REPORT

OF

THE CASE

OF

ALEXANDER AND OTHERS

AGAINST

THE PRESIDENT, MANAGERS AND COMPANY OF THE SCHUYLKILL NAVIGATION COMPANY.

INSTITUTED

TO RECOVER DAMAGES FOR THE LOSS OF THE BRIDGE AT THE FALLS OF SCHUYLKILL, DURING THE FRESH OF THE 21ST OF FEBRUARY, 1822.

TRIED BEFORE

THE COURT OF COMMON PLEAS

OF

PHILADELPHIA COUNTY,

On the 18th day of February, 1824.

REPORTED FOR THE WATERING COMMITTEE.

BY JOHN C. LOWBER.

PHILADELPHIA:

PRINTED BY LYDIA R. BAILEY, No. 10, NORTH ALLEY.

1825.

CONTENTS.

INTRODUCTION.

THE Corporation of the City of Philadelphia, in purchasing from the Schuylkill Navigation Company the right to erect a Dam across the river Schuylkill near Fair Mount, for the purpose of securing to the City an ample supply of wholesome water, assumed the obligation which the Legislature had imposed on the Navigation Company, in the original grant of the privilege, to pay all damages which should be occasioned by the Dam. The work was begun in the Spring of 1819, and was completed in July 1821. The swelling of the water, for a considerable distance above the Dam, was the immediate consequence, and has given rise to a number of claims for damages. Among the most important of these claims, was that of the owners of the Falls Bridge, which was entirely swept away, during the great fresh of the 21st of February 1822. A petition was presented by them to the Court of Common Pleas, agreeably to the Act of Assembly of the 8th of March 1815, and an issue was formed, the trial of which is the subject of the following pa-

ges. The only question discussed before the Court and Jury was, whether the destruction of the Bridge had been occasioned by the Dam, or was to be attributed to natural causes. The amount of the damages claimed, the great expense which had been already incurred by the City in the construction of the Fair Mount Works, and the valuable information contained in the testimony of the witnesses, in regard to the extent and consequences of the fresh of 1822, and other remarkable freshes in the same stream, gave an uncommon interest to the trial, and have led to its publication.

REPORT

OF THE CASE OF

Alexander and Others against *The President, Managers and Company of the Schuylkill Navigation Company.*

ON the eighth day of March, 1815, the Legislature of the State of Pennsylvania passed an Act, entitled "An Act to authorize the Governor to incorporate a Company to make a Lock Navigation on the River Schuylkill," by virtue of which Act, certain persons were incorporated by the name of "The President, Managers and Company of the Schuylkill Navigation Company."

By the 9th, 10th, 11th, and 15th sections of the Act, it was enacted, as follows:—

"SECTION IX. It shall and may be lawful for the said President, Managers and Company, their superintendents, surveyors, engineers, artists, and workmen, to enter upon the said river Schuylkill, to open, enlarge, or deepen the same in any part or place thereof, which shall appear to them most convenient for opening, changing, making anew, or improving the channel, and also to cut, break, and remove and take away all trees, rocks, stones, earth, gravel, sand, or other material, or any obstruction or impediment whatsoever within the said river; or to use all such timber, rocks, stones, gravel, earth, or other material, in the construction of their necessary works; and to form, make, erect, and

set up any dams, locks, or any other device whatsoever, which they shall think most fit and convenient to make a complete slack-water navigation from one end thereof to the other, so as to admit a safe and easy passage for loaded boats, arks, and other vessels, as well up as down said river, or by means of such collateral sluices and docks as they may devise for the purpose.

"SECTION X. If any person or persons shall be injured by means of any dam or dams being erected as hereinafter mentioned, or the land of any person inundated by swelling of the water, in consequence of the erecting of any dam or dams, or any mill or other water works, which may have been erected in said river, or any stream of water emptying into the same: And if the President, Managers and Company cannot agree with the owner or owners thereof, on the compensation to be paid for such injury, the same proceedings shall be had as is provided in the eleventh section of this Act; the persons valuing the damages being first sworn or affirmed, or the jury, as the case may be, shall take into consideration the advantages which may be derived to such owner or owners by the navigation aforesaid.

"SECTION XI. The said President, Managers and Company shall have power and authority, by themselves or their superintendents, engineers, artists, and workmen, to enter in, on and upon, and occupy for the purpose, all land which shall be necessary and suitable for erecting a lock, sluice, or canal, doing as little damage as possible, and then to dig, make, and erect such lock, sluice, or canal, satisfying the owner or owners thereof; but if the parties cannot agree upon the compensation to be made to such owner or owners, it shall and may be lawful for the parties to appoint six suitable and judicious persons, who shall be under oath or affirmation, and who shall reside within the proper county where the land lies, or if they cannot agree on such persons, then either of the parties may apply to the Court of Common Pleas of the proper county where the land lies, and said court shall award a *venire* directed to the sheriff, to summon a jury of disinterested men, in order to ascertain and report

to said court, what damages, if any, have been sustained by the owner or owners of said ground, by reason of such lock, canal or sluice passing through his, her or their land; which report being confirmed by the court, judgment shall be entered thereon, and execution may issue in case of non-payment for the sum awarded, with reasonable costs to be assessed by the court; and it shall be the duty of the jury or the six appraisers, as the case may be, in valuing any land, to take into consideration the advantage derived to the owner or owners of the premises, from the said navigation passing through the same: *Provided,* that either party may appeal to the court within thirty days after such report may have been filed in the prothonotary's office of the proper county, in the same manner as appeals are allowed in other cases: *And Provided* also, that if any person owning land or any other property, which shall be affected by this Act, be feme sole, under age, non compos mentis, or out of the state, then and in either of the cases, the President, Managers and Company shall, within one year thereafter, represent the same to a neighbouring justice of the peace, or to the Court of Common Pleas of the county, as the case may be, who shall proceed thereon in the same manner, and to the same effect, as is directed by this Act in similar cases."

"SECTION XV. The said President, Managers and Company shall have the privilege, and be entitled to use the water power from the said river, sluices or canals, to propel such machinery as they may think proper to erect on the land which they may previously have purchased from the owner or owners, or may sell in fee simple, lease or rent for one or more years, the said water power, to any person or persons, to be used in such manner and on such terms as they may think proper: *Provided,* it be so done, that it shall not at any time impede or interrupt the navigation: and shall apply the moneys arising from the sale of the water power to the improvement of the navigation, or repairing of any damages that the dams or locks may have sustained."

On the 16th day of October, 1822, the following petition was presented to the Court of Common Pleas for the County of Philadelphia:—

"To the honourable John Hallowell and his associates Judges of the Court of Common Pleas for the County of Philadelphia:

"The petition of William Alexander John Bohlen The Bank of Germantown Conrad Carpenter John Conard Turner Camac Paul Cox William Deal William Esher Jacob Epley Samuel Harvey John Johnson Robert Kennedy Benjamin R. Morgan Samuel Maulsby Alexander Provest Isaac W. Roberts John Roberts Peter Robeson Lewis Rush George V. Reinhart Nicholas Rittenhouse Joseph Sorber Joseph Sims Frederick Stoever junior John Thoburn Robert Watkins Enoch Wheeler Samuel Wheeler Charles Wheeler Jonathan J. Wheeler Joseph Paul in right of his wife Elizabeth John Johnson in right of his wife Sarah Ann F. Wheeler Jane Johnson Samuel Bettle and Daniel Elliot

"Respectfully showeth, That your petitioners, having purchased of The President and Managers of the Schuylkill Falls Bridge Company, in pursuance of an Act of Assembly authorizing them to make sale thereof, all their corporate rights and estate as granted by a certain other Act of Assembly entitled "An Act for establishing and building a Bridge across the River Schuylkill at or near the Falls thereof to Robert Kennedy and Conrad Carpenter their heirs and assigns" and as subsequently vested in the said corporation by force and virtue of a certain other Act of Assembly entitled "An Act incorporating the Schuylkill Falls Bridge Company and for other purposes," have at a considerable expense erected a bridge over the river Schuylkill at the falls thereof, about four miles from the city of Philadelphia, for all persons to pass on foot or on horseback, and for cattle and carriages of all sorts, at certain rates of toll authorized by the said Acts of Assembly, and from and after the erection of the said bridge and until the twenty-first day

of February last your petitioners received a large and profitable amount of toll for the same;

"That the President Directors and Company of the Schuylkill Navigation Company, or some person or persons authorized by them, have erected or caused to be erected a dam across the said river below the said bridge, by reason whereof the water of the said river was so swelled and increased as to have occasioned on or about the twenty-first day of February last, the total overthrow of the wooden work of the said bridge, which by the sudden recession of the water thus swelled and increased was swept off, carried away, and lost, whereby your petitioners have been greatly injured and are entitled to receive compensation therefor, within the true intent and meaning of the Act of Assembly in such case made and provided.

"But the said The President Managers and Company of the Schuylkill Navigation Company, although thereto requested, refuse to make any compensation to your petitioners for the same, and your petitioners and the said Company cannot agree on the appointment of suitable persons to ascertain the damage sustained.

"Your petitioners therefore respectfully pray that this honourable Court will be pleased to award a Venire to be directed to the sheriff of Philadelphia county, to summon a jury of disinterested men, in order to ascertain and report to the Court what damages by reason of the premises have been sustained by your petitioners.

"W. RAWLE *Agent and Attorney*
"*for the Petitioners.*"

Whereupon the Court ordered a *Venire* to issue.

On the 28th day of February 1823, an agreement was entered into between the counsel for the plaintiffs and the counsel for the defendants, and filed, in the following words:—

" William Alexander and others
v.
" The President Managers and Company of the Schuylkill Navigation Company

" Godfrey Shunk
v.
" Same Def'ts.

" In the District Court for the City and County of Philadelphia Sur petitions presented and Venires awarded and issued in each case

" It is hereby agreed that appeals be entered on the part of the plaintiffs in each of the above cases—the inquest in each case being considered and agreed as having found in favour of the plaintiffs only the sum of one dollar;

" That the appeals be set down for trial by special jury and that no advantage be taken on either side in respect to form.

" Hor. Binney
" Ch. Chauncey } *for Dfs.*
" W. Rawle *for Pffs.*

" *Feb.* 28, 1823."

On the 18th day of February 1824, the following agreement between the counsel was filed:—

" Alexander and others
v.
" Schuylkill Navigation Co.

" It is agreed that the issue to be tried, shall be deemed to be as follows—in case any issue shall be deemed necessary: The petitioners aver that they have sustained damage by the erection of the Dam at Fair Mount, as stated in their petition; The Defendants deny it, and for this put themselves on the country and the Plaintiffs do the like.

" W. Rawle *for Pffs.*
" Hor. Binney
" Ch. Chauncey } *for Dfs.*

" *Feb.* 18, 1824."

On the last mentioned day, the cause was called on for trial, before the Honourable John Hallowell, Esquire, President, and Benjamin Morton and Hugh Ferguson, Esquires, Associate Judges of the Court of Common Pleas, and a special jury.

Mr. Rawle, on behalf of the Plaintiffs, in the first place, proved by a variety of evidence, that the title to the bridge in question was legally vested in the plaintiffs, at the time when the injury thereto was alleged to have been sustained. It is unnecessary to set out that evidence, as the fact was not disputed on the part of the defendants.

It appeared also, that a certain Robert Kennedy, being seised of land on the north-east side of the Falls of Schuylkill, was, by an Act of Assembly, passed the 9th day of April 1807, authorized to construct and support a mill-race, on and contiguous to the said land, and thereby to lead off on his own land, so much of the water of the river as he should find necessary for certain purposes authorized by the said Act. The said Robert Kennedy and his wife, by indenture bearing date the 31st day of March 1810, recorded at Philadelphia, in Deed Book I. C. No. 8, page 539, &c. conveyed the said land and water-right to a certain Josiah White, his heirs and assigns. And the President, Managers and Company of the Schuylkill Navigation Company, by articles of agreement dated the 14th day of August 1816, recorded at Philadelphia, in Deed Book M. R. No. 12, page 331, &c., in pursuance of their Act of Incorporation, and of a Supplement thereto, passed the 8th day of February 1816, granted to the said Josiah White, his heirs and assigns, the right to erect a dam across the said river at the Falls; and the said Josiah White, his heirs and assigns, were thereby for ever invested with and entitled to all the rights of water-power, at the said improvement at the Falls, which the said Company were entitled to grant under the Act of Assembly and Supplement aforesaid, under certain stipulations mentioned in the said articles.

On the 1st day of January 1817, Josiah White and wife, by indenture recorded at Philadelphia, in Deed Book M. R.

No. 19, page 502, &c., conveyed to a certain Joseph Gillingham, his heirs and assigns, one-sixteenth part of the whole of the water of the said river, without any deduction, and also a full, equal, and undivided moiety of and in the right of water-power of the Falls of Schuylkill, and generally, of and in all the water of the river Schuylkill at the said Falls.

On the 17th day of April 1819, the said Josiah White and wife, and the said Joseph Gillingham and wife, for the consideration of one hundred and fifty thousand dollars, conveyed to the mayor, aldermen, and citizens of Philadelphia, all their right of water-power at the Falls of Schuylkill, and generally, of and in all the water of the river at the Falls, and all the rights, privileges, and advantages, derived by them from the Schuylkill Navigation Company, with the appurtenances.

The President, Managers and Company of the Schuylkill Navigation Company, by articles of agreement bearing date the 3d day of June, 1819, and reciting all the foregoing conveyances and agreements, granted to the mayor, aldermen, and citizens of Philadelphia, the right to erect a dam across the said river, near to Fair Mount, at or nearly opposite to Hunter street in the town-plot of Morrisville. And the said mayor, aldermen, and citizens of Philadelphia, by the same agreement, covenanted to pay all penalties and damages which the Schuylkill Navigation Company would or might be liable to pay, so far as said penalties or damages might be occasioned by the dam or other works to be erected at or near Fair Mount, and to pay all expenses attending suits which might be brought against the said Schuylkill Navigation Company, by reason of the said dam.

It appeared that the City Corporation, having thus become possessed of the whole of the water-power of the said river, proceeded to erect the Dam at Fair Mount, which was completed in the summer of 1821. On the 21st day of February 1822, the bridge of the plaintiffs, at the Falls of Schuylkill, was moved from the piers and abutments by means of an accumulation of ice and water, and was completely carried away and destroyed.

In order to show that the injury complained of was occasioned by the erection of the dam, a number of witnesses were called by the plaintiffs' counsel, and deposed as follows:

Joseph Miller, sworn: I was employed as a carpenter in the erection of the bridge at the Falls of Schuylkill. Began some time in June 1818. The building committee gave me instructions. The materials put in were very good. I was ordered to get the best, and got as good as I could find. The bridge was boarded at the sides, and shingled. I think it was finished on the 8th of October, in the same year. They had begun to receive tolls twelve months before. I was not among the first who began; Lewis Wernwag first began it. It was a sound, substantial, well-built bridge, when I closed my work, as far as I took any notice of it. I could not see the bridge when it went off in February, but saw it afterwards going down, about half a mile below;—she looked as natural, as if she had been on her piers;—lay directly across the river. I was sick that day, and not out of the house. I had noticed the rise of the water before that day; it was twenty feet above its usual state. My house is about half a mile below the bridge, on the other side of the Schuylkill. The height of the floor above the surface of the water, as nearly as I can recollect, was, in common times, about twenty-two feet. This was before the dam was built at Fair Mount. I believe I have seen the ice thicker than it was that winter. I could not see from my house on the 22d of February, whether there was ice floating above the bridge, or not.

