The Schuylkill Canal—Part III.

By H. C. Wilson. Read December 20th, 1912.

Three hundred yards below the mouth of Mill Creek, Port Carbon, on the southern bank of the now filthy stream dignified by the name of Schuylkill River, stands a small stone house. Near it, in the river bed, barely visible in the refuse washed down from the mines, are the remains of masonry. One hundred and eight miles away, a short distance below Fairmount dam, Philadelphia, there is a neat brick dwelling, surrounded by flower beds, and facing a canal lock in good order. These two buildings mark the termini of that system of navigation known as the Schuylkill Canal, whose history and useful purposes accomplished have been dwelt upon in former papers read before this Society. The stone house was the home of the locktender at lock and dam No. 1. In the brick dwelling lives the locktender for lock No. 72. Between these two points, during the many years that the canal was in active operation, passed hundreds of boats, carrying cargoes aggregating many millions of tons, consisting mostly of coal mined in this county.

It is the purpose of the present paper to describe principally that section of the canal which has been abandoned, lying wholly within this county and extending from Port Carbon to Port Clinton, and to show the state of ruin into which the works of the canal have fallen, giving, also, some details not touched upon in the papers heretofore prepared by Mr. Smith and Mr. Hesser.

The canal was originally constructed, about 1818, only to Mount Carbon. In 1828 it was extended to Port Carbon, at which time dam No. 1 was built. This dam formed a pool in which were erected what were known as the Coal Street landings, a short distance above the

bridge leading from Port Carbon to Palo Alto. From here, until 1853, were sent cargoes of coal which were taken not only to points between Port Carbon and Philadelphia, but, by means of other canal systems (notably the Delaware & Raritan Canal) and towing by tugs, to New York, Chester, and even to Washington, D. C. Some boats, indeed, built specially of a shorter length than the regular Schuylkill boats, were towed up the Hudson River and navigated the Erie Canal, whose locks are somewhat shorter than those of the Schuylkill Canal. Dam No. 1, however, was abandoned, together with its wharves and landings, in 1853, on account of the difficulty in maintaining sufficient depth of water, by reason of the coal dirt washed into it from the mines. New docks and landings were then erected at the upper end of Palo Alto, a short distance below the wooden railroad bridge known as the Black Bridge, which has, within the past two years, been replaced by a concrete structure. This point then became the upper terminus of navigation, and continued so until 1872, when the canal was abandoned to Schuylkill Haven. Dam No. 1 was maintained as a dirt catcher, its existence as such being deemed necessary for the proper operation of the canal below. It was the filling of this dam with dirt, and the consequent raising and backing of the waters of the Schuylkill into the town of Port Carbon, that gave rise to perhaps the first of the many suits for damages resulting from coal dirt, that have occupied the time of our courts. A resident of Port Carbon, named McDonough, successfully prosecuted a suit against the Schuylkill Navigation Company for injury to his property and the health of his family, from the above cause. The case reached the Supreme Court in 1857.

Proceeding down the line of the canal, we find that the heavy fall in the river was overcome by many locks and dams. The difference in elevation between dam No. 1 and Fairmount dam is 618 feet, and 265 feet of this is between Port Carbon and Hamburg. The Blue Mountain dam at Port Clinton is No. 16 and its locks are numbered 28 and 29. With this large number of locks and

dams in a distance of about twenty miles, many of the levels connecting the locks were very short, some only a few hundred yards, and none a mile in length. Considerable time, therefore, was required in locking through the Schuylkill County section of the canal, and especially between Port Carbon and Schuylkill Haven. In this short distance there were eleven lift locks, having a total lift of 109.32 feet, and seven dams. The locks had varying lifts, depending upon convenience of location, length of levels and dams, etc.

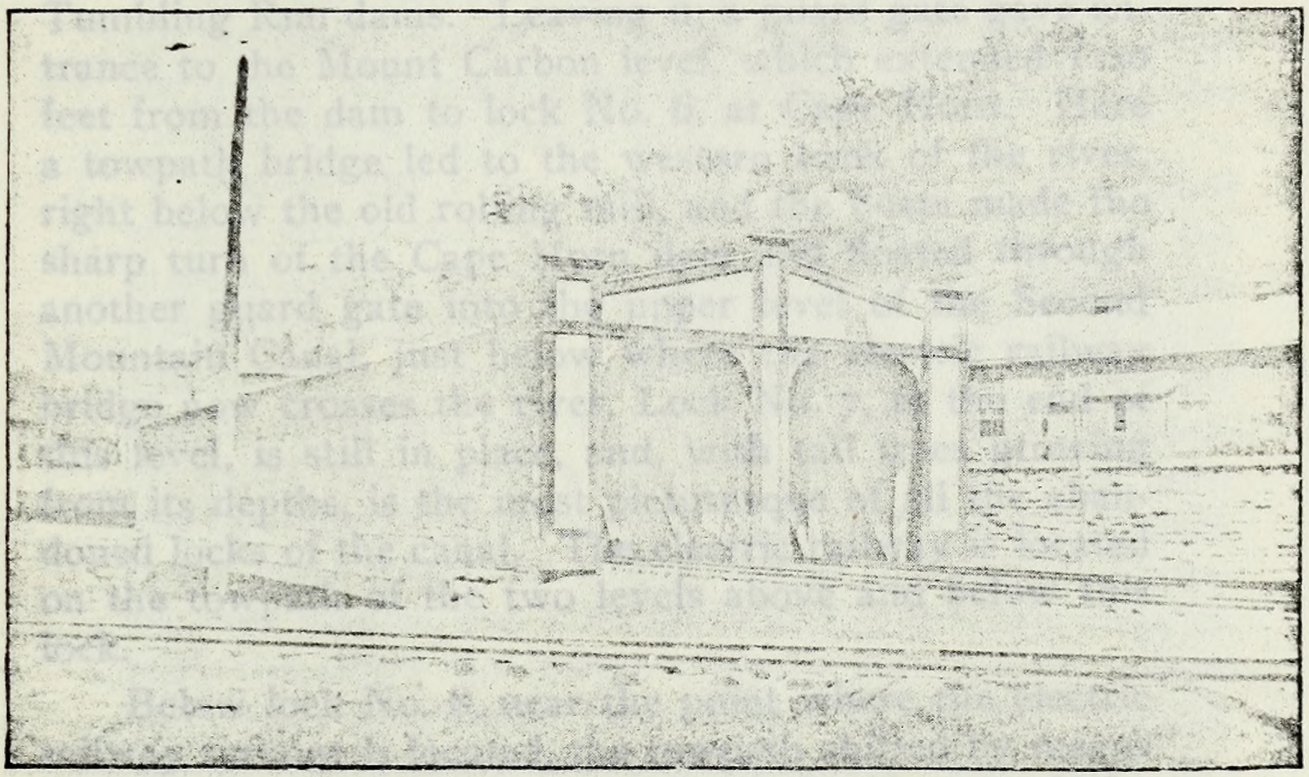
The following table, copied from a profile of the canal, gives the lifts of locks Nos. 1 to 32, inclusive:

No. 1.	Port Carbon	4.8 ft.
No. 2.	Palo Alto	9.8 ft.
No. 3.	Pottsville Junction	5.8 ft.
No. 4.	Opposite Main St., Mt. Carbon	6.0 ft.
No. 5.	At turnpike bridge, Mt. Carbon	8.4 ft.
No. 6.	Cape Horn	9.47 ft.
No. 7.	Below Cape Horn	12.75 ft.
No. 8.	Below Cape Horn	10.25 ft.
No. 9.	Waterloo Guard	——
No. 10-11.	Waterloo Locks	28.25 ft.
No. 12.	Bausman's, Coal St., Sch. Haven	13.8. ft.
No. 13.	Schuylkill Haven Guard	——
No. 14.	Foot of Canal St., Sch. Haven	12.2 ft.
No. 15.	Bowen's Outlet	6. 4 ft.
No. 16.	Farquhar's	7. 3 ft.
No. 17.	At Storage Yard	6.4. ft.
No. 18.	Landingville	5.4 ft.
No. 19.	Tunnel Guard	——
No. 20.	Tunnel Lift	11.6 ft.
No. 21.	Tunnel Outlet	8.7 ft.
No. 22.	Scotchman's (Auburn)	7.3 ft.
No. 23.	Log Cabin	10.95 ft.
No. 24.	Lord's	9.95 ft.
No. 25.	Rishel's Outlet	14.0 ft.
No. 26.	Hummel's	8.9 ft.
No. 27.	Port Clinton	10.3 ft.
No. 28-29.	Blue Mountain	24.9 ft.
No. 30.	Kernsville	12.10 ft.
No. 31-32.	Hamburg Five Locks (Garber's)	28.6 ft.

The Palo Alto docks were situated at the head of dam No. 2. Near the breast of the dam was Young's Landing, on the one side, and on the other were the Haywood rolling mills and the railroad roundhouse. The lockhouse at lock No. 2 is still standing, to the rear of the Sailor Planing Mill, but the lock and a portion of the level below it have been filled in with dirt. Part of this level still contains water; it is called the dock, and is sometimes used as a swimming hole by the boys. This level and the two short levels below it, extending to the turnpike bridge at Mount Carbon, were known as the three Greenwood levels. The first skirts the island on which the old Pioneer Furnace stood, and from it, up to shortly before the Civil War, a branch canal extended, with several locks and pools, to the point now occupied by the Philadelphia and Reading passenger station in Pottsville. On this island, about the same period, was a boatyard, conducted by the father of Charles Shelly, one of our present court officilas. To this point, also, were brought cargoes of ore for the furnace.

Lock No. 3 stood near the point where the Pennsylvania railroad crosses the Reading at Pottsville Junction. Lock No. 4 was directly opposite Main Street, Mount Carbon. Before moving up to the island, Mr. Shelly had his boatyard here. These two locks, together with their lockhouses, were destroyed in 1884, by the Pennsylvania Railroad Company in an attempt to use the canal property in the construction of its line. Opposite lock No. 4 was also erected dam No. 3, below which were the Mount Carbon landings.

From the third Greenwood level, boats passed through lock No. 5 and under the old wooden bridge spanning the river at Mount Carbon (replaced by an iron bridge in January, 1894) into a dam which has, during the past two years, been filled in on its eastern side, shifting the public road further to the west and enabling the Pennsylvania Railroad Company to extend its yard over the old road; and automobiles now speed over the same course formerly taken by canal boats. An old,



The "Black Bridge" at Mount Carbon

wooden railroad bridge, covered with tin, and also known as the Black Bridge, still stands in place across this dam. It is the only remaining bridge of its type between Pottsville and Philadelphia. Prior to the construction of the track at Pottsville Junction, all trains from Pottsville to Frackville and Tamaqua crossed the canal at this point. This bridge was erected in 1851 to take the place of the bridge carried away by the flood of 1850, when Tumbling Run dam burst, and its use was abandoned in 1911; it still bears the date "Jan. 1851."

Into this dam also entered the feed waters from the Tumbling Run dams. Leaving it, a guard gate gave entrance to the Mount Carbon level, which extended 1140 feet from the dam to lock No. 6, at Cape Horn. Here a towpath bridge led to the western bank of the river, right below the old rolling mill, and the boats made the sharp turn of the Cape Horn dam and floated through another guard gate into the upper level of the Second Mountain Canal, just below where the electric railway bridge now crosses the river. Lock No. 7, at the end of this level, is still in place, and, with tall trees growing from its depths, is the most picturesque of all the abandoned locks of the canal. The electric railway is located on the towpath of the two levels above and below this lock.

Below lock No. 8, near the point where the electric railway turnout is located, the towpath shifted by means of a bridge to the eastern bank of the river, and the Waterloo level was entered through a guard lock at the dam just above Seven Stars. This level was the longest encountered up to this point, and extended for nearly a mile to the double lock, variously known as the Waterloo lock, Warner's lock, and the Five Locks. This lock was torn out in 1897. It stood only a few feet above the Lehigh Valley railroad bridge crossing the valley. Prior to the enlargement of the canal in 1846, there were five locks at this point, arranged in two parallel tiers, the one of two and the other of three locks. Through the one set of locks the northbound boats passed, and through the other the southbound. Though the five locks were

replaced by one double lock, the name was retained until the canal closed, and is still occasionally used. Between this lock and the Centre Turnpike stood a large house, known as the Waterloo house, which was for some years the home of J. H. Filbert, Esq. It was torn down when the Pennsylvania Railroad was built. This house was built by the Navigation Company, and at the time of the leasing to the Philadelphia and Reading Railroad Company in 1870 was the home of E. T. Warner, one of the canal superintendents. Fronting on the turnpike, and with the grounds about it beautifully planted with flowers and shrubbery, it was regarded as quite a mansion. At the lower end of the locks there was a repair shop for boats. The electric railway is also constructed on the towpath of the Waterloo level.

