by the Canal Commissioners in the year 1855:

Statement of receipts and expenses, Main Line Pennsylvania Canals, 1844-1854.

<table>
<thead>
<tr>
<th>Year</th>
<th>Receipts</th>
<th>Expenses</th>
</tr>
</thead>
<tbody>
<tr>
<td>1844</td>
<td>$351,102</td>
<td>$67,818</td>
</tr>
<tr>
<td>1845</td>
<td>346,673</td>
<td>79,368</td>
</tr>
<tr>
<td>1846</td>
<td>335,380</td>
<td>140,855</td>
</tr>
<tr>
<td>1847</td>
<td>425,396</td>
<td>179,300</td>
</tr>
<tr>
<td>1848</td>
<td>426,662</td>
<td>412,039</td>
</tr>
<tr>
<td>1849</td>
<td>443,325</td>
<td>152,910</td>
</tr>
<tr>
<td>1850</td>
<td>479,446</td>
<td>161,900</td>
</tr>
<tr>
<td>1851</td>
<td>375,205</td>
<td>249,882</td>
</tr>
<tr>
<td>1852</td>
<td>310,816</td>
<td>209,899</td>
</tr>
<tr>
<td>1853</td>
<td>336,875</td>
<td>255,254</td>
</tr>
<tr>
<td>1854</td>
<td>279,459</td>
<td>216,715</td>
</tr>
</tbody>
</table>

The great flood of 1847 caused such serious damage that many extraordinary repairs were required. In February, 1848, $332,000 were appropriated by the State "for repairs ordinary and extraordinary."

The Pennsylvania Telegraph of March 14, 1849, contains the following under the caption "Opening of the Main Line":

The entire main line of the Pennsylvania Canal, from Columbia to Pittsburgh, was opened for navigation on Saturday last.

The first boat was dispatched by Leech's line, heavily freighted with merchandise for the West; and business along the whole line has become active, a large amount of merchandise being already on its way to the West, and still more constantly arriving.

In consequence of the early opening of the Pennsylvania Canal, a larger amount of spring business will be done on it before the New York Canal will open, which will be about the first of May.

After the opening of the Pennsylvania Railroad to Lewistown in September, 1849, and its extension to Huntingdon in 1850, the receipts of the canal fell off from $479,500 in the latter year to $279,000 in the year 1854. The receipts for the years 1855 and 1856 show a similar decrease in the receipts of the canals. This condition of affairs was the incentive which led to the passage of the laws of 1854, 1855, 1856 and 1857, relative to the sale of the Main Line of the public works.

The condition of the canal at the date of its purchase by the Pennsylvania Railroad Company in 1857 was described in the annual report of Edward F. Gay, State engineer, for the year 1856. With reference to the eastern division of the main line he said:

The original dimensions of the canal as constructed contemplated a water surface of forty feet, depth of water four feet, and width of bottom twenty-eight feet. At the time of my examination the water surface was found unimpaired, but the bottom width, on a portion of the line, had become reduced to an average of sixteen feet, and in some cases to not more than ten feet wide. At such points the water does not exceed three and one-half feet in depth, which, gradually diminishing at the sides, renders the passage of boats exceedingly difficult. Indeed, it is not unusual in such places to see what is technically called by the boaters a "jam," that is, two loaded boats passing each other in opposite directions become wedged in between the sides of the canal, thus obstructing the passage of other boats, until a "swell" of water from the nearest lock above sets them afloat and enables them to proceed. In the meantime a large number of boats accumulate, and serious detentions are caused. . . . This is one of the most important divisions in the State, but the business is done to great disadvantage, and it must be evident from the description here given that its capacity is less by nearly one-fourth than it was originally designed to be. Hence the cost of transportation upon it is increased by that amount, as the same power, the same complement of men and the same time only is required to pass a boat carrying a hundred tons that would be for one with seventy-five tons.

1 Damages owing to floods in 1847.

2 Pennsylvania Railroad opened to Lewistown, September, 1849.

3 In 1854 an appropriation for one million dollars for the North Branch Canal was made by the Legislature of Pennsylvania.
At the terminus of the canal at Columbia a basin or pool was constructed for the accommodation of the large number of boats which loaded and unloaded merchandise at this point; here freight was transferred to and from the Philadelphia cars. Large frame warehouses were built along the eastern side of this basin, with space enough between them to accommodate three canal boats abreast.