Being cross-examined: I have resided in the neighbourhood of the Falls eight years last June; was absent a short time in the city, but have lived nearly on the banks all the time. I have seen an ice-fresh in the river, I think in 1816. It was not as high as the last, within four or five feet, as near as I can recollect. I lived then within a few yards of where I now live. In 1816, the ice jammed at Peters' island; cannot say how long it remained there;—not a month;—more than a day. The upper point of Peters' island is about three quarters of a mile below the Falls, it may be more.

There are flats between Peters' island and the western shore. It was deep water between Peters' island and the eastern shore. The stone work at the bridge was all completed when I began to work there, except the wing-walls. There was some little snow on the ground for two or three days previous to the 21st of February, not more than two or three inches. I do not know whether there was snow or rain the preceding night;—nor on what day of the week the bridge went off.

Examined again in chief: I cannot say how the river was below Peters' island in 1816, when the ice jammed there. I went down as low as the island. Part of the ice passed over the island, and part lodged on it.

John Accups, affirmed: I am a mason; was employed in erecting the piers and abutments at the Falls; began in the summer of 1817. The old piers and abutments were there then. I believe they were all sound. The piers were raised about six feet; I cannot say positively. The part up the river, and the corners of the abutments, were rounded. The wood work was secured to the abutments by three iron bars at each end, let into the stone work about five feet deep, holes bored through the stone, and keys on the lower side. I think the floor was upwards of twenty feet above the surface of the water, but could not say with any exactness. This was when I was at work there. Lewis Wernwag was the carpenter then employed. It was weather-boarded and roofed, after Wernwag left there. I have not attended to the construction of the piers and other stone work of other bridges. I was present when the bridge was swept away. I was opposite to the east end of the bridge, on the hill on the Philadelphia side, between the Ridge road and the river, and had a fair view. I came there about two o'clock, and staid till four. The water was rising when I first went there, but was not up to the wood work. It rose to about two feet on the bridge, and then the bridge gave way, and floated down the Schuylkill. The water did not fall any that I observed, till after the bridge had gone. The iron bars broke, and the

wood work raised up from the water. I perceived the breaking of the bars; they snapt off; I heard one of them; I was looking at it, saw it break, and heard it crack. The bars were an inch and a quarter square. I went down a small distance on the shore, not more than a quarter of a mile; when I returned, the water had fallen about eighteen inches. During the night, I examined the fall of the water. Immediately after the bridge went, I went up to the Flat Rock canal; I perceived no fall of water, from sun-down till two o'clock that night; it had continued to fall from the time the bridge went, till sun-down. At Flat Rock, it had fallen about three feet by that time. When I first took the position on the hill, there was a good deal of ice floating down the river; it passed under the bridge without stopping. I did not see that the piers or abutments were injured at that time by ice coming down. I looked then. I did not go down to the dam.

Being cross-examined: The piers were raised at the ends and in the middle, but the abutments were solid. A wall was raised on each end and in the middle of the piers, about four feet thick, extending across the pier. Some of those walls were carried away by the ice, when the bridge was swept away. The two walls on the lower end of each pier were carried away. I was directly opposite to the end of the bridge. It was impossible to see the stone work when the bridge was carried away, because it was totally covered with water. I believe the bridge was not fastened at all to the piers, but was only laid on them. I am not acquainted with the marks of any ice-fresh at Flat Rock, nor with any prior ice-fresh at the Falls. I do not know when the ice was jammed or stopped in the river. The day preceding, Wednesday the 20th of February, considerable snow fell; it was about a foot deep in Germantown. It turned to rain before morning, and rained very hard in the morning. I think the upper wall was eight feet broad, the others, four.

Isaac Salkeld, affirmed: I remember the former bridge at the Falls. I have from time to time looked at the abutments

and piers. All appeared to be good, except the middle pier, which had some stones washed out. I reported it to the managers. It was the pier nearest to the east side. The stones were not replaced to my knowledge ; it was no great detriment. When the new bridge was built, the piers were raised. Before they were raised, I was present with Mr. Sorber, Mr. Provost the mason, and, I think, Mr. Alexander, when they were talking about raising the piers. I advised them to raise the bridge ten feet higher than it had been, stating at the same time, that Godfrey Schrunk, an old man that had lived in that neighbourhood many years, had showed me a mark upon a tree, which was the height of a fresh in 1784. That mark was nearly eleven feet above the abutments of the bridge as it formerly stood. After this they commenced their operations, and raised the piers and abutments between four and five feet; I think not five, but they exceeded four. I could not tell the height of the floor above the common surface of the water, but should suppose it was about twenty feet; it may be, a little more. In the year 1820 I moved to the Falls, and lived there till about two years ago. I lived at the bridge. From the time I went there, till I left it, I could perceive a difference between high and low tide. I have seen the water at high tide, so that a boat could row up directly under the bridge. Every tide made a difference ; always more or less ; sometimes not more than a foot, or six inches—sometimes four feet. I never saw it run up under the bridge. There might be six inches fall, under the bridge. I have seen the tide flow up as high as Mendenhall's, but never above that; but it swelled at the bridge. I have been drifted up on a raft as high as Livezey's island.

I was out at the Falls the next day after the fresh, after the water had subsided, and made a water mark. I think I had not been at the dam for some weeks before. At the Falls, I found the freshet had been higher than it had been, as long as I had known the Schuylkill, but not as high as it had been in 1784, according to a mark shown to me by Godfrey Schrunk. The water, from appearances, had been

over Hagner's bridge, near the Falls tavern. I measured the ice at the Falls; some cakes were ten, some eleven, some twelve inches. I measured none thicker than twelve. I did not measure it at the dam, nor at Robeson's mill, that I remember. This was two or three days before the fresh. The ice had jammed at Peters' island, and had done so for years before, in the common way; it was no new sight to me. The water at the Falls has been raised by the dam, I should say two feet higher than it formerly was at high water, taking the highest tides.

Being cross-examined: The difference between the fresh in 1822, and the mark shown me by Godfrey Schrunk, was nearly a foot. The mark is on a buttonwood tree in the western abutment. I recollect the fresh in 1816. I lived there. The bridge had tumbled down a few days previous. The ice at that time wanted six inches of coming to the top of the timbers on the abutments, as I took the admeasurement. The time of the rise in 1816, I do not recollect. I cannot tell how long it was rising. It was two or three days. We went down to examine, and found it jammed at the head of Peters' island. It appeared to have moved some little distance below the island. The main dam was at the head of Peters' island; the ice below Peters' island was fast; I walked on it to the Water-Works. We uniformly found the ice freshes jam at Rocky island, below the Wissahickon; then it would break, and jam at Roberts' fishery, a narrow place, stop half an hour, sometimes longer; next at the Falls. I never knew it to stop there more than ten or fifteen minutes. The next stopping-place was at some rocks, near Mendenhall's; next, at Livezey's island; then it would push on to the head of Peters' island, and there jam. If the tide was low, it would jam so that nothing but a tremendous fresh would carry it off; if high, it would sometimes float under, and go off. Always found that was the last point where it made its stand. Our factory at the Falls has been stopped from four to six weeks, by the ice being dammed at Peters' island.

A few days before the bridge went, I accompanied the Watering Committee to the Falls of Schuylkill. I told them how the river had commonly broken; that we should find it jammed at Peters' island. There had been a freshet before, but not a large one. I could not perceive it at the Permanent bridge. We proceeded to Peters' island, where I told them they would find the ice jammed; and so they found it. It seemed to be grounded on the bottom, so that nothing could pass under it. I told Sorber, &c., when they were about raising the piers, the height to which the water had raised in 1784 and in 1816. I resided about twelve feet from the abutment of the bridge. I was in the employ of White & Hazard, in the wire factory, from 1810 till they sold to the Corporation, and then I rented from them, and continued till the works were stopped by the dam at Fair Mount.

Examined again in chief: The rise occasioned by the dam was so great, that the water-wheels would not go round; it may be, seven feet; not more than eight. I have seen the water raised by a fresh, two feet in fifteen minutes. I have seen the ice jam above Peters' island, and continue from fifteen minutes to an hour. In 1816, when I went down from Peters' island, I could see that it was closed to the Water-Works, and was open below Sheridan's bridge, as far as I could see under the bridge. I walked across Peters' island. The lower end of the island had no ice on it. The ice was in the road by Mendenhall's, and had torn away his fence. It was two or three days after the fresh was over. Several other times, I have been curious enough to go down and see when it was driving. Peters' island was the last place where it would stop.

Cross-examined again: In 1822, I recollect, in crossing some fields to go to the head of Peters' island, when I went with the Watering Committee, the snow was from ten to twelve inches deep. In some of the roads, the driver declined driving, on account of the snow. It was a wet spell just after. We anticipated a freshet. It was the general anticipation of the mass of the people. The river is subject to

freshes. I have seen a water fresh of eleven feet by measurement at the Falls, in summer.

Frederick Reddinger, sworn: I have lived in the neighbourhood of the Falls, thirty-eight or thirty-nine years. It was the year after the great ice-fresh, that I went there. A few days before the bridge went, the ice came down from above; they said it was from Flat Rock bridge. It cleared the bridge, went below, and stopped somewhere between Mendenhall's and the bridge. Then we had a change of weather; it got cool, and snowed. I rather think it turned to rain, when it took the bridge off. On the day the bridge went, just after breakfast, I went down to the bank, found the river very high, and the ice very thick. It passed under the bridge, and seemed to strike against the bottom of it. The water was higher then than I ever saw it before, but it fell about dinner time, twelve o'clock. About two o'clock, I went down again, and then the water had risen up to a great height, and great fleets of ice were coming down and striking against the bridge. I expect the swelling of the water had taken off ice which had been lodged on the shore. I staid there looking at it, expecting the bridge could not stand. We thought the water was as much as three or four feet on the floor of the bridge. It continued in that way till the bridge gave way; it gave way all at once, seemed rather to capsize a little; one side struck the wire mill, the other the red lead mill. It went as far as Mendenhall's, and there it lay;—it went further before night. The water fell directly after the bridge went. I have seen thicker ice before the dam was built than since; it was ten or twelve inches thick that winter. The fresh of 1816 was not near so high as this; we could get along the road then. It was not so high by four feet. The fresh of 1784 was remarkably high, up about Norristown; I cannot say how it was here.

Being cross-examined: I think that it snowed and turned into rain, and that rain immediately preceded the carrying off of the bridge. The fresh was certainly caused by the rain and snow water.

ADJOURNED.

Thursday, February 19th.

Frederick Gottwalt, sworn: I was bred and born in the neighbourhood of the Falls, and have always lived there. My residence for the last three years has been on Judge Peters' place, below the falls. The water there was raised by the dam, six or seven feet; about six feet, I expect, at the foot of the Fall. At the first breaking up of the ice in February 1822, the water rose about ten feet; the ice broke up and shoved to Peters' island, where it jammed. It stood there two or three days, may be more. It did not start from Peters' island, I believe, till after the fresh, after the heavy rain; it then came down to Mr. Rundle's, and there jammed. It remained there half an hour, or perhaps an hour. Rundle's is opposite to the Black rock, about three quarters of a mile below Peters' island. I don't know whether it stopped at all after that. The strength of the ice below Rundle's, I expect, stopped it there. The ice was frozen across there. After it started there, it went on; I did not see it. I saw the bridge come down, between three and four o'clock, I think. There was then some ice in the river; some above the dam, and some above the bridge. That above the dam was jammed till the bridge came against it. The bridge stopped at the ice at Peters' island, a little below the island, perhaps ten minutes, and then the bridge and the ice started together. I did not follow it down to the dam, nor see what took place there. There was considerable ice following the bridge at this time. I was up at the bridge in the morning, a while before it went away; it appeared to be safe. I crossed it in the morning; the ice was jammed at the Falls at that time, right under the bridge. I measured ice opposite to my father's house, upwards of twenty inches thick—thicker than I had ever seen it. My father lived on Judge Peters' place at the time, opposite to the lower end of the island. This was the ice formed there, the still water ice. In former times, it took the tide six or seven hours to run out, at Peters' island. At Livezey's, it took an hour less. I have seen the tide flow upward as high as Livezey's, though not very common; sometimes it did, sometimes it did not. When

there were freshes, it would not run up. The fresh in 1822 was the highest I ever knew. I have no particular recollection of that in 1816; nor of any former breaking up when the ice stopped at Rundle's. I do not recollect whether it did or did not. I do not recollect being there, or near there, at the time. I do not remember that the ice ever before stopped at Peters' island, and remained there, when the river below was clear. When the ice started, the water would fall. After the bridge passed Peters' island, the river fell. I was not lower down than Peters' place, at any time during these observations. The water fell in a few minutes after the bridge passed where I was. When I left the bridge in the morning about eight o'clock, the ice was jammed under the bridge.

Being cross-examined: I was twenty-four years old, the 8th day of this month. The point on Peters' place where I was, is not quite half a mile from where the ice jammed. Black rock is a bluff on the east side of the river, nearly perpendicular, seventy or eighty feet high. The river at Rundle's is narrower than any where between the place where I live and the dam. The night before the bridge went away, it rained all night. I recollect no other particulars of the weather. I believe the winter was a cold, steady, hard winter, up to the middle of February. I was not higher up than Renshaw's tavern. I believe there was no ice in the river below the dam, just before the breaking up.

James Renshaw, sworn: I have resided near the Falls all my life. I shall be thirty-two years of age, on the 11th of October next. I have an accurate recollection of the flood in 1816. The first bridge fell in the night; I did not see it. It fell before the flood in 1816. It was thought that it fell from the weight of a heavy fall of snow. I do not recollect any particular freshet between 1816 and 1822. In February 1822, the day the bridge went, the water began to rise in the morning. I was in the piazza back of my house, about four o'clock in the afternoon, when the bridge went off; the end of the bridge on this side went off first. In the course of ten

or fifteen, perhaps twenty minutes, the water must have fallen six or seven feet. Before the bridge moved, the water appeared to be, on the upper side, about twenty or twenty-two inches on the weather-boarding. On the upper side of the piers, the wood work remains; on the lower, it is torn off. There was very little above the bridge, just before it went away. The ice had been jammed under the bridge, perhaps a day or two; it had broken up before, and come down and stopped there. The ice passed under the bridge then, without injuring it. It took a start in the morning. The water was low when the ice stopped; there was not much of a fresh then. From the bridge down, there was a good deal of ice; as far down as you could see from the Falls. Sometimes, it would seem to move; and when still, the water would rise up. The ice did not move a great while from under the bridge, before the bridge went. After the ice which was jammed at the bridge gave way, there was very little ice in the river. I went down to the bridge towards evening, but could not get close to it, on account of the water on the low part this side. In 1816, I lived in a house of Mr. Watkins; then the water came to the sill of the door. In 1822, I took a man's goods in a boat out of the second story of the same house. I should judge the water was about nine feet higher. That was the day the bridge went. I was brought up to coach-making.