Below the Five Locks is a section of the canal around which cluster a host of memories. Here, on the eastern bank of the Spring Garden level, was situated the Navigation Company's boatyard, where boats were built and repaired. Three dry docks were in use. This yard was in operation until the spring of 1887, and, although the canal was shortly to close down, the last work done was the launching of two new boats. Crossing this level, at the place where the trolley station at Connor's Crossing now stands, was a bridge which was taken away in 1898, and below the bridge a wharf, with derrick, where lime boats discharged their cargo. Along the towpath was a wharf where ore was unloaded. This level terminated in lock No. 12, known as Bausman's lock,* situated in the North Ward of Schuylkill Haven. A few yards to the east of the lock stood the large brick build-

*The following partial list of locktenders who were on duty about the period of the lease of 1870, was furnished by Mr. Joseph Borda, of Schuylkill Haven. Most of these locktenders served for for many years. Lock No. 2, Solomon Bowman; Lock No. 3, Patrick Welsh; Lock No. 4, Mrs. Heller; Lock No. 5, William McClain; Lock No. 6, Michael Conley; Lock No. 7, Elijah Warner; Lock No. 8, Adam Moore; Lock No. 9, Daniel Sullivan; Lock No. 10-11, Jacob Wunch; Lock No. 12, John Baussum; Lock No. 13, ——; Lock No. 14, Wm. H. Gibson; Lock No. 15, John Hendricks; Lock No. 16, George Bolton; Lock No. 17, John Hauk; Lock No. 18, Tobias Wagner; Lock No. 19, Moses Betz; Lock No. 20, Daniel Heim; Lock No. 21, Michael Newman; Lock No. 22, Frederick Young.

ing known as the Navigation Building, in which were grouped the offices of the different canal officials. Standing on an elevation overlooking the landings and the dam below, and surrounded by trees and grass plots, it was a scene of great beauty as well as industry. On the lawn in front of the building religious services were conducted occasionally on a Sunday afternoon, by Rev. Joseph H. Schreiner, who for seven or eight years devoted his time to missionary work among the boatmen, traveling up and down along the canal, holding services and distributing tracts.

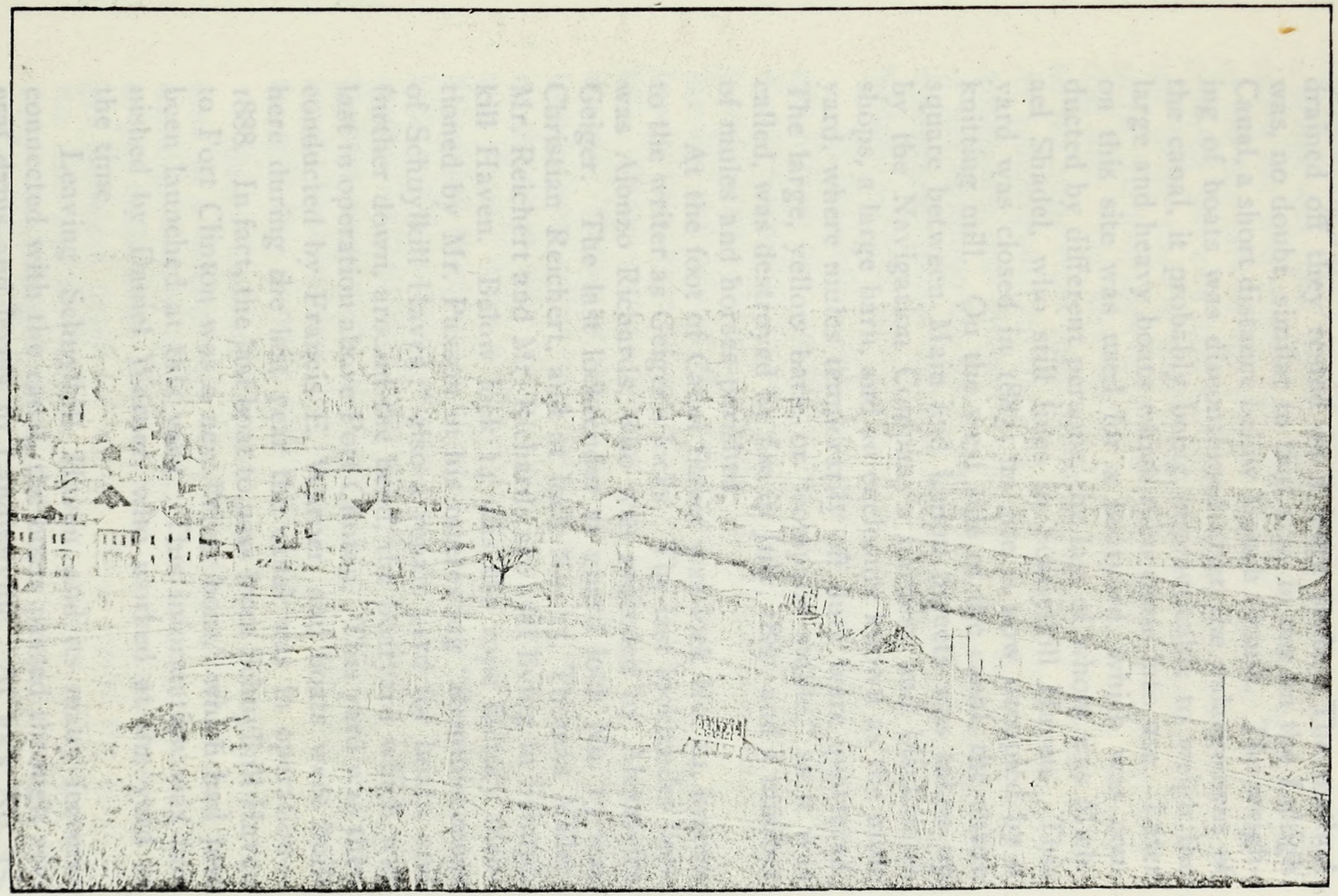
Immediately to the west of Bausman's lock were the largest and most extensive docks and landings owned by the company. The main portion of the dock, known as the Lippincott dock, was opened in 1853, and, as stated by Mr. Smith, had 3000 feet of frontage. There was also another section, further south, known as the "old dock," which was of considerable size. These landings were the busiest spot on the canal. They were elevated about fifteen feet above the surface of the water, and on them the cars were shifted to and fro by means of locomotives and mules, and placed into position over the chutes which guided their contents into the boats below. There were chutes sufficient to enable about ten or twelve boats to be loaded at the same time, there being two chutes at each loading place. As the coal passed into the boats it ran over a screen, and the fine material which passed through the screen was taken away and deposited in large piles near the present base ball ground and along the river below the railroad bridge. A covered bridge extended from a portion of the landings, across the entrance to the dock, to lock No. 12. This bridge was blown from its abutments during a storm in 1889. These docks were situated at the head of dam No. 7, which stood at St. John Street. This dam, of course, was constructed across the natural channel of the river. To divert from it and the dock system floods and other surplus water, and also accumulations of coal dirt and sand, a channel was cut, about 1858, through what is now the west ward of the

borough, commencing at a point in the river above the docks and discharging into the main stream below the dam. This cut-off has but recently been closed up, so that the full volume of the river now flows in its original channel.