The goods shipped to and from Philadelphia by railroad were stored in these warehouses and transferred to the boats, which were brought to the doors. A large business was soon developed after the opening of the canal, so that at times there were not boats and cars enough to move the freight.

David Leech and Co. established a freight line from Philadelphia to Pittsburgh in 1834. This firm built a number of large boxes which, together with the goods which they contained, could be lifted bodily off the car trucks by block and tackle and deposited on the decks of canal boats especially constructed for the purpose. The press of business at the warehouses sometimes required many hours of continual work day and night by the clerks and freight handlers.

It is stated that the first packet boat which ran upon the canal between Columbia and Middletown was the "Red Rover," which was built at Graff's Landing at the head of the Conestoga slack water navigation and carried passengers from Safe Harbor to Lancaster. The boat was taken to the river "...and after several days' toil forced up the stream with set poles and ropes. It was finally taken to the Codorus slack water navigation, and ran between York borough and the river."

Handsome passenger packet boats were also built to carry first-class passengers to the various points along the route of the canal above Columbia.

Many of the boatmen employed on the canal were rough and difficult to deal with, and it required great courage on the part of the officers of the canal to manage them. During the period from 1835 to 1845 thousands of immigrants from Europe were brought to the canal basin at Columbia in cars and shipped westward in canal boats to the western States.

Great rivalry existed between the captains of these passenger boats to make quick time to the first lock at Chiques, for whichever packet was able to reach that point first had no difficulty in keeping in advance for many miles. From six to nine horses were frequently hitched tandem to the towing-ropes, and when two or more boats started from the basin at the same time, the passengers in their excitement often sprang to the towpath and took hold of the ropes to help the boat on which they had embarked towards the locks.

Rival crews frequently engaged in fights and brawls along this "first level," for when one boat attempted to pass another sticks and clubs were often used quite vigorously. Some times towing-ropes were cut, and every boat carried on the bow a knife "shaped like a sickle," which would catch and cut any towing-ropes which did not pass under the hull of the boat. "Sometimes large amounts of money were wagered by passengers and owners of boats as to which would arrive at Chiques locks first. On one occasion the steersman of Capt. Thomas' packet boat was supposed to have been bribed by the rival. When passing from Marietta he deliberately ran the bow of his boat against a wooden trestle which supported a foot-bridge at the hotel of James Stackhouse. The timbers of the bridge fell upon the deck of the boat and Capt. Thomas was thrown into the canal, and the child of Joseph Strickler, in the arms of Miss Pratt, was killed."

Among the men conspicuous in the promotion of public improvements were a number who afterwards became prominent in the affairs of the State and nation. James Buchanan and Thaddeus Stevens were earnest advocates of the construction of transportation lines. George M. Dallas, afterwards Vice-President of the United States, was one of the early Canal Commissioners. Francis R. Shunk, Governor of Pennsylvania when the act incorporating the Pennsylvania Railroad
Company was passed, began his career as Secretary of the Canal Board. W. F. Packer, William Bigler and James Pollock, all of whom afterward became Governors of the State, in their early lives filled subordinate places on the public works. David Wilmot, author of the Wilmot Proviso and president of the convention that nominated Abra-

Thomas A. Scott, H. H. Houston, J. J. Houston, Charles Francis and Samuel Young.

Upon the rolls of canal employees may also be found the names of Wilson Knott, the second Superintendent of the Portage Railroad, Samuel F. Jamison, James K. Moorehead, afterwards a distinguished member of Congress, Nathan S. Roberts, Alonzo Livermore,

Card Poster, issued 1835, containing illustration of the building at Columbia where Thomas A. Scott, afterwards President of the Pennsylvania Railroad Company, first began his service with the Company as a clerk.

A number of the men who afterwards attained places of importance on the Pennsylvania Railroad had their first experience in the business of transportation at the canal basin at Columbia. Among the number were Sylvester Welsh, Edward Miller, Solomon W. Roberts, and John A. Roebling, afterwards engineer of the Brooklyn Bridge, all of whom were prominently connected with the construction and development of the public works.