John Gottwalt, sworn: I am Frederick Gottwalt's brother. I am not quite thirty-six years old. I have resided chiefly in the neighbourhood of the Falls. When the bridge went, I resided a mile and a half below the Falls, near my brother's; close on the river; on the west side. The day the bridge went, the ice broke up opposite to my house, between ten and eleven o'clock. It moved down, and jammed at a point below Bowers' meadows, opposite to Bingham's;—stood there two or three hours, I expect; it shoved from above at different times, till it left. The bank opposite to Bowers' is high and steep; the shore moves off very deep. The ice next stopped just down back of Rundle's; above it;

it continued there some time; I don't know how long; it shoved on there, and made the dam higher and higher. The river was frozen over all the way from this to the dam, and still continued smooth; it broke no further than where it jammed. I never measured the ice, but it was very thick; it appeared to be from a foot to eighteen inches thick; there was a power of ice thrown up about me. I saw the bridge come down opposite to my house. I saw it soon after it left its place. There was very little ice behind the bridge, a good deal before it. I saw it when it left the point above Rundle's, not afterwards. The ice continued jammed above my house; the ice went before the bridge. After the bridge went, there was no other ice of any consequence, but what fell from the shores. I have known the ice jammed at Rundle's point before; it very seldom remained there long. I have known it, in low freshes, remain till it melted away, when there was little water in the river; when the freshes were high, it generally forced its way. I never knew it jammed there at all, when the river below was clear. A day or two before, I crossed both the bridges below the dam, and the river was clear below. I do not recollect the day before, but two days before, the water was up to my door exactly; I don't know the number of feet. It was never so high before, to my knowledge. My house is on the road in front of Peters'; it was over the road; there was no passing, for six or eight weeks. After the ice left Rundle's, it made one or two stops, then shoved altogether; made no material stop till just before I saw the bridge coming; then went altogether; in a few minutes, in twenty minutes or half an hour, the water fell from ten to fifteen feet. Opposite to my house, it did not rise more than two or three feet before ten o'clock. It was at its highest when the bridge gave way, about four o'clock; it was just in time to prevent the water going into my cellar; it just began to run in. Whenever the ice shoved lower down, the water would fall; and when the ice was checked, it would rise till the ice moved again. I did not leave my house, to go any distance from it.

Being cross-examined: The house I occupy is about two hundred yards below the point of Peters' island. The island is perhaps two hundred yards in length, perhaps more. I recollect the ice-fresh of 1816, but do not remember the month. I do not know where it was jammed from below the bridges up to the Falls; it was jammed all along down to Passyunk; it was jammed up between Sheridan's bridge and the Falls. At that time it was breaking up for a day or two. I never recollect in my life, that the ice was jammed between Sheridan's bridge and the Falls, when it was open below. I never knew it jammed at Peters' island; it was jammed above; I have known it commence away below, and so continue up part of the island. I was not at the Falls the day the bridge went, nor the day before. I have known the ice jammed clear up through the Falls, at different times. It hardly ever continued any length of time; the Falls would be level. Three, four, or five days before the bridge came down, it jammed two or three hundred yards above Peters' island; it never jammed at Peters' island. I cannot recollect particularly about the weather; one day it snowed, and the day before the bridge fell it rained, and nearly or quite all the night before, and washed away the snow. In 1816, there was a great quantity of snow on the ground, carried away by a heavy rain. The winter in 1822 was not very cold; the water kept low; when there was a current, there was very little ice. I do not know whether the Delaware was frozen up that winter. I have no particular trade. I was engaged in the fishery (Livezey's) and the dam destroyed it.

William Morrison, sworn: I was brought up to coach-making. I lived better than twenty years near the Falls. I remember the flood of 1816, but not the month. It did not rise as high as that of 1822, by about nine feet; not three inches over or under. The chain bridge went down one or two days previous to the ice-fresh in 1816, caused by a heavy fall of rain, snow, and sleet, which caused the iron to break.

I stood on the eastern abutment, and saw one cake of ice on the pier; it shoved up, and remained there till it melted away. I suppose the common level of the ice below the string pieces was from eighteen inches to a foot. May be, one-third or one-half of the materials of the bridge were saved. I was present when the bridge went in 1822, on a hill on the east side, probably a hundred yards from the east end of the bridge. The ice was not jammed above. There were great bodies of ice and slack water below; not quite slack, but falling very little. The ice forced itself under the bridge. At intervals, there was a great rise of water, after which it ran up into the road; it ran about five feet into my stable; it is a frame stable, near Hagner's mill, about fifty yards below Renshaw's. The water was over the bridge then, the capping taken off, and floated up a little way, about twenty feet. I never before knew the water so high in my time of twenty-one years. The east end of the bridge rather gave way first; in one or two minutes after, the body lifted off, apparently quite easy. Directly after, in my stable, the water lowered in fifteen minutes from five to seven feet. It continued after that gradually to fall. I did not go below the bridge. I was two days, I think, before that, down at my brother-in-law's. I was at Sheridan's bridge. The ice was all firm above the dam. I saw a number of people rowing boats below. The main body of the river was perfectly clear. About sixteen years since, I saw a pretty high ice-fresh; not so high as that of 1816, I imagine; the first breaking up was at Robeson's mill, and so came down and stopped and broke, and finally gave way. A few years since, the mills were stopped a good while, may be a couple of weeks.

Being cross-examined: The bridge was not fastened to the piers, but to the abutments; there were three bars that came down from the bridge to the abutments; they were broken.

Examined again in chief: When they built the bridge, it was on a rock. I measured the height of the piers this

morning. There is seven feet water; and from the surface of the water to the highest part of the new raised work, is eighteen feet. The bars run up in a direct line with the different arches; they rise up to the timbers of the arch. I recollect that one splays up, and the other down. I know of no fastenings that act in a line with the pressure of the water.

Thomas Miller, sworn: I was at the dam the day the bridge went; the ice was all smooth over; I was there after twelve o'clock, till nearly night; sometimes on Sheridan's bridge, sometimes in the woods; the ice was of considerable thickness. I saw the bridge come down. It was in sight perhaps half an hour, before it passed over; I do not recollect the time exactly; it made no stop, that I saw. The ice began to pass over the dam before the bridge. There was no ice below the dam, that I saw. I saw the ice jam at several places above Rundle's; the second time, it went. I was at the Falls bridge, when I first saw it move; it stopped a little, below Gottwalt's; opposite to Bower's meadow, I first saw it stop; I cannot tell how long it stopped there; the ice before it was fixed and firm. This was rather before twelve o'clock, I think. Always when the ice stopped, the water rose. The water was so risen on the road, I had to go above Gottwalt's house to get along; the water was in the road; in low places, it ran into guts. I was on foot.

Godfrey Schrunk, sworn: I was born in 1756. I lived fifty-one years in the neighbourhood of the Falls. I remember the flood of 1784, as well as if it had been yesterday;—better than the late one; it was higher, by more than one foot, than that of 1822, above the Falls, but not below the Falls. There were several marks made, in 1784, to show the height; none near us, but higher up above the Falls; there are none just now, that I know of. I do not believe there were three inches difference below the Falls, in 1784 and 1822; it was higher in 1784, I believe, than in 1822. The first breaking in 1784 was in January; then it broke to

the head of the Falls, but did not go through. In February there was another thaw; it continued till the 14th of March, then broke up and went off; it made no stop then; at a short turn in the river below Peters' island, it made a stop for a short time. I did not get down to the Middle ferry. I have no recollection of showing Mr. Salkeld a mark of how high it was in 1784; there was no buttonwood on the east side of the river; there was one on the west side, but there was no mark on that. There was a mark on a white oak on the east side, which was cut down when White improved. I showed Kennedy and Carpenter a mark when they were about building, and they built the chain bridge eighteen inches above the mark in the white oak. I guess Briggs was their mason. I remember the flood of 1816; we were afraid we should have terrible work, but it was of no great consequence; it went very moderately. The ice lay on the shore ten or fifteen feet high. I saw the fresh in 1822; it broke from Flat Rock to the Falls, on the 17th of February; it did not come over the dam. It froze and cemented between the Falls and Flat Rock. The ice was not very strong at that time. There was a sudden rain, and snow; and it brought the ice off the Flat Rock dam, and raised, till it raised the bridge off. These Navigation people told me every dam would hold its own ice, but they were mistaken. The ice kept running under the bridge; then jammed, and thumped so that you might have heard it a mile off, for an hour or two, till the bridge went. As soon as the bridge was gone, the river fell immediately. The water rose so as to take off the roof of my spring-house. I cannot say whether it was so high as that in 1784; I did not live there then. The ice rose and fell at different times, as it got vent below; I don't know where it stopped below. Formerly, it used to make a kind of stop at Peters' island, or below there at the turn; from a quarter to a half a mile below; a little above Breck's island, about Governor Penn's meadow. I do not know whether it ever stopped at Rundle's. It had such a descent, that when it got below the Falls, it went rapidly until it got to Peters'

island; sometimes it stopped two or three weeks at the turn below Peters' island, if the weather was hard; the tide headed it, and made it stop; it did not stop at Livezey's, unless it was choked up from below. The big ice-freshet of 1784 scoured all those islands of their trees; it knocked them all down; they were small trees, such as beach and maple, I believe. Livezey's island is totally covered, two or three feet under water; so is Hood's. I was defeated from fishing above the Falls, by White's dam. Then I came down to Herring bay, and there I was defeated by this damned dam, as I may call it. I took a fishery at Herring bay for three years. The fishery is now all spoilt, and has spoilt me with it. According to the level before the Revolution, there was a fall from the foot of the Falls to the top, in a space of three hundred yards, of from four to four and a half feet. I wish this cause was as sure as mine. I live adjoining Koch's, above the Falls tavern.

John Tibbins,† *sworn: (for the Defendants)* I am in my seventieth year. I live now on the other side of the Schuylkill. I very well remember the fresh of 1784; I lived then on the Ridge road, opposite to Richards' factory. I remember a mark of the height of the water, on a walnut tree near Richards' factory; it stands pretty near the fence, inside of the yard of Richards' factory. The mark is about ten or twelve feet from the root. I recollect the ice-fresh of 1822 very well. The fresh of 1784 was a great deal the highest. In 1822, it came almost up to where the first row of windows in Richards' factory is. I think it was six or eight feet higher in 1784. In 1816, the fresh was high, but I have no marks. In 1795, there was the highest water-fresh that the oldest people could remember. It rained about two weeks, and springs burst out in the woods and fields. It was higher than the fresh of 1822; it took away our fences. I can't say how it was at the Falls.

† Being indisposed, was examined at this stage of the cause, by consent.

Being cross-examined: The ice made the mark in the walnut tree. The whole flat where Richards' factory stands, in 1784 was covered with ice. I cannot recollect how long it lasted;—part of a night and part of a day, that it was pushed out so, then froze, and remained till March before it broke up. The walnut tree was a middling grown tree in 1784; it has not grown much since;—about two foot over. I and many other people were looking at this walnut tree, when the ice pushed up against it. We have always had it as a mark. The tree kept up straight, but the ice took the bark off. Mr. Richards' factory is about three quarters of a mile below the Flat Rock dam; full three miles above the Falls.

Christopher Young, sworn: Mr. Harvey employed me. I have a theodolite that I use. I took a level of the water; it was twenty-two and a half inches above the top of the pier. There is a mark on Burns' house.

ADJOURNED.

Friday, February 20th.

Jonas Supplee, affirmed: I was at the Permanent bridge on Market street, between ten and eleven o'clock, on the day the bridge went away. I saw no ice there, but a great current of water; it looked so above and below. I went on to the next bridge below the dam, and rode up to the abutment to see how the water looked coming over the dam. I saw no ice below, nor any ice coming over the dam, that I could perceive. I then rode up till I got against the dam, and there were no spectators there but one. The ice there was all smooth, fixed, and firm, up as far as Rundle's. I then went on, intending to go to the Falls. Between Rundle's and Breck's, I met John Fraley and Paul Fry; I was on the western side; in consequence of what they told me, I turned back; I went down to the shore, at the avenue from Judge Peters' ground, near Mantua, about one-third of the way from the dam to Rundle's; the water was rolling up between

the fixed ice and the shore. There was nothing broke all the way up to the turn, that is, Rundle's. I had a fair view to the turn. While I was there, the ice made above suddenly moved, shoved ashore, and cut off several trees, and made a stop. We then started, expecting the ice would go over the dam. When we came to the dam, all was still. There were many spectators on horseback. I proposed riding round to Rundle's, to see where the stoppage was. Five of us went up through Rundle's gate, and to the north of his house. There is a great turn in the river there. The ice was all broken up down to that place, the point. When we came there, there was a vacancy between the ice which was jammed, and the firm ice below, and the ice was slipping down and floating under; but I believe this vacancy did not extend all across, when we first discovered it, but it grew bigger and bigger continually, and the ice, leaving that above where it was jammed, came down and went under the firm ice. It continued to grow bigger and bigger that way, until the whole mass above started and moved on. We then went on immediately, expecting to see it cross the dam. I cannot tell what ice jammed at Rundle's. I do not know how long I staid there looking at the ice; perhaps half an hour. When we got back to the dam, (and we went as fast as we could,) it continued to break and come away slowly. The first I saw of any breaking afterwards, was at Mr. Pratt's turn, below. A large cake broke, and pushed for the cove of Pratt's ground, toward the Water-Works. The ice then cracked from the eastern head pier toward the cove, and then the rest broke and went over the dam. The whole field began to move slowly to the western side, when the crack was made. After the ice started at Rundle's point, it was a considerable bit of time before it went over the dam; but it appeared to me to be continually making progress, until it went over. I did not see any of the great body of ice at Rundle's turn, come in contact with the ice below. I do not know what the hour was; it was afternoon. I staid there at the dam till the whole field of ice went over. I saw the broken ice come down from above, and the bridge

amongst it. The bridge was right across the stream, when I first discovered it; it was in the great body of the ice, a great mass all around it, above and below; there was a good deal of ice following it. I staid till the bridge went over. The bridge broke up, as it went over the dam; it did not pass over endwise, but cater-cornered. All the ice came down the centre of the stream; I saw but one shove on the shore, where I saw it cut off the trees. I then left the place, and went on to see how the bridge would go through the Market street bridge. When the ice made the shove I spoke of at the avenue, I took notice of the thickness of the fast ice; it was well on to eighteen inches, may be quite. I saw Miller measure it with a rule.

John Glass, sworn: I was toll-keeper at the Falls bridge for twelve years last December. I saw the bridge go, on the 21st of February; it was at four o'clock in the afternoon. The end next the toll-house went first. I was on Hagner's hill, opposite to the end of the bridge, as near as I could get to it; it was not practicable to get to the bridge itself. The water in one place, on the east of the toll-house, in a hollow, was twenty feet deep; at the toll-house, it was exactly five feet on the floor we live on. I measured it this morning. The rise began about eight o'clock in the morning; it did not begin to fall till after the bridge went. We could not cross to the house till two days after. The water was not coming round the toll-house. We perceived, about the spaces of the arches, the bridge rising up a little, before it went; at the arch this way most; the space was greater, and there was a greater body of ice. The water was up to the bridge more than an hour before. The iron fastenings at the end of the bridge were broken; there were three; one within two feet of the ground; the others, two, three, or four feet from the frame above. Those at the other end were broken also. The east end raised up out of the castings, and left them bare; then the chains broke. The end that broke first went first; it lowered a little, dragged the bridge out of the castings on the piers, and dragged off the wall, until it got

round to the centre of the river; and then the whole went. For some little time it went across the river, to near Mendenhall's tavern, then turned end foremost; it appeared to be whole and entire, in the form it used to be. I remember the fresh in 1816. It did not rise so high then, by about two feet, I guess. The ice piled upon the first pier; it was stopped by the pier, piled up, and one cake shoved on to it. Except this, the ice did not rise to within eighteen or twenty-four inches of the height of the piers as they then were.