Before the enlargement of the canal and the erection of the docks just described, boats were loaded at a number of docks occupying the site of the present base ball ground and extending up around the bend of the river. A map on file at the court house, dated 1829, shows a series of docks, twenty-five in number, constructed at right angles to the channel of the river, from the breast of the dam to a point beyond the Broadway bridge. Coal was brought down the Mine Hill railroad to its terminus at these docks, and here loaded into boats. The circular railroad embankment still remains. Part of the fence surrounding the ball ground is erected on it, and it forms a convenient elevation for viewing base ball games. The towpath along this dam ran on the eastern side, at the base of a high wall which protected the adjoining streets and alleys.

A great deal of the life of Schuylkill Haven centered around the dam. Along the berme bank boats were tied up three or four abreast, awaiting their turns to be loaded. Its waters were a favorite swimming place on hot summer evenings. Swimming matches, tub races and other aquatic sports were held here on holidays. Rowboats passed up and down. Occasionally in winter the water would not be drawn off for a time, and there was skating, and ice was harvested.

Below dam No. 7 was the Canal Street level, entered through a guard lock which now lies buried beneath the gardens to the rear of the First National Bank and the other buildings between St. John Street and the railroad. Below the railroad this level was crossed by two bridges, one at Main Street and the other at Columbia Street. The weigh-lock stood on the western bank, near the Main Street bridge, in the early days of the canal. Here the boats and their cargoes were weighed. They were



A View of Schuylkill Haven, Showing the Navigation Building, Lock No. 12, the Spring Garden Level, and a Portion of the Lippincott Dock, as They Appeared in 1902.

floated into a dock or basin, and when the water was drained off they rested on a large scale. The method was, no doubt, similar to that now in use on the Lehigh Canal, a short distance below Mauch Chunk. The weighing of boats was discontinued after the enlargement of the canal, it probably being impracticable to weigh the large and heavy boats which then came into use. Later on this site was used for a boatyard, which was conducted by different persons, the last of whom was Michael Shadel, who still lives in Schuylkill Haven. This yard was closed in 1883; its site is now occupied by a knitting mill. On the west side of the canal, the entire square between Main and Union Streets was taken up by the Navigation Company's harness and blacksmith shops, a large barn, and an enclosure known as the mule yard, where mules temporarily off duty were quartered. The large, yellow barn, or "company stable," as it was called, was destroyed by fire in July, 1887, and a number of mules and horses perished.

At the foot of Canal Street was lock No. 14, known to the writer as Geiger's locks. The last locktender here was Alonzo Richards, who was preceded by Alexander Geiger. The last locktender at guard lock No. 13 was Christian Reichert, and at lock No. 15, Thomas Miller. Mr. Reichert and Mr. Richards are still living in Schuylkill Haven. Below lock 14 was the rope factory mentioned by Mr. Paxson in his interesting "Reminiscences of Schuylkill Haven;" also a repair yard for boats, and further down, around the bend, the boatyard which was last in operation above Port Clinton. This yard was then conducted by Francis E. Warner, and boats were built here during the last year the canal was in operation—1888. In fact, the last boat to pass from Schuylkill Haven to Port Clinton was a new "river boat," which had just been launched at this yard. This information was furnished by Daniel Warner, who worked at the yard at the time.

Leaving Schuylkill Haven and its many features connected with the canal, the boats passed through several dams and levels to Landingville. At lock No. 15, the head of Bowen's dam, the mules were taken across

the river by a ferry in the early days of the canal. Later a bridge was built, and in winter ice was cut on what is called the Red Pond, and taken across this bridge and up the towpath to the town. Below the railroad bridge crossing Bowen's dam was the "company farm," a large and fertile tract of land owned by the Navigation Company. Its lowlands have now been entirely destroyed by coal dirt. The level above lock No. 17 is now covered by the large culm bank deposited from the storage yard. At Landingville, on the east side of the road leading to Adamsdale, was Deibert's boatyard. On the berme bank of the Landingville level was a lime kiln, at which the "chunkers" (boats built in two separate sections) unloaded.

In connection with the canal at Landingville, a quotation from the autobiography of Daniel Deibert, who died in Schuylkill Haven in 1890, aged eighty-eight years, is of interest. He says: "I moved (about 1830) to Landingville and tended the guardlock at the canal. I also kept a ferry boat for taking passengers over the Schuylkill. There was no bridge that time. Once I was in danger. The water was very high. I had ten passengers to take over. We came safe over, but landed far down on the other side. Once I got very sick, but it was my own fault. After a thunder shower I waded into the Schuylkill to get out a fish net. I was tending the guard lock, and boats were coming, and had no time to put dry clothes on, and that gave me my sickness." Later Mr. Deibert conducted a blacksmith shop and made ironwork for the boat builders, and he says, "My wife often helped me split iron to make spikes for boats."