Of Edward Miller the story is told that
when first employed he received as compensation four dollars a day, while Solomon W. Roberts, who soon afterwards was appointed to a similar position, was placed on the rolls at a salary of three dollars a day. Mr. Roberts, thinking his services of equal value to those of Mr. Miller, asked for an increase, but the Canal Board refused "because the appropriation would not justify them in granting the increase," but Mr. Miller, recognizing the justice of Mr. Roberts' claim, generously asked that his pay be reduced to $3.50 a day and that Mr. Roberts' be increased to that amount, which was done.

Great opposition was manifested in the Legislature to the extension of the canal below Middletown to Columbia. Through the earnest efforts of General George B. Porter, member from Lancaster, and John Torry, Jr., member from Columbia, the act extending the canal to Columbia was finally passed, notwithstanding the fact that no members from Lancaster county were given places on the Committee on Canals, so that much difficulty was experienced in obtaining action by this committee.

Serious irregularities crept into the management of the public works, resulting in many scandals.

In the construction of the north branch of the canal it was shown that on a certain section of that work under construction, contracts were declared forfeited and after a brief period the same work was relet to the original contractors at an advance cost of nearly one hundred thousand dollars. It was proved afterwards that the contractors during all the time never stopped work, not even for an hour.

On the Portage Railroad, the Superintendents were accused of withholding the pay of the employees and of using the money in their private business of dealing in provisions, which they transported over the State works free of toll. It was also stated that they required all their employees, under pain of dismissal, to purchase their groceries and other supplies from them.

The pay of the locomotive engineers on the portage road was once withheld for three months. This action brought on a strike "which stopped transportation, paralyzed trade, and caused a great commotion."

In these early days the pay of laborers was from forty to fifty cents a day; engineers in charge of stationary engines on the planes received a dollar and a dollar and a quarter a day. The officer who was paid one hundred dollars a month was thought to receive a princely income.

Notwithstanding these many adverse circumstances the public works were of untold advantage, especially in the earlier days of the development of the State. "Agriculture, commerce and manufactures were stimulated to a wonderful extent, and the wealth of the commonwealth was increased with almost incredible rapidity. The farmer, who previously had no market for the products of his farm, and was restricted to the production of what he and his neighbors required, suddenly found a market for his surplus. Before the opening of these improvements he had no inducement to raise a surplus, having no market in which to dispose of it, and was confined to raising what he required for himself and what he could dispose of within a radius of some forty miles; now he was stimulated to produce all he could. He found that with a little additional labor and expense he could largely in-
crease his profits, and the same held good as to the manufacturer, and the return from the sale of the surplus enabled the farmer to buy more land and buy labor-saving machinery, thus increasing his surplus. The canals and railroads transported this surplus and returned what was wanted by the farmers.”

The following statement concerning the Main Line of the Public Works of the State of Pennsylvania was furnished the author by T. T. Wierman, chief engineer, under date of December 28, 1895:

The Main Line of the Public Works constructed by the State of Pennsylvania, combining a continuous line for transportation purposes from Philadelphia to Pittsburgh, 397 miles, was comprised thus: Philadelphia and Columbia Railroad, 81 miles; the Eastern and Juniata divisions respectively of the Pennsylvania Canal, Columbia to Hollidaysburg, 176 miles; the Allegheny Portage Railroad, Hollidaysburg to Johnstown, 36 miles; the Western Division of the Pennsylvania Canal, Johnstown to Pittsburgh, 104 miles.

By an act of the Legislature of May 16, 1857, the Main Line of the Public Works was conveyed by deed of sale to the Pennsylvania Railroad Company. Under the terms of this sale it was provided that the Western Division of the Pennsylvania Canal could be abandoned for boating purposes upon the completion of the Western Pennsylvania Railroad, Blairsville to Allegheny City, and that was done accordingly in 1865.

The Allegheny Portage Railroad was not operated after the completion of the Pennsylvania Railroad throughout, about the year 1888.