Being cross-examined: I did not make any measurement of the height of the water, in the fresh of 1816. I did hear some of the plaintiffs say, that if the piers had been built solid, the bridge could not have gone.

Examined again for the plaintiffs: I heard several of the neighbours say this, but cannot recollect. I suppose I might have heard John Roberts say it; he explained his opinion, that if they had built the bridge solid, it would not have gone. I follow weaving for a living. I still live in the toll-house, and have it from the plaintiffs in this case.

Richard Peters, sworn: I recollect very well the fresh of 1784. I never took any particular observations of the height, and some of the inhabitants of the shore differed from me. My own impression, from observing the houses of some of my tenants, and from my own recollection, was, that the flood of 1822 was higher than that of 1784. Some of the neighbours thought it was not so high. My island was ruined by the flood of 1784. It carried off the trees, which at that time were a beautiful forest, and were two or three hundred years old; they snapped like pipe-strands. I think it was higher in 1822, but other persons think not. My fences were carried away more in 1822 than in 1784; I had to renew them, as I had also in 1784. The houses were standing in 1784; Gottwalt lives in one of them. It was all surrounded by ice, half way up his door-way. The road was not passable for months, owing to the continuance of the ice. The first damming of the ice was at what was then called Shults's

point, since Gen. Jonathan Williams' family place. The ice being broken by rocks above, when resisted by meeting a sheet of ice below, forms a dam as complete as masonry could make it. There must be something to obstruct the ice, before this dam forms; it is generally a flat sheet of ice. Not above a quarter of a mile below Peters' island, the river takes a sudden turn towards the north-east. The next stoppage, and the most tremendous one of all, was at Hamilton's point, about half a mile below Ogden's (the Middle) ferry. As well as I can recollect, I attributed the damming at Shults's point, to the river not being broken up below it. I think it was not open below Hamilton's point, till twenty-four hours after it broke up at Shults's. It staid at Hamilton's point, long after the whole river had broken up below that. I think the water continued elevated more or less for a week, but gradually decreased. They could not pass in boats at Ogden's ferry, for a week or ten days. On both sides, the ice was in mountains; there were accumulations of ice on the shore, I think, twenty-five feet high, nothing like so high up above. My buildings stand, I think, twenty feet above the surface; it was up to them in 1784, and in 1822. The weather was various; there had been a bitter frost; it then grew mild; the melting on the mountains filled the river. The weather had become more temperate, when this stoppage began. Most of the stoppages are either a little above the island, or at Shults's point. It frequently overflows the island. I cannot pretend to be very accurate about it; I never made such observations as I should have made, had I expected to be called upon. I cannot say exactly how long these stoppages continue after it is clear below; sometimes two or three days, sometimes a night and a day; it depends much on the force of the water above, working its way through the interstices, and then it goes like magic; it hardly ever goes till that happens. The Fair Mount dam has raised the water on me six or seven feet. The island was ruined by the fresh of 1784. It is of but little value lately, except on account of a very valuable fishery, one of the best on the river.

Being cross-examined: We had marks of the ice-fresh of 1784, when we built the Permanent bridge, and built it several feet higher. I think I had the timbers on the piers surrounded with masonry, and I think bolted. Precautions were taken to prevent lifting; Timothy Palmer was the builder; we had it made twelve feet wider than was at first intended, with the same object; forty-two feet wide, from out to out. We were more apprehensive of lifting than from assault, and therefore guarded against it. The jam continued at Shults's point, in 1784, more than forty-eight hours. The ice was gone below it, a considerable time before the dam went. There was a kind of lake between Shults's point and where the Water-Works now are. I never took particular notice of the Falls bridge. I know I advised them to raise their piers, and not to put flimsy walls.

Joseph Green, sworn: I saw the bridge on the 21st of February, before it started, and after it had gone twenty or thirty yards. I am a hatter. It was perhaps between one and two o'clock that I saw it. I saw the water had been higher than when I got there, and went with some of the neighbours to Fair Mount dam, thinking it might have given way. When I returned, the bridge was off. The water was still a considerable depth on the Ridge road, below Renshaw's, when I got there. I saw batteaux crossing. I was on this side.

Oliver Lindsay, sworn: I resided at Gray's ferry bridge in February 1822. I remember the flood on the 21st. The Sunday evening before, the ice moved away from the Gray's ferry bridge. The river continued clear of ice, till it came down from above. We swung the bridge that night, thinking the ice was all gone from above. It was nearly evening when the ice came down from above, on the 21st. Part of our bridge had gone off, and I had gone after it. The ice came down afterwards, and took off the other part. There was no ice in the river from Sunday, except shore ice. The main body of the bridge lay opposite to the high lands of

Christiana; part of it was below, near Ridgely's landing; some part of it lay in Christiana creek. I have seen the ice stop at Hamilton's point; not very long. The ice was moving below, when it stopped there; it generally moves below first.

Joseph Miller, called again: I have been concerned in building several other bridges, besides that at the Falls. We have always let them remain on the piers by their own weight. I have had to do with three; the ends we generally confine by braces of iron. I helped at one bridge at Little York, and two at Baltimore. There were iron shoes or steps in the bridge at the Falls; plates of cast iron, sides raised about three inches. They are to confine the timbers from moving. This was common with all I had to do with. The first we had cut in stone; twenty odd years ago. I do not know but the walls were a sufficient protection and security to the bridge.

Being cross-examined: The iron steps or shoes were dropped on the piers, not fastened at all; placed on a large flag. The two bridges at Baltimore were carried off by freshes. The stone bridge went too. That at Little York has been carried off two or three times since.

The counsel for the plaintiffs then produced evidence to show the cost of erecting the bridge. The whole expense of constructing it, appeared to be $15,885 71 cts.

They also proved that the following amounts of tolls had been received at the bridge—viz.

From December 1817 to April 1, 1819,	$1251	55
Deduct expenses,	217	00
	1034	55
From April 1819 to April 1820, - - -	782	00
April 1820 to April 1821, - - -	463	65
April 1821 to February 1822, - -	417	85
	$2698	05

ADJOURNED.

Saturday, February 21st.

The following documents were given in evidence on behalf of the plaintiffs; but as they have no bearing upon the point which was discussed, and which was decided by the jury, it is unnecessary to recite them:—

Agreement between the Schuylkill Navigation Company and Josiah White, dated August 14, 1816.

Agreement between J. White & J. Gillingham, and the Corporation of Philadelphia, dated April 17, 1819.

Agreement between the Schuylkill Navigation Company and the City Corporation, dated June 3, 1819.

Report of Watering Committee, of Jan. 6, 1823.

Report of Watering Committee, of Jan. 2, 1824.

Samuel Harvey, one of the plaintiffs, by permission of the defendant's counsel, stated as follows:—

After the bridge had been taken away, we employed persons to go in search of it; they found some of it near the Lower ferry, and some near Marcus Hook. The roof was unfit to be brought up, and was sold. The proceeds went towards the payment of expenses. The expenses paid were rather less than one hundred dollars, besides the proceeds of the roof. The total expenses were better than two hundred dollars. What was saved besides the roof is piled up near the Falls, on the west side of the river; some wood, and some iron; the wood part is carefully piled; no more of it was sold. A good part of the wood and materials might be used in building a bridge, and would be worth six hundred dollars; if not so used, but sold at auction, they would not be worth more than the cost of putting them there.

Joseph Miller, called again: I cannot say exactly what is the value of the timber; I never overhaled it; I have seen it as it lay in the pile. If put up at auction, it would not bring more than three hundred dollars, unless to be worked into a bridge of the same size. The iron would not answer for any other purpose than a bridge, without alteration, and then would require to be straightened, being much bent and

injured. There appears to be seven or eight tons of wrought iron. It could not be sold otherwise than as old iron.

Here the evidence on the part of the plaintiffs was closed.

Mr. Binney opened the case, on the part of the defendants, as follows:

Little additional testimony will be offered on behalf of the defendants.

There are three insuperable objections to the plaintiffs' recovery: 1. It is out of the power of human testimony to show that the destruction of the bridge was caused by the dam. 2. The bridge was built, in defiance of experience, and knowledge, and advice, in so slight a manner as to be incapable of resisting the swelling of the water, the only danger to which it was exposed. 3. The Act of Assembly, on which this action is founded, never intended to involve the defendants in speculative questions, as to injuries which might arise at any future period of time. Its object was, that when a dam should be completed, and its direct and necessary consequence should be to produce damage, the party injured should be entitled to compensation.

I. It will appear that the Schuylkill, being subject to freshes, was liable to obstructions at the following places—viz.

1. Rocky island, just below the Wissahickon.
2. Roberts' fishery, a narrow pass between Rocky island and the Falls.
3. The Falls. Here the obstruction was occasioned by the plaintiffs' bridge.
4. The rocks opposite to Mendenhall's.
5. A riff, or ripple, at the head of Peters' island.
6. Shults' point.
7. Rundle's point.

The fresh of 1784 was several feet higher than this, above the Falls; at the Falls, it was at least one foot higher. This, of course, was before any obstruction was created by the bridge.

There is a narrow turn in the river at the Falls. Its breadth at low water mark, above the piers, is four hundred and sixty feet, which was diminished by the abutments and piers about one hundred and forty-seven feet; leaving the water-way but three hundred and thirteen feet, three inches.

The weather during the winter of 1822 was particularly calculated to cause such a fresh; it was steady cold weather, until Saturday, the 16th of February, 1822. The ground had been frozen; the rain, as it melted the snow, ran into the river, and thus formed the first step in creating this fresh.

The plaintiffs have made a radical mistake as to the state of the river above. The rain of the 16th of February broke up the ice above the Flat Rock dam, when it was emptied into the pool below, shoved down, and jammed at Peters' island. It then froze, and continued so until Monday, the 18th, when there was a snow-storm. On Wednesday, the 20th, it snowed again in the afternoon; at seven P. M. it began to rain, and rained all night. The ice being grounded at Peters' island, and making a wall there, remained until Thursday, when it moved on to Rundle's point, and then by the force of the water was pushed over the dam.

It will appear from the public journals, that this fresh, and its attendant evils, were not confined to the Schuylkill, but extended to the Delaware and other streams.

II. The bridge was defectively built; without regard to experience or knowledge.

In 1816, the water rose to such a height, that if the plaintiffs had followed the advice given to them in 1817, the bridge would have been safe in 1822. They were advised to raise it ten feet, or they would not go above the rise of 1784. Instead of doing so, they raised it four feet five inches, and no more. They were cautioned to make the piers substantial. This advice was also disregarded.

III. The construction of the Act of Assembly, being matter of law, will be properly discussed before the Court, should the verdict of the jury render it necessary.

Josiah White, affirmed: I became acquainted with the Falls in the spring when I purchased there, which I think was in 1810. I built and owned the mills immediately at the foot of the Falls. I made observations on the state of the water, for several years, whilst I was there. I began with a register, to ascertain the facts in relation to the water, that I might know on what the value of the property depended. The general opinion was against the value of the water-power, owing to the fluctuations of tide and freshes. My practice was, when there, in case of any particular tide or fresh, to notice how the water stood, in relation to a certain mark I had fixed, with instructions to my foreman to do the same in my absence. Isaac Salkeld was foreman in building, and afterwards in the factory. I began the register within a month of any work being done there. The first step in my improvement was the sheeting of the nail factory, which we subsequently made the basis of our register. I discovered after fixing that, that when the sheeting was put there, in common water, I had a fall of from four feet to four feet three inches. Another consideration, besides getting head, was to see how the tide would affect it. Every tide, the water was on the sheeting. I found that the sheeting would average from a foot to eighteen inches, under the average of a common tide; but sometimes three feet; and then it would be so nearly level with the water above, that it would not be a hard job for an expert boatman to row up the falls. The next consideration was, what effect freshes would have, and from what causes they might proceed. A summer fresh would give me head; in winter I discovered the greatest difficulty, which induced me to change my ground there. I observed, though not every winter, that when certain circumstances occurred, we were backwatered by the jamming of the ice below us. We found ice made above the fall, floated down below us, where, as uniformly as such things can be said to be, a dam

was formed by the accumulation of slush ice. I have no recollection of going down as low as the cause now alleged. It seemed to be agreed, that the long gravel riff, interspersed with rocks, about a mile below, was the cause. The result was, that I calculated an average detention of thirty days every winter, on account of the ice jamming above Peters' island. That gave me the character of the ice-fresh in common times. We had then had no great ice-fresh. On the 17th of January, 1816, the water above the sheeting was four feet four inches. On the 18th, in the morning, it stood at fourteen feet; at two P. M. at twenty-one feet. On the 19th, at eighteen feet; and on the 20th, at thirteen feet. On the 18th, at two P. M. the water was over the levers of the lock; the ice was ten feet on the embankment on the upper side of that lock—four inches over the cap of my guard-wall —four feet six inches on the floor of the wire factory—within four inches of the floor of the row of stone houses on the east side of the bridge;—up to the sill of the window in front of Malone's house, (the upper house)—sixty or seventy feet north of the row of houses. The ice continued floating till one o'clock P. M. when it stopped an hour and a half, then moved about fifteen minutes, and so continued from three to five times, till eleven o'clock at night, when it stopped. It appeared to be jammed from the Wissahickon to Sheridan's bridge. A boat floated over the fence in front of Mendenhall's house. Above Parson Jones', about half a mile above the Wissahickon, it appeared to be clear. The next consideration with me, was how to trace the cause of this. After the fresh had got up considerably, before it had stopped at the Falls, I went with Isaac Salkeld, to see where the ice began to be jammed. Peters' island always had the credit of it. It must have been the 18th of January. We went out into the road opposite to Garrett's house, above Peters' island, to get the river as near as we could. We found the ice, which was moving tolerably rapidly at my house, half a mile above, seemed to sink into quietude at Garrett's. The ice gradually formed an inclined plane, for three or four hundred yards before it got to its horizontal position. We went

a little further down to where it was entirely quiet. The water accumulating from the ice having formed a dam, shoved again, till it made its final stopping-place near the upper end of Peters' island; there it remained. It may have been a little below the head of the island. It is a long riff from Peters' island to the Falls. The lower end of Peters' island terminated the riff. Having seen the stopping at this place, and felt it every year, I determined to sell. The ice continued till it wore away; the mill was still stopped by drift ice. There was a ledge of rocks from the head of Peters' island to the eastern shore. In going down there, at low water, with friend Lewis, we grounded. In some places it was deep enough to float a batteau at low water. The winter of 1816 was a very mild, open one. The mill was stopped, after the ice from this fresh had passed away. I recollect that George Schrunk several times mentioned to me, that I was very much in danger. He and other old settlers repeatedly told me, that there were marks of the fresh of 1784, but none of them were ever shown to me. The first bridge fell before the fresh of 1816; it fell on the 16th of January. The ice came within a foot of the top of the abutment. I have a faint recollection that the average of the ice came to within twelve or eighteen inches of the height of the piers. I saw a cake on the middle pier. I left the Falls in 1818. The first bridge was a chain bridge. The abutments and piers were raised, to the eye, something like four feet.