Below Landingville was dam No. 11. This dam figured in a damage suit in 1864. By reason of coal dirt washing into it, the Navigation Company was obliged to put flashboards on the breast of the dam in order to get sufficient depth of water. This raised the level of the dam and flooded the adjoining fields of Morgan W. Fehr, who brought suit against the company. Dam No. 11 had its outlet into the upper level of the Tunnel Canal, which was very wide at the upper end, then contracted

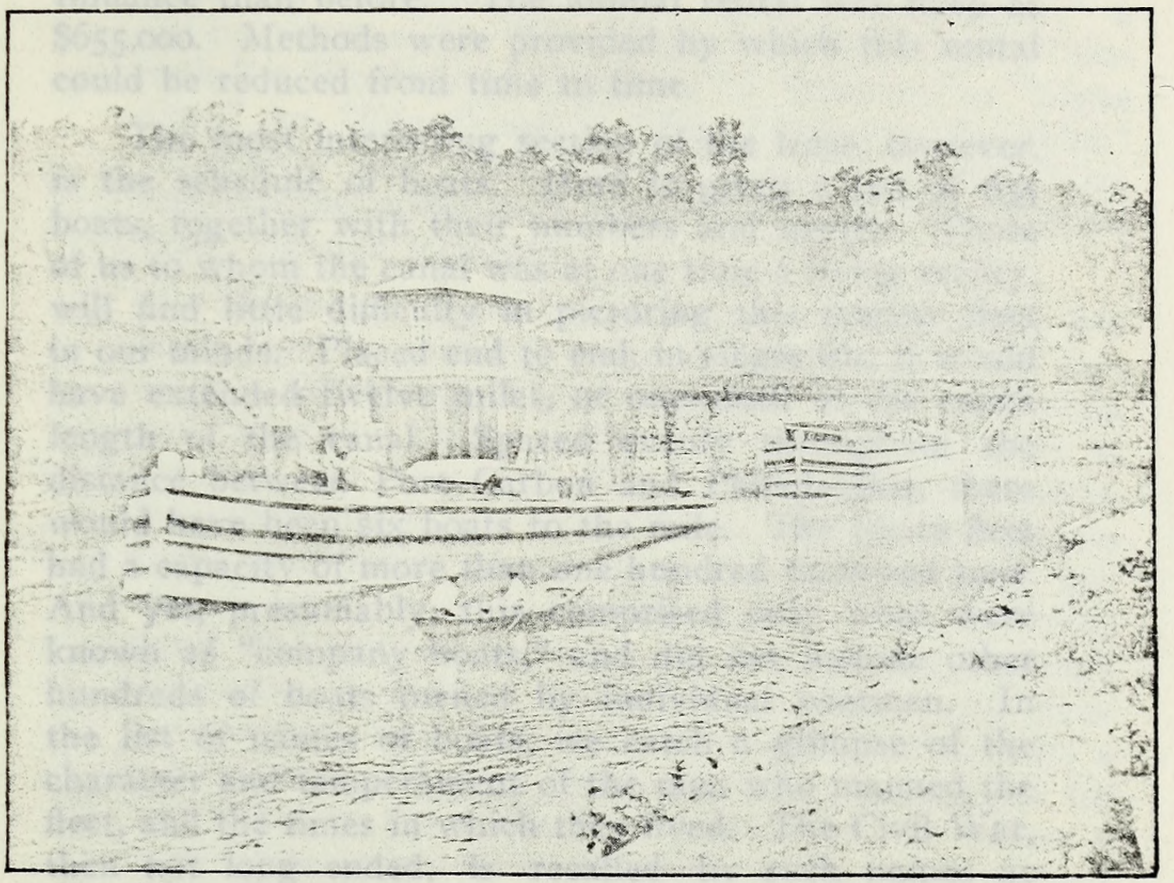
to a width permitting only one boat to pass at a time, where it led through the tunnel (described by Mr. Smith as the first tunnel in the United States), and ended at lock No. 20, about a quarter of a mile below. This level and the one below are some of the few which have, by reason of their location, escaped being filled with coal dirt washed in from the river by floods, and the water that remains in them is well stocked with fish.

Lock No. 20 was placed some distance away from the one that it superseded, and there is still standing the upper end of the old brownstone lock erected in the thirties. It is one of those pieces of work described by Mr. Smith as the best stone masonry in Pennsylvania. On the berme bank of the lower tunnel level was a stone quarry, from which material was taken for canal walls and repairs. This is the widest level above Reading. Its outlet dock differs from all the others above it, in that its walls are not the usual rough stone walls, lined with planking, but are composed of square-cut brownstone block, close fitting and even jointed, without wooden lining. They were, no doubt, taken from the smaller cut stone locks which the new locks replaced. The tail gates of this lock admitted northbound boats from dam No. 12, which is of considerable length, having its breast at Auburn. Below it is the short Auburn level, on the west bank of which was a repair yard, with drydock. Below this level the canal shifted, through a dam known as the Crosscut or Scotchman's dam, to the eastern bank of the river. Passing through another short level, the boats entered dam No. 14, called Lord's dam, which is the one at Stony Creek. The fall in the river here is not as abrupt as above, the dam having a length of two miles. There is one level, called Rishel's canal, between it and the next dam below. Then comes Hummel's dam, followed by one level, which terminates a short distance above the Port Clinton dock, the present head of navigation. Lord's dam and Hummel's dam are still being maintained by the company, as dirt catchers, and they are the only dams now standing in the river above Port Clinton. These two dams were torn out by

the floods of December, 1901, and February, 1902, but were rebuilt within the next two years. The stone work of their locks was taken down and used in the reconstruction.

The dock at Port Clinton is the smallest of the docks on the canal, but amply large enough to accommodate the present traffic. There is but one chute used for loading the boats. This dock and a portion of the dam below are the only sections of the canal now in operation in Schuylkill County. It is at the head of the Blue Mountain dam, which has a length of about two miles and is the highest dam on the river, its breast being twenty-five feet high. On its bank, near the railroad tunnel, is a large white rock, called Pulpit Rock. Against this rock a boat was hurled and sunk by high water many years ago, and the captain's daughter drowned in the cabin. Near the dock the waters from the Little Schuylkill enter the dam. The towpath bridge which formerly crossed the Little Schuylkill was carried away in the flood of 1901, and has not been replaced. Boats leaving the dock are poled a short distance to a point where a towline can be thrown out to the towpath, and from there they are towed by mules.

Having reached the end of the abandoned sections of the canal, we will turn aside to a consideration of such matters of interest as are found in the lease by which the canal passed under the control of the Philadelphia and Reading Railroad Company. This instrument is dated July 12, 1870, two years prior to the abandonment from Port Carbon to Schuylkill Haven. It covers seventy-three pages of the deed book in which it is recorded at the court house, of which sixty are devoted to schedules listing in detail all the real and personal property owned by the Navigation Company. The schedule of real estate includes not only every piece of ground occupied by the channel of the canal from Port Carbon to Philadelphia, but numerous tracts and lots for reservoir sites, lock houses, coal dirt dams on the different branches of the river ,farms, quarries, etc. The first tract on the list is that now covered by the Silver Creek dam, several



Dock at Port Clinton

miles above New Philadelphia, and the last is a tract of forty-two acres at the mouth of Crum Creek, Delaware County, "for a winter harbor for canal boats."