By the enabling act of Legislature dated June 24, 1879, the canal from Huntingdon dam to Hollidaysburg, 36 miles, was abandoned for boating purposes. By a similar act of the Legislature dated May 7, 1889, a further portion of the canal, from Newton Hamilton to Huntingdon, 23 miles, was abandoned. The great river flood of June, 1889, was the cause of extensive damage to the canal, so much so that it was found impracticable to make the necessary repairs, and in consequence the canal from Millerstown to Newton Hamilton, 57 miles, remains out of service and closed for boating purposes since the date named. The canal from Columbia to Millerstown, 62 miles, is still operated, and is the property of the Pennsylvania Canal Company.

In addition to the Main Line as above enumerated, the State of Pennsylvania also constructed a system of canals along the Susquehanna river and its north and west branches respectively thus: Susquehanna Division, junction to Northumberland, 41 miles; North Branch Division, Northumberland to New York State Line, 167 miles; West Branch Division, Northumberland to Farrandsville, 68 miles.

By an act of the Legislature, dated April 21, 1858, this system of canals was sold to the Sunbury and Erie Railroad Company, and various portions of the canal were subsequently sold by that company to other corporations.

The portion of North Branch Canal from Wilkesbarre to New York State Line, 103 miles, became the property of the Pennsylvania and New York Canal and Railroad Company, and upon completion of its line of railroad paralleling the canal, the latter was abandoned in the year 1872.

The canal from Nanticoke to Wilkesbarre, 9 miles, was similarly paralleled by the North and West Branch Railroad Company and sold to that company, when the canal was abandoned in the year 1882.

The portion of West Branch Division from Farrandsville to Lock Haven, 3 miles, was abandoned in the year 1874. Another portion, Lock Haven to Loyal Sock, 31 miles, was abandoned in the year 1889, having suffered extensive damages by the great river flood of that year. From Loyal Sock to Muncy, 11 miles, the canal remains closed for boating since June, 1894, as the result of damages from river floods. The Susquehanna and portion of West Branch Division respectively, still in operation from Loyal Sock to Junction, 65 miles, is part of the Pennsylvania Canal Company’s system.

The Wiconisco Branch Canal, from Millersburg to Clarks Ferry, 13 miles, is situated in Dauphin County along the east bank of the Susquehanna river, was abandoned in the year 1890, and at that time was owned by the Pennsylvania Canal Company.

The Delaware Division Canal, constructed by the State of Pennsylvania from Easton to Bristol, 60 miles, is still in operation by the Delaware Division Canal Company.

The Erie Extension Canal, from Erie to Beaver, 136 miles, and French Creek Division Canal, Franklin to Conneaut Lake, 25 miles, were partially constructed by the State of Pennsylvania, and subsequently transferred to a corporation and completed by the latter. These canals were abandoned in the year 1871.

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1 Address of Antes Snyder at the reunion of boatmen of the Pennsylvania Canal held at Blairsville, September 9, 1897.
EMPLOYEES ON THE CANAL ATTAIN PROMINENCE.

Although the canal was superior to the post rider and the mail coach for general purposes of transportation, there were connected with it many difficulties and disadvantages.

During several months of each year when the canal was not navigable, passengers and merchandise were carried "in the old way" by stage coach and Conestoga wagon.

In a history of Huntingdon county, Pennsylvania, published twenty years ago, the author closes a most interesting allusion to the canal system of Pennsylvania in these well chosen words: "As we look at it now and reflect upon the decay of its utility we are apt to get the impression that those who saw it in its infancy were unduly elated, but we must remember the difference in their position and

\[1\]History of Huntingdon County, in the State of Pennsylvania, from the Earliest Times to the Centennial Anniversary of American Independence, Milton Scott Lytle, Lancaster, 1876, pp. 144, 145.

ours. They compared it with the past, with the pack horses which were still within the recollection of many of them, with the arks which carried their freight to market and brought none in return, with the teams which made their trips from Baltimore or Philadelphia to Pittsburgh in the space of two or three weeks, requiring four or six horses to convey a few tons of merchandise, and with the stage coaches, which, the more rapidly they travelled, the more uncomfortable they became. In such a comparison there was reason for exultation and joy. They had made one of the great strides in progress, and their self-congratulation was as well justified as is ours in those that we have since taken. Who knows how soon we may be robbed of our glory, the railroad be converted into a highway where impecunious pedestrians may travel without danger from the locomotive, and the latter be made a subject for ridicule by some unphilosophical boaster of the future?"