Being cross-examined: Shortly after the 18th of January, 1816, the weather, with some little interruptions, was very mild, resembling the weather we have recently had. To make an ice-fresh, there must be mild weather and rain. On the 20th, it was clear and colder; the wind at north-west. I suppose there was a little fresh ice formed. On the 21st, clear weather, and pleasant; wind south. So it continued till the 25th, when there was ice in the channel clear down to Mendenhall's, and ice on shore from ten to twenty feet high. The mass of ice in the channel was worn away to four

inches thick. On the 27th, cold, with spits of snow. From the height of water, five and a half feet above my sheeting, it must have found a passage. On the 29th, thawing in the shade. On the 30th, the wind had changed in the night to the west, froze, and by evening it was jammed to the Falls. On the 31st, more moderate, wind south, fast above the Falls. February 3d; the river, to this period, was occasionally clear, and full of ice, by jamming to the Falls. On the 4th, a strong south wind opened the river from the Falls to Peters' island. On the 6th, the river clear to the fish-house at Rundle's; the water from four feet two inches to four feet six inches above the sheeting. On the 8th, no back-water, intensely cold; had frozen over last night, both above and below the Falls, without jamming below; the water eighteen inches lower in the morning than in the afternoon, owing to the cold. 9th, no back-water, weather moderated in the afternoon. 13th and 14th, excessively cold. 16th, wind south, and pleasant. 17th, snowed three inches; then rained, and all the snow disappeared by nine P. M. On the 18th, the river six feet; the ice broke over the Falls to Gottwalt's island, above Peters'; broke up to Stony island above the bridge, one hour before it pushed over the Falls;—the ice was black and strong, and eight inches thick before the thaw; now it was reduced to five inches. 19th, it had rained in the night; water had risen to thirteen feet above the sheeting. 20th, the ice had cleared to within one or two hundred yards of Wernwag's bridge; water eight feet above the sheeting. On the 21st, water six and a half feet above the sheeting. The weather after that was open. Our mill was stopped altogether, from the 18th of January till the 4th of February, on account of the state of the river. From the 18th to the 24th of February, we were stopped again. We were not stopped longer that year, I think, than in common years. One year we were not stopped at all, but that was not a common year. If the ice made above and below at the same time, we were not stopped.

The precise height to which the water was raised on the sheeting before referred to, by the Fair Mount Dam, was

five feet. Afterwards the City contracted to raise it eighteen inches. The dams I contracted for were brought up to their proper level, before I sold. I do not recollect that my dam backed on any of Peter Robeson's sheeting. He complained of my filling the interstices of the rocks at the Falls. I think it was in 1810, or 1811, that I filled them up with stone, and gravelled the upper side, so as not to have much waste of water. We always considered that the head, before I built the dam, was from four feet to four feet three inches. I suppose the stop at Sheridan's bridge (in 1816) was from ice making there. An ice-dam could not have any considerable effect on a sheet of ice of considerable length. I think it was open below Sheridan's. I think that Salkeld and myself went down on the ice. The original sheet of ice remained below Peters' island. The old bridge gave way in consequence of the decay of trullis and the weight of the snow.

Isaac Salkeld, called by the defendants: I measured, in January 1816, the distance from the common level of the drifting ice, to the top timber of the eastern abutment; it was six inches exactly. Godfrey Schrunk showed me a mark of the fresh of 1784, on a buttonwood at the western abutment, and a mark in a white oak, on the east side, near his house, which I cut down. The buttonwood, I believe, is still standing. The mark in it was apparently made with an axe, on the shore side; it corresponded with that on the white oak. Schrunk told me, that he made the mark on the white oak. As near as I can recollect, it was about eleven feet above the top of the abutment of the old bridge. I stated to Joseph Sorber, and Alexander Provost, and, I think, to William Alexander, a few days before they began to raise their piers, that they would not be safe, unless they raised ten feet above the then piers. They were then consulting about the height to which they should raise them.

Being cross-examined: The mark on the buttonwood was considerably above my reach. I got a pole, and measured the height of it. It was while I kept tavern that it was

shown to me. It appeared to have been made with an axe; I do not know by whom, or when, it was made. I saw no natural marks. I took the measure of the marks on both trees with a pole, before I cut down the white oak. The mark on the white oak was three or four feet above the root. The abutment is built around the buttonwood. The buttonwood is a large tree. The ground has been principally removed, where the white oak was. It was on White's property, included in his improvement. I put a house on the very spot where the tree stood.

George Omensetter, sworn: I kept the lock at Flat Rock dam, in February 1822. I recollect the fresh of that month. On Sunday evening, the 17th of February, the ice came out of the pool above Flat Rock dam, into the river. The fresh was very sudden, and very severe there. I was on the watch that night, and was in danger. The pool, which is a very large one, was clear of ice next morning. I think there was between six and seven feet water on Flat Rock dam, that evening.

Being cross-examined: There was a great body of ice came over the dam that night. I cannot tell how far it went down before it stopped.

Samuel Hains, affirmed: I made a survey of the river Schuylkill, from Fair Mount dam to the Falls. This is the survey [producing it.] I am one of the City regulators. My profession is that of a surveyor. The survey is made by taking the courses and distances of each of the shores, and by taking angles of intersection from shore to shore. The width at the Falls was taken by actual measurement at the Falls. The survey was made both before and after the dam was closed.

Being cross-examined: The width at the bridge was ascertained by actual measurement; at other places, by taking the bearings of fixed and known objects on each shore.

Frederick Graff, sworn: I made this draught. I measured the distances between the piers, and between the abutments and piers, and the heights of the piers, as the water was that day, which was about seven inches above the water-line of Fair Mount dam. The measurement was by wires. The elevation of the additional piers and abutments was four feet five inches; the width to low water mark above the bridge, four hundred and sixty feet; high water in the same place, five hundred and twenty feet; water-way between the piers, three hundred and thirteen feet three inches.

The defendants' counsel read the following extracts from newspapers, to show what had been the effects of this fresh on other streams in various parts of the country.

From Poulson's Daily Advertiser, of February 23, 1822.

THE FRESHET.

The following letter was received from Trenton, yesterday morning:—

Steam-Boat Hotel, near the Trenton Bridge, Feb. 21—10 *at night.*

Dear Sir—I am just informed by persons who have come from there, that both the stone bridges over the Assanpink creek, between this and Trenton, are carried away—that all of that neighbourhood is inundated with water, which forced several inhabitants from their houses, and that one side of Mr. Wells's factory has fallen, and it is presumed it will all go before morning. It is said, at the time the lower bridge fell in, there were several persons on it, and that they are lost. This intelligence is awful, but I hope it will prove not so bad as is reported.

The mail from Philadelphia could not cross, and is stopped here, together with the passengers and mail-bags. I am informed, it is impossible for any person to get from this place to Trenton, or from there here. How the lines from the two cities are to get along to-morrow, is a question the morrow will reveal. The road between this and New-Brunswick is almost impassable, so much so, that a horse and sleigh, with

a gentleman and lady in it, coming from Princeton to Trenton, this morning, in attempting to ford the road near Stony Brook, so called, the horse was drowned, and with difficulty the lady was saved; and what is very remarkable, (and which will at once give you an idea of the might of the water) is that the horse this afternoon came down the Assanpink, and tumbled over the dam at Mill-Hill.

The road is so dangerous between this and Philadelphia, that we have stopped our stage here, and will not permit it to proceed till the morning.

A. O. SHUFF.

Mr. J. G. Jenkins.

From same paper, of Feb. 25, 1822.

FRESH IN SCHUYLKILL.

In consequence of heavy rain and sudden thaw, the Manatawny creek, which empties into the Schuylkill above Pottsgrove, broke up on the 15th inst. and the ice, generally of sixteen inches thickness, passed down upon that in the Schuylkill with such force as to move the whole body of ice, carrying all before it, until it reached below Flat Rock dam, below which, on Peters' island, the ice gorged to the height of perhaps twenty feet, and stopped the progress as far up as Flat Rock. Thus it remained until the 22d inst. by previous rain and thaw, the ice was again raised to such a height, as carried down with it the Falls bridge, and brought it entire, together with stupendous masses of ice, over the City Dam at Fair Mount, over which flowed a depth of water of nine feet, the current at that place supposed to be at the rate of ten miles an hour. The water below the dam, to the bridge at Market street, was so high over the west end of it, as to prevent passing except by boats. Happily, there is no injury done either to the Schuylkill Navigation works, or to Fair Mount Dam, although the ice had begun to be forced over the earthen and stone part of the Dam, on the eastern side, and was left four or five feet high upon the top of it.

This fresh is supposed the greatest and most sudden ever

known, although the gorging of the ice of the 20th March, 1784, on the Middle ferry, occasioned a greater rise of water at that place then, yet the general rise of the river on the 21st of February, 1822, is believed to have been more excessive.

—

Wilmington, (Del.) Feb. 22, 1822.

The greatest fall of snow we have had this season, fell on Monday last. It commenced early in the morning, and continued almost without intermission until late at night, accompanied by a heavy north-east wind. It was preceded by a heavy fall of rain, which produced such a swell in some of our streams, as to carry away some bridges. Among others, that at Newport is said to be destroyed. The weather has since become moderate, and at present there is every prospect of a general thaw. The ice in the Christiana, opposite this city, broke up yesterday afternoon.

—

Office of the Delaware Gazette,
Friday Afternoon, February 22, 1822.

Since our paper was issued this morning, we have heard of much injury done by the fresh produced yesterday, by the breaking up of the ice. The bridge at Brandywine has been carried away, together with a part of one of the mills; and up the stream, a stone building belonging to the paper establishment of Messrs. J. & T. Gilpin, is destroyed, and several of the dams are swept off. It is estimated that the water was at least five feet higher in that creek, than it has been before known for fifty years past. From other parts of the country, we hear of much injury done. At St. George's, the mills and dams have shared the fate of the bridge at Brandywine, and the road to Dover is thereby rendered impassable.

—

The Watchman says, the chain bridge, and part of the mill adjoining the southern abutment, have been carried away; together with a number of small buildings on the margin of the stream. We have heard of one life being lost, and it

is feared there are several more. The extent of damage is beyond conjecture. It is rumoured that every bridge on the Brandywine, within twenty miles of this place, has been swept away; the dam at the Barley-Mill is gone, how many more the height of the water prevents our ascertaining. Newport bridge, on the Christiana, is carried away; likewise Thomas's mill and dam at St. George's.

Since the above was in type, we have received the following information, in a letter from the postmaster at St. George's:—

"AWFUL DESTRUCTION.—On Thursday morning, the 21st inst. the water rose so suddenly in the mill-pond at St. George's, as to run over the dam, pass round the north side of the mill, forcing its way through the lower story, undermining the wall, and finally tumbling into ruins the whole structure, and making a breach through the dam of at least one hundred feet."

From same paper, of Feb. 27, 1822.

The Susquehannah broke up above Columbia on Saturday afternoon; the shock did no injury to the fine bridge at that place. Much damage has been done to the mills and dams in Lancaster county.

Extract of a Letter from the Postmaster at Durham to the Postmaster at Stamford, detailing the particulars of the late disaster attending the Eastern Mail.

Durham, Feb. 21, 1822.

Sir—The following are the particulars of the disaster which befell the northern stage, at eleven o'clock this day. The small rivulet which crosses Durham-street, about twenty rods north of the meeting-house, is swollen to an unusual size by the late storm. Immense cakes of ice were constantly descending the stream, in the forenoon; the bridge was much shattered by them. A part of it gave way under the stage, by which it was precipitated about twenty feet into a tremendous current, amidst heavy timbers and bodies of ice.

It carried down three passengers, the driver, mails, and two horses. The other two horses had so far cleared the bridge, as to preserve their foothold on the abutments. The carriage was dashed to pieces by the fall; the passengers were thrown from it, and all were hurried down the torrent together. One passenger and the driver were extricated, about a hundred rods below the bridge—two passengers were drowned; the body of one has been found.

As soon as the alarm was given, a number of persons went into the large swamp which receives the rivulet, in pursuit of the mails, baggage, &c. After wading more than an hour waist-deep among cakes of ice, we found both mails, and with some difficulty drew them to the shore. They were about two hundred rods from the bridge. The recovery of either at this time may be considered as a fortunate event. They were floating in a swamp, a thousand acres of which are now under water. The current is excessively rapid in many parts, and numerous cakes of ice are floating over it.

From same paper, of Feb. 28, 1822.

COMMUNICATION.

On Thursday last, in consequence of the heavy rain, and rapid thaw of the snow, Frankford creek rose to a height never before equalled; overflowing its banks, and deluging the fields and meadows to a vast extent around. Although the bridge at the foot of this village is lofty, and its walls high, yet the water rose above them, and inundated the road. The deluged meadows, which appeared a newly created sea, the hurry and impetuosity of the current, which ran in huge waves over the ragged bottom, and the loud roar of the waters, inspired the mind of the spectator with ideas of awe, and could not be contemplated without emotions of horror.

About four o'clock in the afternoon, a very sudden rise took place in the creek, caused by the breaking of a dam some miles above, which greatly increased the fury of the waters. It was about this time, that three men, who were reclining on the railing of the bridge, were precipitated into

the awful gulf, in consequence of bearing too heavily upon it, in the act of reaching a plank that was passing down the stream. The arches of the bridge, seven in number, though very capacious, could not receive the whole body of water, which rose far above them, and after forming a horrid whirlpool, found an entrance.

Two of the men, borne irresistibly down the stream, were received into this horrid vortex, engulfed in its bottom, thence carried by the impetuous current through the arches, which seemed like "death's dark dungeon," and appeared on the surface of the boiling flood, a considerable distance below. They were happily extricated from their perilous situation, by the praiseworthy exertions of the affrighted spectators. The other was taken up with a boat-hook, before he reached the arch—and here was the interposition of Providence clearly exhibited, as this person could not swim, and must, without assistance, have found a watery grave. Such was the danger to which they were exposed, that all who were witnesses of the distressing scene, thought that death was inevitable; and all were impressed with the belief, that the almighty arm was stretched out for their protection.

Frankford, Feb. 25. 1822.

From same paper, of March 8, 1822.

It is estimated that the late flood at York, in Pennsylvania, occasioned the loss of property to the amount of twenty thousand dollars, in that single borough, in consequence of the rise of the Codorus creek.

Joseph Miller, called again: I was in the employment of Mark Reeve, in 1815, 1816, and 1817. In 1816, during the fresh, I could not get into the nail-mill, on account of the water. I went on the guard-wall into the wire-mill, to get the books;—the water was about half-shoe deep. Between two and three o'clock, as I came out with the books, it was a little higher. Then it was about half-way up my legs, about ten inches.

ADJOURNED.

Monday, February 23d.

Frederick Graff, called again by the plaintiffs: The water first flowed over the dam at Fair Mount, on Sunday, July 23, 1821. The height of the dam, from the bottom of the river to the top of the combing, is thirty-one feet six inches.