The lease is for the term of 999 years. Under the first clause, the lessee is permitted "to discontinue the use for canal purposes or water power purposes, of the canal above the division known as the Hamburg Canal, if, in their opinion, the productive value of the other demised premises would be greater after such discontinuance than before." The annual rental was fixed at $655,000. Methods were provided by which this rental could be reduced from time to time.

The most interesting section of the lease, however, is the schedule of boats. Here is given a list of 634 boats, together with their numbers and names. Those of us to whom the canal was at one time a living reality, will find little difficulty in picturing this mighty fleet in our minds. Placed end to end, in single file, it would have extended twelve miles, or one-ninth of the entire length of the canal. Spaced evenly throughout the distance between Port Carbon and Philadelphia, there would have been six boats to the mile. The entire fleet had a capacity of more than one hundred thousand tons. And yet, presumably, this comprised only what were known as "company boats," and did not include other hundreds of boats owned by individual boatmen. In the list of names of boats, we catch a glimpse of the character and temperament of the men who manned the fleet, and the times in which they lived. The Civil War, then not long ended, is recalled by such names as "General Grant," "General Banks," "General Joe Hooker," "General Sherman," "Major Anderson," "Gettysburg" and "Appomattox." The States of the Union are represented by the boats "Ohio," "Delaware," "Vermont," and others. Citizens of this community were thus honored. The boats "Charles Baber," "John Rickson," "Harvey G. Field," "William McDonald," "Albert Hesser," "Horace Royer," "James Kirkpatrick," "C. V. B. Deibert," "Z. T. Galt," "John W. Forney," "Baird Snyder," "Henry Allison," "Charles Hesser,"

and "D. J. Harner" passed and repassed on their various voyages. "Hard Times," "Revenue," and "Jay Cooke" took their turns at the landings. Family ties were reflected in the "Cousin John," the "Twin Brothers," the "Twin Daughters," the "Four Brothers" and the "Pleasant Home." "Sam," "Mary," "Lizzie," "Little Annie," and "Little Fannie" were one branch of the great family. There were a "Here I Am," a "Schuylkill Mountain," a "Morning Glory," an "Ironclad," a "Tornado," a "Blooming Youth," a "Celestial Empire," a "Hippopotamus," a "War Eagle," a "Sparrow," a "Gazelle," a "Rover," a "Wanderer," a "Restless," a "Night Owl," an "Eden," and a "Big Potato." "St. John," "Napoleon" and "Isaac Newton" were there. The "Gay and Happy" spoke of a care-free life, and the "Golden Rule" was not forgotten.

The extent of the works necessary to maintain this large fleet in working order is indicated by the succeeding schedules. There were tool houses at Gordon and Mahanoy Plane, machine shops and foundries at Reading, car shops at Port Carbon, Mount Carbon, Schuylkill Haven and Port Clinton; stables and harness shops at different places along the line; dredging machines, mud scows and steam tugs; a complete telegraph line, with its batteries, poles, wires and linemen's equipment; a railroad and landing system, with three locomotives, over 3,000 coal cars and a wreck car; a vast amount of lumber, from the heavy oak timber for lock gates to the white pine decking for the boats; a bewildering assortment of metal for locks, dams and boats; hundreds of mules, together with their many pieces of harness; towlines, poles, etc.

To sum it up, a reading of the lease impresses one with the immensity of this canal system, and suggests the question, which has not been satisfactorily answered, as to why it has been allowed to dwindle to practically nothing, so far as its operation is concerned; for at the present time there are, and, for the greater portion of the time since the abandonment to Port Clinton, have been, only between thirty and forty boats in use, as compared

with 1400 in 1859, when 1,372,000 tons of coal were carried.* Some of these are boats that formerly ran to Schuylkill Haven and have been rebuilt and repaired from time to time at the yard at Reading. Others are boats formerly used on the Pennsylvania Canal, running through Harrisburg, which was abandoned in 1901.

The writer was but a small boy at the time of the abandonment of the canal from Schuylkill Haven to Port Clinton, and his recollections of the same are confined principally to that section extending through Schuylkill Haven. Here the canal was seen at its best and busiest. Standing on the railroad bridge near the P. & R. depot, and looking east, dam No. 7 and lock No. 13 were in the foreground. The river, in crystal clearness, flowed over the pebbly bottom, as yet nearly free from large accumulations of coal dirt. Here and there a deep hole in the river bottom furnished a swimming pool for the boys. Below the bridge, an island, with large, leafy trees, afforded a playground on which many happy hours were spent. On the dam a large number of empty boats were tied up along what is now the base ball ground, awaiting their turns to proceed up to the dock to be loaded. Along the eastern bank of the Canal Street level, from Main Street down to the lock, was another line of light boats. At frequent intervals a loaded boat was poled out of the dock. Then a towline was thrown from the deck to the towpath and hooked to the harness of the mules, and presently the voyage was begun. The last traces of dust and dirt were washed from the deck, the captain was at the tiller, and, if it were near meal time, the housewife was preparing the meal on the little stove carried on deck.

*In the case of Philadelphia and Reading Railroad Co. vs. Reading and Pottsville Railroad Co., Mr. E. F. Smith, Superintendent of the Schuylkill Canal, testified on March 11, 1885, as follows:

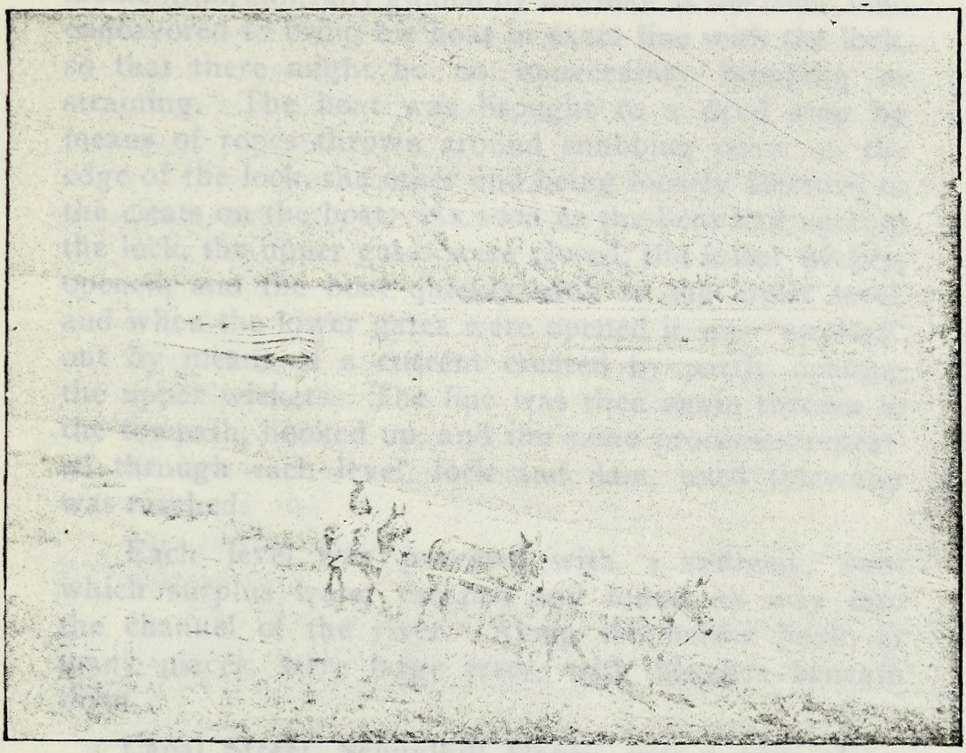
"Q.—The working of the canal in the Schuylkill Valley is not profitable?

A.—Well, comparatively it is not profitable, but actually, or as a question of transportation, it is more profitable than the railroad. The figures of the Schuylkill Canal itself show a lower percentage of working expenses to gross receipts than any railroad in the country."

The loaded boats made slow, but steady, progress. Three mules, hitched tandem, were the motive power, and the speed made was not much more than two miles an hour. But the boats ran day and night, and a round trip from Schuylkill Haven to Philadelphia and return could be made in less than a week, the return trip, of course, taking much less time than the trip with cargo. Sunday was a day of rest, and no boats were passed through the locks, except toward the close of the season, when the near approach of freezing weather necessitated getting the coal to market as soon as possible. Occasionally an early cold snap would catch boats in transit and they had to wait until the ice was broken before they could proceed, or, perhaps, remain where they were until spring, as witness the following item from the Pottsville Chronicle, under date of December 6, 1886:

"About thirty-five canal boats are frozen in at Manayunk and sixteen at Bridgeport. Navigation has closed unexpectedly early, although preparations were being made for it."

The mules were kept at their work by a driver, who frequently was quite skillful in the use of those hard names and epithets which, on the canal, were supposed to be most effective in developing mule power and applying it to the propulsion of canal boats. Little bells were attached to the harness, making a pleasant, tinkling sound. When a boat was met coming in the opposite direction, the mules drawing the loaded boat were stopped and the towline allowed to slacken up and sink beneath the surface of the water. The mules drawing the approaching boat stepped over the end of the line resting on the towpath, and the boat floated over the sunken line, between the towpath and the loaded boat. This operation over, the slack line was again drawn up and the voyage resumed. Here and there the towpath shifted from one side of the canal to the other, and this was done by means of what was known as a "winding bridge." Every bridge was provided with rope guards, which prevented the rope from catching in any obstruction.



The "Bruce," in Blue Mountain Dam

Several hundred yards from each lock, the boatman sounded a horn, which was usually a large sea shell, known as a conch. The locktender, thus warned, was given time to prepare his lock for the entry of the boat. If a southbound boat were approaching, the lower gates were closed, the lock filled with water, and the upper gates opened. At a prescribed distance away from the lock, the mules were halted, the line drawn on board, and the boat floated into the lock of its own momentum, skillfully guided by the man at the tiller, who endeavored to bring his boat in exact line with the lock, so that there might be no unnecessary bumping or straining. The boat was brought to a dead stop by means of ropes thrown around snubbing posts on the edge of the lock, the other end being loosely fastened to the cleats on the boat. As soon as the boat had entered the lock, the upper gates were closed, the lower wickets opened, and the boat quickly sank to the lower level, and when the lower gates were opened it was "swelled" out by means of a current created by partly opening the upper wickets. The line was then again thrown to the towpath, hooked up, and the same processes repeated through each level, lock and dam, until tidewater was reached.

Each level was provided with a spillway, over which surplus water escaped and found its way into the channel of the river. Along the berme bank, at many places, were large trees, with benches beneath them.

Canal Street, Schuylkill Haven, was a very pleasant location. From their homes and porches the residents viewed the traffic passing up and down, and in the long summer evenings rowboats passed back and forth, their occupants, perhaps, singing. As evening came on, the boatmen on the boats which had been tied up during the day, drew water from the canal with buckets to which ropes were attached, and threw it over the decks, and with paddles splashed the sides, to counteract the drying out caused by the hot sun of the day. At the Columbia Street bridge the big boys dived from the top of the

bridge and swam in the water beneath, with shouting and laughter. Once in a while a boat returned from Philadelphia with a load of watermelons and tied up along Canal Street, where the melons were sold at as low as ten cents apiece.

When navigation closed for the winter, it was customary to open the dams and draw off the levels. Usually a thick coating of ice had formed before this was done, and when the water was drawn off, this ice cracked into huge cakes, which lined the sides of the canal channel until spring. In the center of the channel a narrow stream flowed, which froze and furnished a little skating. Once in a while ice was harvested on the canal before the water was withdrawn.

The canal had its pleasures—and likewise its sorrows, not only for those who worked on it, but for those who lived nearby. A driver badly injured by the kick of a mule; another boy with his leg crushed by a boat in a lock; a little child drowned in front of his home on Canal Street; a suicide's body recovered from beneath a dredging machine; a father found drowned in the lock at Landingville; a boatman hurled from his boat and drowned by a sudden current catching the rudder and swinging the tiller violently against him—these are a few tragic incidents, and the list could be augmented indefinitely.

One of the traditions of the canal is that the first boat was built at Orwigsburg and hauled to Schuylkill Haven, where it was launched. It was, no doubt, a small affair, compared with which the large boats built in the latter years were Titanics in size. The construction and maintenance of the large number of boats used gave rise to the industry of boat building, which was a branch of carpentry requiring special skill. Boatyards were maintained both by the Navigation Company and by individuals, throughout the entire history of the canal. Most of them were situated at Schuylkill Haven and Landingville. Here boats were built and repaired, and throughout the long summer days the air was vibrant with the sound of spikes and rivets being driven into place, and of the saw and caulking mallet.