	Feet.	Inches.
Height of river at low water, -	19	0
Ditto additional at high water, -	6	0
Ditto of dam, - - - -	6	6
	31	6

The water raised by the Fair Mount dam is eighteen inches above the mark in the rock on the south face of the western abutment, shown to me by Mr. White. I cannot say how many miles in an hour the water now descends, nor how many it did before the dam was put up. I presume the water at Robeson's was raised eighteen inches above Mr. White's mark. I found it a dead level from Fair Mount to Robeson's, when the water was in its natural state.

For the defendants: The model now shown to me is a correct model of the bridge and pier, to the best of my knowledge and belief, as far as it can be obtained by measurement, except that it stood on shores. The lower part of the pier, of ordinary masonry; the upper part, better.

Tuesday, February 24th.

The evidence on both sides being closed, the jury was addressed by Mr. Rawle for the plaintiffs, and by Messrs. Binney and Chauncey for the defendants—those gentlemen having first signed the following agreement, viz.

"Alexander
v.
"Sch. Nav. Co.

"It is agreed, that the question of law, whether the Company are liable for the loss of the bridge, if the jury shall be of opinion that the Dam at Fair Mount occasioned the loss

by causing the obstructions of the ice and water, be reserved by the Court; and that either party shall be entitled to a bill of exceptions, in like manner as if the opinion of the Court to be given upon the point reserved, had been given in charge to the jury.

"Hor. Binney, } *for Def'ts*
"Ch. Chauncey, }
"W. Rawle, *for Pl'ffs.*

"*Feb.* 24, 1824."

Mr. Rawle, *for the Plaintiffs.*

When a populous and opulent community has succeeded in effecting an object of great importance and value, by which not only their own regular expenses are much reduced, and their profitable income considerably increased, but the consequential benefits are publicly declared to be almost incalculable,—the moderate and humble claims of those, who, without partaking of the benefit, have received an injury, ought not to be disregarded.

Whatever the law might be, if the enterprise had resulted in useless expense and local disappointment, some reluctance would naturally be felt, at compelling those, who had themselves lost, to repair the losses of others. But when every thing done has been prosperous and splendidly successful—when congratulations are tendered, accepted, and renewed, among those whose industry and vigour have produced this happy result, and I, as one of their constituents, concur in applauding,—surely we ought not laboriously to seek out the means of defeating those reasonable claims, which, at first view, the most obvious principles of justice seem to sanction.

On this authorized ground, we have presented our claims. Let it be understood, we do not complain of the resistance it has met. A sense of duty must be considered as having led to it. But that sense of duty is formed on the particular function, and, of course, the particular view taken of the subject by the Watering Committee. On the other hand, the function of a Court is, to lay aside particular and partial

bias of either public or personal interests felt by any of the parties, and to decide upon the general right. And this, under the direction of the court, is the office now committed to you. In truth, it is on the facts of the case,—and these are your peculiar province,—that the recovery or rejection of the plaintiffs' claim must depend.

The law, in respect to which I have neither doubt nor fear, I agree to reserve. At present then, we consider the case as being within the provisions of the Act of Assembly, and proceed to consider the question of fact.

My general position is,—that the destruction of the bridge was owing to the dam.

It is a principle of law, of universal application, that every individual is amenable for consequential, as well as for immediate damage. If the commission of any particular act is not an immediate and direct injury, but, by the concurrence of other subsequent causes, produces loss or damage, which, but for his first act, would not have happened, he is responsible. *Sic utere tuo, ut alienum non lœdas.* If one stop up a water course on his own land, in consequence of which water runs therefrom into my land, I am as fully entitled to compensation for the injury done to me, although consequential, as if a direct trespass had been committed. So also, if a man so negligently keep a fire in his own close, as that it extends to his neighbour's field, and burns his corn, he shall make compensation. Salkeld, 13.

This dam was erected, with a knowledge, on the part of the Corporation, of the character of the river; as appears from the first Report of the Watering Committee page 5. They were aware, too, of the great flood which had occurred in 1784. They erected the dam, therefore, under a sense, that whatever additional impediment would be thereby created to the passage and descent of those mighty and majestic masses of ice and water, by which nature, at times, relieves herself, would be chargeable on them.

The river is of unequal width. The descending flood expands and inundates the lower banks, where the river is wide. If there be a narrow passage and high banks on each side,

the ice collects, and forms a stoppage, until either the weight of that above forces it, or the decay on the bank itself (as Judge Peters stated) undermines it; and then, "as if magically" it gives way. Below the Falls, the narrow places, at which it generally halts, appear to be the following:

1. Sometimes opposite to Mendenhall's.
2. At Peters' Island.
3. At Shultz's Point.
4. At Rundle's Point.

But the flood of 1784 originated lower down the river than all these, viz. at Hamilton's Point. From thence upward, to and above the Flat Rock, it would seem, that the whole river was for a time impassably wedged; how long, we do not know. But, at the other places, all the testimony seems to concur, that the delay was seldom long. We will begin with the naturally narrow passage at the Falls themselves. "The ice never stopped there," says Salkeld, "longer than ten or fifteen minutes." Gottwalt says, "not long." With regard to the time of its stopping opposite to Mendenhall's, the witnesses have not spoken. At Peters' island, according to the evidence of Schrunk, the ice stopped, in 1784, "no time." White says that his mill was obstructed, on an average, thirty days during every winter, by the ice jamming from Peters' island to the Falls. At Shultz's Point, Schrunk says, it formerly made "a kind of a stop;" and Judge Peters,—that most of the freshes stopped above his island or at Shultz's Point. Schrunk never knew it to stop at Rundle's Point; nor did any one else, before the fresh of 1822. Then, according to Gottwalt, it stopped half an hour, or an hour. At Livezey's, Schrunk never knew it stop, unless the river was choaked up below.

The flood tide comes up to the head of Peters' island; then moves slowly to near Mendenhall's, but never rises above the Falls. Sometimes a boat may row up; but the ebb is rapid, soon runs off the flats, and leaves the whole shallow. All these natural stoppages are occasional and temporary; never lasting, says John Gottwalt, unless stopped below.

Having thus traced the general character of the river, we

proceed to the erection of the first bridge. This bridge was built by Palmer, about the year 1810, or 1811. The solidity of the masonry has not been disputed. The fall of the bridge, Mr. White says, was owing to a heavy weight of snow operating on decayed trussils.

The flood of 1816 rose to about one foot below the piers. Salkeld says, six inches. No one has said that it rose higher. One solitary cake of ice had been shoved up, and rested on the first pier.

In 1817 it was determined to erect a new bridge. Previously to this, however, the agreement between the Schuylkill Navigation Company and Josiah White, of the 14th August 1816, was entered into; by which he was to have the right to erect certain dams across the river at the Falls. He began by filling up the intervals between the rocks; and his dams, when completed, backed the water, so as not only to destroy the fisheries above, but to affect Robeson's Mill. Thus the river was narrowed at the Falls; not by the plaintiffs, as has been suggested, but by the defendants, or those who acted under their authority. Of the future views of the Schuylkill Navigation Company, in regard to the river lower down, the plaintiffs had no notice. The City Councils did not take into consideration the subject of supplying the City with water by this means, until the 5th of February 1819, when the first report of the Watering Committee was made to them. It rested, therefore, with the plaintiffs, to construct their bridge, in reference to the then existing state of things. In 1817 the bridge was commenced, and, except the weather-boarding and roofing, was completed. The work is shown to have been solid and substantial. The calculations of the plaintiffs were reasonable. They ascertained how high the freshes had risen, and added four feet five inches, to the height of the piers. The chord or floor of the bridge was from twenty to twenty-two feet above the then surface of the water; Accups says, above twenty feet; Miller, about twenty-two. At present, I say nothing of the structure of the bridge. Its erection was a matter of public notoriety. It was necessary, for the public convenience. The Navigation Company, by

their agents, were always on the river; if they contemplated raising the water still higher than it had been before, it was incumbent on them to give notice. It is a well received principle, that if A see B building on his, A's ground, and do not forbid it, he cannot afterwards reclaim the ground occupied.

The bridge, being completed, at an expense of 15,855 dollars, 71 cents, and yielding an average neat income of 650 dollars, stood unblemished till 1822.

In the mean time, the City Corporation formed its contracts. On the 17th of April 1819, they purchased the water power from Josiah White and Joseph Gillingham; and having come to an understanding with the Schuylkill Navigation Company, commenced their operations on the 19th of April 1819, although the written instruments were not executed until the 3d of June following. On the 20th of July 1820, another agreement was entered into between the Navigation Company and the City Corporation, by which the latter were allowed to raise the dam eighteen inches higher than was provided for by the previous instruments. The dam was completed on the 23d of July 1821.

The effect of the dam was to back the water six miles, and to raise it at the Falls feet. And here we come to one of the most interesting points of the inquiry. It can scarcely be denied, that if the rising of the water to the destructive height to which it rose on the 21st of February 1822, was the mere effect of the dam,—compensation should be made. My position is,—that if it be the effect of the dam, co-operating with the elements of nature, the same result must follow. But the argument on the part of the defendants is, that in 1822, nature had raised the water and produced the destruction. Unless they establish this, they establish nothing. You must be convinced, that if there had been no dam at Fair Mount, still the flood would have been so great as to sweep away the bridge. This, difficult as it may be, it is incumbent on the defendants to show.

Let us first compare what little evidence we have of the height of the flood in 1784. 1. Judge Peters thinks it was not so high as that of 1822, and he mentions a fact which would

seem to leave no room to doubt the correctness of his impression. He says that his fences were carried away by the flood, more in 1822 than in 1784. 2. Schrunk is not quite so clear in the account which he gives. He says, that in 1784 it was a foot higher, above the Falls, but below the Falls, not so much; not above three inches. This proves at least, that in 1784 there was more stoppage at the Falls, than in 1822. 3. Tibbets, it is true, says that the flood of 1784 was decidedly the highest, and refers to a mark of its height on a walnut tree which is still standing. Now admitting that he is correct as to this mark, it is to be observed, 1. That the ice always shoves up on shore higher than in its level. 2. A vast body of ice and back water was coming down from the whole length of the river above. Whereas, in 1822, the ice above Flat Rock had passed over that dam four days before the 21st. There was therefore nothing to accumulate there, but what stood between the ice choaked below the Falls and Flat Rock. 3. There was no ice to be shoved, as was the case in 1784. 4. Richards' house was not then built. And the supposition that it would have come up to his windows is a mere vague conjecture. As to marks in the neighbourhood, White never saw any.

Admitting the report of the Watering Committee to be correct, the rise at the dam itself, is proved. There the accumulation took place; the rain of the preceding day bringing the whole body of ice, from Flat Rock down, which had been four days descending. Its rising eight feet on the dam distinctly proves the extent and height of the accumulation, and the force of the resisting power. It is not till such an accumulation takes place, that it is able to force its way; and we are thus furnished, by what is essential for one purpose, with evidence for another. The dam was purposely and skilfully so built as to present an insuperable barrier to the descending ice.

The dam bid defiance to the action of the water, and operated in various ways to produce this barrier. The water in the lake above it, being comparatively still, the ice which formed on its surface in a sheet from shore to shore, was

thicker than it otherwise would have been. The descending ice was, for a long time, unable to move it. As it disengaged itself in parcels, from the stoppage at Rundle's, it endeavoured to get below it. But if it reached the dam, it could not pass it, but the cakes were raised up, and formed a mighty mass, probably eight or ten feet in height. The greater the body of ice which the defendants prove to have come down to the dam, the more fully do they prove the resistance which it occasioned. At last the "crack," which Suplee describes, took place, from the head of the dam to Pratt's inlet. The fast ice gave way after three o'clock, and by four, the water rushing from above, swept the bridge with it. Let it be observed, that there was no impediment below. This is proved by five witnesses.

John Gottwalt says, that he never knew a stoppage continue for any length of time, unless it was frozen across below.

Here then we have plain facts, not to be overruled by conjectural arguments. The body of solid ice which had accumulated, owing its origin to the dam, had stood there, we know not how long. Until it could, by a mighty effort of nature, be lifted over the dam, it was immovable.

But it is also to be remembered, that the dam *slackened* the water above, and thereby diminished the force which acted on it.

It was indeed the work of nature, but it resulted from the art of man.

The argument on the opposite side requires you to suppose, that if there had been no dam, still there might have been as high a flood.

The very object of the dam was to counteract nature;—to keep back the water;—to resist her regular discharge of the fluids collected from springs, and streams, and rains, and vapours in the country above. It was originally intended for the purposes of navigation. It was converted by the defendants to another purpose, that of supplying the City with water. If the City had not wanted more water for internal purposes, this bridge would not have been destroyed.

But it is contended, that the loss of the bridge is to be attributed to the manner in which it was constructed. And in order to maintain this position, the bridge has been most critically scanned. Blots and specks and imperfections have been industriously sought out. It is objected, that it was built too low;—the wood-work was not fastened to the piers;—and that the upper part of the piers was not of solid masonry.

1. As to the height.—

If the bridge, as it was erected in 1808-9 had still stood in 1822, and you were of opinion, that the dam was instrumental in its destruction, we should be entitled to recover. The Act of Assembly contemplated things as they then stood. The owner of a mill was not obliged to remove it higher, nor the owner of a meadow to mound it with a stone wall. But the plaintiffs did not content themselves with this reflection. They had before them the experience of past times, and the gratuitous warnings of Mr. Salkeld;—they had the benefit of the skill and knowledge of Wernwag, whose single-arched bridge is an unrivalled monument of excellence. From all these grounds, I am warranted in saying, that they did carry it so high, that a flood equal to the greatest ever known or heard of,—that of 1784,—unaided by the defendants' dam, would not have injured them. At that time, remember, the contract with the City was not made. The plaintiffs could not anticipate the height to which a dam, sufficient to work the pumps, would go. But if they went so far in their calculations, they had a right to consider the Schuylkill Navigation Company as responsible for all the damage which might be occasioned by the excess beyond the natural height of the river. The plaintiffs were within lawful limits at twenty feet above the level; and it was the business of the Schuylkill Navigation Company to make their calculations accordingly. The event has shown who was right.

2. The wood-work, it is said, was not fastened to the piers. We have the testimony of the carpenter, who did not build this bridge, but who has built others, that this was built in the usual mode. No artist has been called to impeach it. It has been stated, that in the High street bridge, the wood-

work is let into the masonry. But this surely would not preserve it from being lifted up, though it would from lateral pressure. It is true, that the two bridges built by Miller at Baltimore have been swept away; but it was by a flood, which carried away also a stone bridge over the same stream.

3. The upper part of the piers was not, it is said, of solid masonry. Here, also, we have hypothesis refuted by fact. And what is curious, one part of the objection refutes the other. At each of the abutments it was well secured. When the iron clamps broke, it swung off, and descended the river broadside foremost. Now if the want of fastening in the middle had occasioned it to go, it would have occasioned a rupture there, and the two ends would have remained. If the masonry had all been solid, the effect would have been precisely the same; the bridge would have slid over the whole. But the upper part of the walls where the pressure was, did not give way. The lower part was carried off by the weight of the bridge, and, in fact, the only question is, whether you will deduct from our account the value of these lower walls. The plaintiffs had no petty savings in view. It was more expensive to build as they did, than it would have been to build it solid. But the object was to preserve the sleepers from damp and decay, by admitting the air. Ours being at bottom a flat bridge, was laid along the top of the piers.

In estimating the damages, the jury will have reference to the value of the property, at the time when the injury was received. *The Schuylkill Navigation Company* v. *Thoburn*, 7 Serg. & Rawle, 421. We claim nothing for the profits which we might have made, but we consider ourselves as clearly entitled to interest.

And the Jury will remember, that in the erection of a new bridge our expenses will be heavier, because it must be raised higher, in consequence of the erection of the dam. Each abutment and each pier must, of course be raised.

MR. BINNEY, *for the Defendants.*

The fact which the plaintiffs have to maintain is, that the dam at Fair Mount caused the destruction of their bridge;—that if the dam had not been there, the bridge would not have been destroyed. And this they must prove, so that the jury can on their oaths and affirmations, say, that the fact is so. It will not be sufficient for the plaintiffs to lead the jury to conjectures, or to incline to the belief, that the damage of which they complain has been caused by the defendants. The jury cannot regard the question submitted to them as a subject of speculative inquiry. If they doubt, their decision must be for the defendants.

This is a peculiar case. The claims for damages occasioned by the works of the Company, which have been heretofore brought into Court, have all been cases of direct and certain damage; such as the inundating of land, or the swelling of water upon the wheels of mills. These are the cases specified in the Act of Assembly; and when they occur, they can be traced with unerring certainty to the dam as their immediate cause. But this case differs essentially. It is a case, in which, by means of argument, an extraordinary occurrence is attempted to be connected with, and imputed to the dam, as its remote cause. It presents a question consequently of vital importance to the Navigation Company. For it is not confined in its influence to this bridge, but extends to every bridge now erected, or which shall at any time hereafter be erected, at the Falls, or elsewhere on the river. Nor is it limited to bridges only, but it embraces every fence on the river, and every instance of damage occasioned by a temporary flood. Nay, it extends to damage done to persons, as well as to that done to property. The dams erected by the Company are intended to be perpetual. Whenever, therefore, a destructive fresh shall occur, all the injury which may be sustained, of what nature soever it may be, is to be attributed to this dam, and the materials for just as good a claim as that now advanced by the plaintiffs, will never be

wanting. If this is to be the case, well may the people on the river thank the legislature for incorporating this Company; for it will be a perpetual insurance company for all the bridges on the stream. The case is not, however, so difficult, as it is important. Not a witness has been examined, who has not shown the impossibility of sustaining the claim. The testimony in regard to this, and all other freshes on the river, furnishes an answer to it.

It is the duty of the plaintiffs to show, that the dam caused the destruction of their bridge. My duty will be to prove, that every argument and every fact relied upon to show it, is entirely vain and inconclusive, and that all we know certainly, in regard to the cause of the fresh, is, that we know little or nothing about it.

What has the effect of this dam been? It has raised the water six feet six inches at the foot of the falls of Schuylkill. And as Josiah White had a fall of four feet three inches, or thereabouts, before the erection of the dam, the maximum height, to which it has raised the water at the Falls, or along side of the eastern pier and abutment, is two feet three inches, or twenty-seven inches. Salkeld makes it two feet. So far we are certain; and we are also certain, that so far as freshes are caused in part by obstructions at the bottom of the river, the dam tends to diminish them by increasing the depth of the stream. This elevation of water caused by the dam is absolutely of no moment in estimating the causes of the fresh. Salkeld has seen, at the Falls, before the erection of the dam, a water fresh, in summer, of eleven feet. On the 17th of January 1816, when the winter was comparatively a mild one, and the water subsided gradually, there was, by Mr. White's measurement, on the abutment, twenty-one feet of water above his sheeting; in other words. it was sixteen feet nine inches higher before the dam, than the dam has subsequently raised it. The ice was, at the time of Mr. White's measurement, from twelve to eighteen inches below the top of the abutment; Salkeld measured it, when it was six. Consequently, it was on that day, from seventeen feet three inches,

to seventeen feet nine inches higher than the dam has subsequently raised it.

Here there is a fresh without the dam, seventeen feet nine inches higher than the level of the water at the Falls since the dam. The dam certainly did not cause *that*. That the causes which were then in operation, were competent, if repeated, to produce the same effect, no one can deny; and this is the end of all certain knowledge on the subject. All beyond this is mere conjecture, insufficient to justify a verdict under the sanction of an oath.

But if conjecture is to be followed, the result will prove equally fatal to the demand; and in order to show it, I will examine the evidence, from which it will appear, that the bridge was destroyed by the operation of frost and rain. I shall endeavour to show, that these causes were calculated, from their extent, to produce the destruction and without any aid from the dam;—that they produced a less effect, however, than they had once at least already done, long before the erection of the dam;—that the fresh of 1822 was promoted by the same obstructions in the river, and was attended by the same phenomena, as those which occurred before the dam was erected;—that it was accompanied by circumstances decisively negativing the operation of the dam;—and that it was fatal to the bridge, because, the bridge was built in defiance of experience and admonition, both as to height and solidity.

1. The frost and rain were calculated, from their extent, to produce the destruction of the bridge, without any aid from the dam. The winter of 1822 was attended with circumstances by no means usual. It was steadily and regularly cold, as has been shown by observations of the thermometer. The Delaware was closed in the first week of January, and it continued to freeze, without interruption, for six weeks. On Saturday, the 16th of February, the ground being frozen, and covered with snow, it rained with considerable violence; the snow then on the ground, of consequence melted, and ran into the basin of the river, raising the water immensely in the country above. On Monday, the 18th,

there was a violent snow storm from the north east, during which the snow fell to the depth of a foot. It then froze until the afternoon of Wednesday, the 20th. In the afternoon of this day it snowed again, and at seven o'clock P. M. there commenced a hard rain, which continued during the night. We all, probably, recollect it as being remarkable for its violence and constancy. The whole country predicted an awful fresh, and well was the prediction verified.

If this fresh was, in reality, occasioned by the dam, it ought to have been confined to the Schuylkill. And yet how was the fact? What part of the country was free from its ravages? On the very same day, at nearly the same hour of the day, north and south, east and west of us, far and near, it struck with an irresistible force, on every quarter. Pennsylvania, Delaware, New Jersey, and Connecticut equally felt its fury. Bridges, dams, mills, dwelling houses—all were swept before it. The Mail stage and horses were in more than one place borne irresistibly from the road. The traveller was overtaken by the deluge, and perished in it. And, in one instance, an animal which had been drowned in one of the tributary streams of the Raritan, was disgorged into the Delaware! And can we sit down to calculate what effect this turn in a river,—or that shoal,—or the other dam, had in augmenting the fury of this inundation? No one can hold the waters or the ice-cakes in his hand, to measure or to weigh them;—to learn what force will resist them, and what they will overcome. Sometimes a stone in a brook will form the first obstacle, and gather obstructions around it, until it becomes an impassable barrier; at other times, the flood sweeps away rocks and hills, and all the mounds, which either nature or man has interposed. I say again and again, it is presumption thus to account for one of the most awful manifestations of Almighty power.

There was much less apparent cause, for the ice fresh of 1816, the season being a mild one. Mr. White says, it was a mild, open winter, and after threatening, on the 18th of January, it declined gradually, owing to the mildness of the weather, in three days. But mark how it stood. On the

18th, it was at twenty-one feet;—on the 19th, at eighteen feet;—on the 20th, at thirteen feet;—and on the 21st, at six and a half feet. With such an obstruction, how much more snow, and how many hours of rain, would have been necessary to produce all the mischief which was done in 1822? —When this question can be answered, and not till then, we shall have a right to say what influence the dam has had in the fresh of 1822.

2. But we have one well attested instance, that similar causes have produced a greater effect, in the very same spot, long before this dam was erected. I allude to the fresh of 1784. Its elevation is placed beyond all doubt by the testimony. 1. Mr. Schrunk, a witness called by the plaintiffs, says, that the fresh of 1784 was one foot higher than that of 1822, above the Falls, and three inches higher below. 2. According to Tibbins, the former was from six to eight feet higher, about two or three miles above the Falls; and certainly the higher you went up the river, the less high was the fresh. So said Judge Peters. 3. The same fact is shown by a comparison with the fresh of 1816. The existing marks of the fresh of 1784, show it to have been eleven feet higher than in 1816. Some of the plaintiffs' witnesses state that the late fresh was 9 feet higher than that of 1816. But the following statement will show their inaccuracy.

	Ft.	*In.*
In 1816, there remained uncovered, of the abutment	0	6
In 1817 the abutment was raised - - - - - - -	4	5
Mr. Young says, the water in 1822 was over the bridge floor - - - - - - - - - - - - -	1	10
Height in 1822 above that of 1816 - - - - - -	6	09
Add for height of floor above piers - - - - -	1	00
	7	09
Height in 1784, above 1816 - - - - - - - - -	11	00
Height in 1784, above 1822 - - - - - - - - -	3	03

Although it is Judge Peters' impression, that in his neighbourhood, the flood of 1822 was higher than that of 1784, it

does not follow, that it was so at the Falls. The Judge, however, makes it out to be at most a doubtful matter; and it seems clear, from the evidence, that his neighbours who differed from him, were right. He says, that in 1784, the ice entirely surrounded the houses, of which Gottwalt's was one, and that he could only see a part of Gottwalt's door. Now Gottwalt says, that in 1822, the water was highest at the moment when it gave way, and it was then just running into his cellar. Consequently, it must have been higher in 1784, than in 1822.

But this great height at the Falls in 1784, was before the obstruction created by the bridge itself. The water way of the river, at the bridge, has been diminished from five hundred and twenty feet to three hundred and thirteen, equal to two fifths. And was not the ice jammed in 1822 at the very bridge? It is distinctly stated by F. Gottwalt and Renshaw, that it was; and Suplee says, that the bridge came down in the midst of the ice, there being ice both before and behind it. This could not have been the case, unless there had been ice either at the bridge or behind it, when it started. But what is decisive of the ice being jammed at the bridge is, that the moment the bridge was dislodged, the water fell six or seven feet. All these circumstances tend to show, that the ice fresh of 1784 was higher than that of 1822; and if the same causes had existed in 1822, with the increased obstruction at the Falls, the fresh would have been higher in the latter, than it was in the former year. It is a settled rule in philosophy, that in explaining a phenomenon, no more causes should be admitted, than are true and sufficient to produce it. Now we have, in the present instance, sufficient natural causes for this flood, without adverting to the Fair Mount dam.

3. The freshes of 1784 and 1816, which occurred before the erection of the dam, were promoted by the same obstructions in the river, and were attended by the same phenomena, as that of 1822.

1. As to the fresh of 1784. Judge Peters states, that it was preceded by a bitter frost, after which the weather became mild and the ice melted in the mountains. Most of the

stoppages being above the island or at Shultz's point, the first great damming of the ice was at that point, and the next at Hamilton's point below. The *jam* continued at Shultz's point more than forty-eight hours. The ice was gone below it, a considerable time before the dam went. There was a kind of lake between Shultz's point, and where the Water Works now are.

What caused the jamming at Shultz's point? It may be said that it was owing to a turn in the river. That may have been the cause, in 1784; but could not have been in 1816, or 1822. Was the ice dam kept there by the ice below? It could not have been, for there was a lake of water between the point and the Upper ferry, which is two miles below. Then it does not follow, that the ice below is necessary to the continuance of the obstruction above. All that we know is, that the obstruction occurred at a point in the river, favourable to its creation, and that such a point existed before the erection of Fair Mount dam.

2. As to the fresh of 1816. The obstruction then occurred indisputably at the head of Peters' island. Mr. Salkeld says, that Mr. White and he went down to examine it, and found it jammed there; that the main dam of ice was at that place. From an observation of the course of the freshes for many years, he had uniformly found, that the ice would first jam at Rocky island just below the Wissahiccon; would then break and jam at Roberts' fishery, a narrow place; stop there for half an hour or longer, and then pass on to the Falls where it would make a short pause, not exceeding ten or fifteen minutes; would next stop at some rocks nearly opposite to Mendenhall's; then at Livezey's island, and then at Peters' island. The same account, in substance, of the several stopping places is given by Mr. White, who says, it made its final stop at Peters' island, and there remained, rising in an inclined plane, beginning three or four hundred yards from the place of its final stopping. The regular recurrence of this evil, induced him ultimately to sell his water power at the Falls.

Having ascertained the places at which the ice stopped, let

us remark upon the appearances below. Both Salkeld and White say, that in 1816 the ice below Peters' island was fast, and they walked on it to the Water Works; and that below Sheridan's bridge, as far as the eye could reach under the bridge, it was open. Look too at the register kept by Mr. White, and see how it bears on the main position of the plaintiffs, viz.—that the Fair Mount dam prevented the breaking up of the ice, because, had it not been there, the sheet of ice would have been pushed off at first, and there would have been no jamming. The remarks furnished by the register, are as follows:

Feb. 4. Broke up from the Falls to Peters' island; fast below.
6. Broke up to Rundle's point; fast below.
13 & 14. Excessively cold; all frozen again.
17. Rain.
18. Broke up to Rocky island, above the Falls; fast below.
" Broke up to Peters' island; fast below.
19. Rain.
20. Broke up to within twenty yards of Wernwag's bridge. (Sheridan's.)

If the obstruction in 1822 was occasioned by the Fair Mount dam, what produced it in the very same place in 1816?

If the dam at Fair Mount caused the sheet of ice to remain in 1822, what caused it to remain in 1816?

The impossibility of laying down general rules on this subject is also apparent, from the remarkable circumstance, that in the great fresh of 1816, it was open below the Water Works; while in 1822, it was broken up above, and fast below.

3. As to the fresh of 1822. Where did it first jam, so as to cause the inundation? At Peters' island, without doubt. Frederick Gottwalt says, the ice broke up about the middle of February, and shoved to Peters' island, where it jammed, and remained two or three days, perhaps more. John Gottwalt deposes, that about four or five days before the bridge came down, it jammed at Peters' island, or about two hun-

dred yards above. Schrunk does not know where it jammed this year, but says, that it formerly used to stop at Peters' island. But Salkeld states, that a few days before the bridge was carried away, he accompanied the Watering Committee to the Falls, and told them where the ice had jammed before, and that as it looked as usual, they would find it jammed at Peters' island. They proceeded there, and accordingly found it so; that it appeared to be grounded at the bottom, so that nothing could pass it. In another part of his testimony he states, that it jammed at Peters' island, as it had done for years before, in the common way;—that it was no new sight to him. Here is nothing more then, than the recurrence of the old obstruction, aggravated only by the extraordinary flood.

Let us now examine what was the progress of the ice, below the island. It appears from the testimony of F. Gottwalt, that the ice did not start from Peters' island, till after the heavy rain, when it came down to Rundle's, and jammed there for half an hour, perhaps an hour; and that when the bridge came against the ice at Peters' island, it stopped ten minutes, and then all went together. The ice-dam at the island, consequently did not start till the bridge came down to it; it was therefore this damming of the ice at Peters' island, which was fatal to the bridge.

But it is contended, that the jamming at Rundle's point was caused by the Fair Mount dam. Our answers to this position are numerous and conclusive. 1. J. Gottwalt proves, that it had jammed there before, though it very seldom remained there long. 2. If the dam had occasioned this stopping, we should naturally expect it to have remained for several days. But was this the case? So far from it, that an examination of the testimony of F. Gottwalt and Suplee, shows clearly, that the extreme length of the stopping was half an hour, or at most, an hour. 3. The jamming there could have had no agency in the destruction of the bridge, for the bridge was already destroyed, when it occurred. 4. There are other circumstances which show, that the dam at Fair Mount could have had nothing to do with this jamming, but

that it was caused by the conformation of the shores of the river. The change in the direction of the river at that point, is nearly a right angle; its narrowest section is from the Falls to the bridge, at Fair Mount, and the shore on each side is rocky and precipitous.—When the ice at this place was examined by Suplee, it was moreover fast from shore to shore, but with an open space of considerable extent between the ice-dam, and the sheet of ice in the pool of Fair Mount dam: this sheet, therefore, did not detain the ice at Rundle's point. And finally, the instant it passed the point, the whole mass proceeded with a steady progress, though slow, and with irresistible force, until it crossed the dam at Fair Mount.

This is a faithful narrative of the circumstances attending the fresh of 1822. And in what does it differ, either in cause or circumstance, from preceding freshes, except as they differ from one another, and as all freshes must continue to do, to the end of time?

4. But the fresh of 1822 was attended by circumstances of a nature decisive to disprove the influence of the dam. 1. We were told by Schrunk, that the first stopping of the ice, or as it has been called the *jam*, was caused by the ice *below* Flat Rock, and that the ice above Flat Rock did not come down until after the rain of Wednesday night:—and the inference was, that Fair Mount dam caused the fresh, because it would not let go its ice. Now it is proved by Omensetter, that the ice above Flat Rock dam came down on Sunday the 17th—and the more obvious inference therefore is, that the obstruction below was caused by the ice breaking up first above, and coming in a body into that part of the river below, which was fullest of impediments. 2. Another circumstance, showing conclusively that the mischief complained of, was not occasioned by our dam, is, that the dam at Flat Rock discharged its ice four days before this fresh occurred. The dam at Flat Rock was as high as that at Fair Mount, and formed a much larger port. The dam of itself, would not stop the ice, and the general reproach upon all dams, as the causes of ice freshes, is thus removed. But the truth is, that the Flat Rock dam had not a Peters' island above it, nor the turns and nar-

row passages which were below that island. 3. The circumstance of the ice being open below the dam and not above it, is nothing; because, 1. It was so in 1784; 2. It was so in 1816; 3. If the ice is once stopped, from whatever cause, the jam takes place. 4. So far from its being true, that there can be no jamming, if the ice is moving below, one of the witnesses examined for the plaintiffs has proved the contrary. Lindsay says, he has seen the ice stop at Hamilton's point, when it was moving below;—that, in fact, it generally moves below first.

5. The fatal accident to the bridge, however, is to be attributed, not to the dam, but to the defects in the construction of the bridge. The present Bridge Company had no existence until after the 9th of January 1817. The old corporation, by a sale under the Act of that date, became extinct, and afterwards the plaintiffs bought the site, and the old piers, for two hundred and five dollars, and started as a new concern. On the 8th of March 1815, the defendants were incorporated, and authorized to dam the river wherever it might be necessary for navigation, either above or below the Falls. It proved to be necessary below the Falls, as there was not water enough to go up to White's Lock. It was necessary for the City, whose use of the river at the Falls as the means of furnishing a supply of water, was reserved by the first Act of Assembly in favour of Kennedy. When the plaintiffs were about to build this bridge, experience, the admonition of friends, the example furnished by the fate of the lower bridge,—every thing conspired to put them on their guard. They built their abutment around the very tree which contained the mark of the flood of 1784; and there it stands at this moment, to reproach them with their disregard of this emphatic admonition. Had they regarded these warnings, they would have been safe. The demonstration of this is matter of simple measurement; the conclusion from it is fatal to their pretensions in this cause.

As there are so many of the plaintiffs, I rejoice that the loss will fall lightly on them; but be the loss light or serious, it cannot fall upon the city of Philadelphia.

Upon the whole, the plaintiffs do not make out their case, in *fact*. It is impossible, in my apprehension, for them to do so; and, I trust, the jury will be of the same opinion. The question presented to you, is a question of *right*, not of *favour*. These plaintiffs, among whom the Bank of Germantown is an individual, are as able to bear the loss, as the City; and whether they are, or not, is a consideration which you will never suffer to enter your minds.

Whether if made out in fact, this case is a good one in *law*, according to the true construction of the Act of Assembly, is a matter, if your verdict shall be for the plaintiffs, to be hereafter decided by the Court.

MR. CHAUNCEY, *for the Defendants.*

The office of the jury will be to determine the mere question of fact which is submitted to them by the issue joined in this cause.

The allegation of the plaintiffs is,—that the loss of their property was occasioned by the erection of the dam at Fair Mount, under the sale of a water power made by the defendants to the Corporation of the City of Philadelphia. This allegation is denied by the defendants, and thus the issue is formed.

To entitle the plaintiffs to recover, they must satisfactorily establish their allegation. They must show that the loss of the bridge was caused by the dam. On this issue, though we deny the right of the plaintiffs to recover in point of law, even if the loss might be considered as a remote consequence of the erection of the dam, we are now before you upon the denial that the loss is, either directly or indirectly, imputable to this as the cause.

Let us distinctly apprehend the obligation on the part of the plaintiffs, and then inquire how they have performed it by the exhibition of evidence before you.

The Act of Assembly, incorporating the Schuylkill Navigation Company, is the foundation of the plaintiffs' claim. This

Act, in its provisions for compensation, merely follows up a great constitutional and legal principle, and points out the mode in which the compensation for damage is to be obtained.

The plaintiffs are to show, that the loss which they have sustained, is a case of damage arising under this Act; that it is a case for which a compensation is provided, and a remedy given by the Act. Our next inquiry is,—How have the plaintiffs succeeded in maintaining these positions? Happily, in this inquiry, we are embarrassed with little or no contradictory testimony. Making a due and reasonable allowance for the influence which interest and feeling have even upon honest men, and the different mediums which they cause objects to be seen through, there will be no great difficulty in weighing the testimony. Indeed, for the most part, the testimony is of an uniform character, and leads to the same conclusion.

I will first, in the inquiry now pursuing, examine the evidence as to the character of the bridge, and see whether its destruction calls for any extraordinary cause. Previously to the year 1816, there had been erected a chain bridge on this site, which two days before the fresh on the 18th of January 1816, fell down. Had it stood two days later, its fall would have been attributed to the fresh.

In the year 1817, a new bridge is constructed; the propriety, and indeed necessity of raising the bridge, appears to have been felt by all; though, unhappily, all did not agree as to the height to which it should be raised. And here, as we apprehend, was committed a capital error by the plaintiffs, which exposed them to the loss which has occurred, independent of the operation of the works authorized by the Act of Assembly.

The most explicit and undoubted testimony is before you; —that on this very ground existed the marks to show, that the water had before risen, in an ice fresh, to the height of eleven feet above the top of the abutments then standing; that they were by a skilful and judicious person reminded of this, and advised to raise their piers and abutments at least ten feet, and that they were admonished of their danger if

they did not do so. This is expressly proved by Isaac Salkeld, by Godfrey Schrunk, and by Judge Peters. Yet the piers and abutments, notwithstanding all this, were raised but four feet five inches, above their former state.

But besides; it would seem reasonable to suppose, that the security which required the raising of these piers, would also have required that it should be done in a solid form. To this point, also, they were advised by a man of experience and observation; but in vain. From some mistaken belief or false calculation, the piers are raised upon an imperfect principle; and that is visible in the subsequent destruction.—On the upper side of the pier, it is carried up in correspondence with the exterior, of the width of eight feet,—in the middle, of the thickness of three feet,—and on the lower side, of four feet. The middle and lower walls were swept away by the fresh.

In addition to this;—the fastenings of the wood-work to the abutments was by six iron rods of one and a fourth inch, which passed through stones in the abutments, and were keyed. These bars made really no resistance to the immense pressure upon them, but snapped like pipe-strands, in the language of the witnesses.

In these three important particulars, this bridge, we contend, was defectively constructed, and was exposed to destruction, from precisely such an occurrence as had previously happened, and might be expected to happen again. Thus far our ground is incontrovertible. The operation of this testimony is, at least, to place the case in such an aspect, as not to leave us necessarily to look for an extraordinary cause for the loss which has occurred. If we have satisfied you that the bridge was not, from its height and construction, secure against the power of such a flood as had been previously experienced, you will not hesitate to say, that the plaintiffs must clearly connect the loss with the cause which they insist produced it. The learned counsel, to whom we are opposed, contends, that we are bound to prove the negative. This, I trust, we have shown not to be the case. If it

were so, why is it, that the plaintiffs have occupied three days with their testimony?

Let us then seek to ascertain how this loss is connected with the alleged cause. We think that the evidence establishes two facts:

1. That the fresh of 1784 was greater than that of 1822.

2. That the fresh was, in no measure, increased by the existence of the dam at Fair Mount.

1. As to the comparative height of the freshes of 1784, and 1822, we have this evidence: *John Tibbins*, who is now in his seventieth year, says, that he well remembers the great ice fresh of 1784; that there is a mark of that fresh still to be seen, on a walnut tree near Mark Richard's factory, about ten or twelve feet from the root, and made by the ice; that the tree was then a middling grown tree, and has not grown much since; that he also recollects the ice fresh of 1822;—that the fresh of 1784 was a great deal the highest;—he thinks it was six or eight feet higher than that of 1822. Isaac Salkeld also, who saw the fresh of 1822, says, that according to marks of that of 1784, which Godfrey Schrunk showed him on a buttonwood tree on one side, and on a white oak on the other side of the river, the latter was higher than that of 1822. To the same effect is the testimony of Godfrey Schrunk, who states that he remembers the fresh of 1784, as well as if it had been yesterday, and that it was higher than that of 1822; and that several marks were preserved of the height of the fresh of 1784. Judge Peters, though he has a distinct recollection of it, never took any particular observation as to its height. He states his opinion to be, notwithstanding the devastation he describes as occasioned by the flood of 1784, that it was not so high as that of 1822. In this opinion, however, he candidly states, he differs from other persons in the neighbourhood with whom he has conversed on the subject. On this evidence, I apprehend, there can remain no doubt, that the fresh of 1784 was greater, and the rise of water higher, than in 1822.

2. The fresh was, in no measure, caused or increased by the existence of the dam at Fair Mount. The plaintiffs bear

the burden of this speculation. To them it belongs to make clear the operation of the dam, and to show the effect insisted on. But a careful examination of the evidence, if it lead to any result, will lead to one different from that which is essential to the plaintiffs' case. The first ground taken is, that having raised the water seven feet, we are perpetual insurers for all rises of water, to the extent of seven feet above any rise before. To show the fallacy of this position, let us look at the causes operating to produce the destruction in the present instance. 1. The long continued and severe cold, and the state of the weather which ensued, fully account for the very extraordinary fresh of the 21st of February 1822. This is strikingly confirmed by the effects produced elsewhere. They are shown to have been the same on the Delaware, on the Brandywine, on the Raritan, on Stony Brook, and at various places in New England, and elsewhere. 2. The natural obstructions which exist in this river in a most uncommon degree, and which, of themselves, are clearly shown to have previously operated to produce powerful effects, are also to be taken into view. They are clearly and strongly pointed out by Mr. White, who appears to have been at the greatest pains to inform himself on the subject, as his interest was deeply involved in it. (Here Mr. Chauncey referred to Mr. White's testimony, as before reported.) It is quite evident, that from a careful examination and much observation, Mr. White abandoned the Schuylkill in despair, or in dread of some such overthrow as this. 3. The bridge erected by the plaintiffs added to the obstructions which existed before. The piers and abutments reduced the waterway a hundred and forty-seven feet in four hundred and sixty. 4. The operation of these causes was almost identically the same as it was before the dam was built. This is clearly and distinctly shown by the evidence. (Here Mr. C. referred to, and minutely examined the testimony of Isaac Salkeld, Josiah White, Jonas Suplee, George Omensetter, and Judge Peters.) 5. The bridge was lost by its own weakness, and its utter incapacity to endure the stress, to which it was exposed from this cause.

With these views before us, and these facts in evidence, can you say, that the existence of the dam caused the destruction of the bridge? The whole theory, to lead you to this conclusion, must be founded on this position:—that the dam had raised the water thus high, by reason of the formation of the ice above it, which caused it to jam, though the river was open below. But this is utterly unfounded. The truth is clear, both in fact, and sound philosophy,—that what is below the ice-dam can have no effect above it.

The formation of these freshes is curious, but seems to be attended with little uniformity. But this we may safely say, that there is, neither philosophically, nor in fact, any effect of this description, resulting from the dam. The river breaks up in different places; and when it so breaks, the loose ice shoves down upon firm ice and forms a dam. If the firm ice be, as it usually is, in a confined or shallow place, it remains, though the ice breaks up below, and continues till the force of the water breaks it up. Whilst this ice-dam continues, if there happen to be a thaw or rain, the quantity of water descending causes the fresh. Mr. Rawle asks, would the ice-dam have formed, in the present instance, where it did, had there been no dam at Fair Mount? I answer, Yes. And the history of the river fully proves my assertion.

In 1784, the great stoppage was at Hamilton's point, far below the site of the present dam; and there it stood long after the river had broken up below. In 1816, it stopped at Peters' island, and the river was open below Sheridan's bridge. In 1822, it was open between the jammed ice, and the ice at the dam. On these few facts, it is impossible to say, that the dam had the least influence in causing the rise of water which occasioned the destruction of the plaintiffs' bridge.

The City of Philadelphia shrinks from no engagement or obligation which rests upon her. But her public officers hold a most important trust. They have no right to part with her money, upon any principle of liberality or generosity. Their only rule is, Justice. That is the rule by which this Court and Jury will be governed, and they can know no other. If the plaintiffs have made out their case, let them have their

compensation for the loss. But if they have not, they cannot receive a verdict at your hands.

After a few remarks by Mr. Rawle, *in reply*, the charge of the Court was delivered by

HALLOWELL, *President*,

The only question of law which has arisen in this case, having been disposed of by the counsel, the Court can give the jury but very little assistance. (Here his Honour stated the nature of the proceeding, and recited the Act of Assembly, on which it was founded.) The question for your consideration is a question of fact. It is, whether the destruction of the plaintiffs' bridge was directly or indirectly occasioned by the Fair Mount dam. If it was, the plaintiffs are entitled to damages, the proper measure of which, would be the value of the property at the time of the injury done. In determining this question, the jury may, and perhaps ought to consider, whether the bridge was or was not river-worthy. The owners of the bridge being the complainants, the burthen of proof lies on them. They must satisfy you that they have sustained an injury, and that it has been occasioned by the dam. I do not mean to say, that point-blank proof is necessary. It will be sufficient, if they establish such facts, as lead you fairly and rationally to infer, that the dam has caused the injury of which they complain. Such proof you ought to require; and if the plaintiffs have furnished it, they are entitled to your verdict; otherwise, they are not.

The jury, having received the charge of the Court, retired, and the next morning, Wednesday, February 25, 1824, returned a general

Verdict for the Defendants.