The writer has a very distinct recollection of two summers (1887 and 1888) of boyhood play spent at the Warner boatyard in Schuylkill Haven. How interesting it was to watch the process of building a boat. First the false keel, nearly a hundred feet long, was laid on blocks raised several feet above the ground, close to and parallel with the water's edge. Then the framework was put up, resembling the skeleton of some monster animal, the floor timbers being braced by a heavy keelson. To these ribs the bottom and side planking and the decking were securely fastened with long spikes. For the purpose of bending the heavy planks to the shape of the bow, they were steamed and made flexible in a tank built for that purpose. All the seams and joints between the planks—bottom, sides and decks—were thoroughly caulked with oakum and filled with pitch. The inside of the boat was braced and lined, the hatches and cabin were constructed, rudder put in place, the capstan and cleats firmly fastened to the deck, and finally the boat was painted a pleasing color and its name placed across the stern, just above the little cabin windows. A touch of red or green here and there added to its appearance. When all this was done, it was ready for launching.

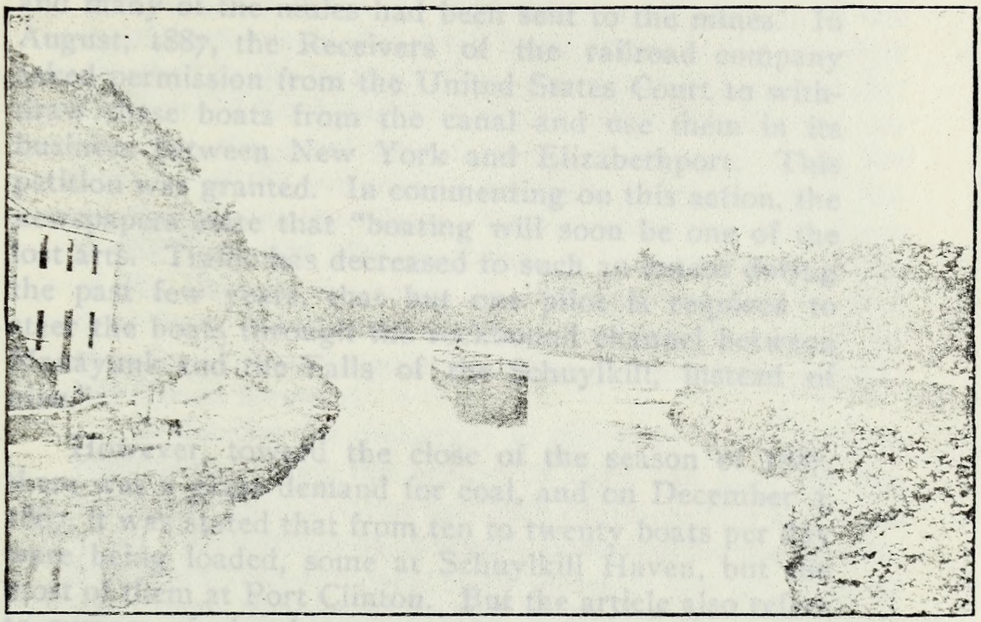
Launching day was a sort of gala day, and there was an unusual stir about the yard. No bottle of wine was broken and no officials of the Navy Department were present, but the boys were there in full force and ladies were "among those present." Unlike an ocean steamship, the boat was launched sideways instead of stern first. In preparing for launching, several heavy, solid, sliding ways of well-greased planking were placed under the boat, sloping from the keel to the water. The boat was then tilted and the supports removed from beneath, until it rested on the ways and was prevented from sliding into the water only by two stout props, one at the bow and the other at the stern, placed against the lowest part of the keel. It was always high tide in the canal, so no special hour need be set for launching. When all was ready, two strong workmen, with sledge hammers, took their positions at bow and stern, and,

having signaled one to the other, immediately struck away the obstructing props simultaneously, and the boat slid rapidly down the greased ways into the water, sending a wave two or three feet high across the surface of the canal to splash and break against the opposite bank. On one or two occasions the writer was on the deck of a boat as it was launched, and he will never forget the sensation as the big hulk commenced to move, in a tilted position, toward the water.

At the individual yards many "river boats," as they were called, were built. These boats were intended for use on the Delaware and Hudson Rivers, New York harbor, and other points, and were much larger than those used regularly on the canal, having a capacity of three hundred tons. They were built of the largest dimensions permitted by the size of the locks and height of bridges, being 100 to 103 feet in length, 17 feet 6 inches wide, and 12 feet high, which was about four feet higher than the boats built for the regular canal trade. So high were they that when towed up to the landings to be loaded, they had to be partly filled with water, which was done by removing a plug in the bottom. This water cargo would cause them to roll like a ship in a storm, and although they had settled considerably in the water, sometimes they had difficulty in passing under the bridges. They made their first and only trip down the canal with a cargo of coal or coal dirt, and after passing into the river at Philadelphia some upper works were built on the deck to fit them for river use.

At the boatyards there was usually one or more dry docks, into which boats were towed for repairs. They were guided into position, and when the water was drained off they rested on blocks at such a height that repairs could easily be made to the bottom.

The abandonment from Schuylkill Haven to Port Clinton seems to have taken place somewhat abruptly. From the Miners' Journal of April 5, 1886, we learn that navigation opened that month, having been delayed by floods, and that the company had decided to build twenty



The "Bird," Northbound, Approaching the Blue Mountain Locks

new boats, some at its Schuylkill Haven yard, and the rest, under contract, at the yards of Francis Warner, at Schuylkill Haven, William Deibert, at Landingville, and John A. Hiester, at Reading. The following month navigation was reported to be "quite brisk." Several of these boats were completed at the company's yard in Schuylkill Haven in the spring of 1887, as before stated. But in the season of 1887, in spite of the building of new boats, we read that only about 150 boats were in use, and these were individual boats, while several hundred company boats were lying idle at various ponits along the canal, and many of the mules had been sent to the mines. In August, 1887, the Receivers of the railroad company asked permission from the United States Court to withdraw these boats from the canal and use them in its business between New York and Elizabethport. This petition was granted. In commenting on this action, the newspapers state that "boating will soon be one of the lost arts. Traffic has decreased to such an extent during the past few years, that but one pilot is required to steer the boats through the rockbound channel between Manayunk and the Falls of the Schuylkill, instead of nine."

However, toward the close of the season of 1887, there was a great demand for coal, and on December 2, 1887, it was stated that from ten to twenty boats per day were being loaded, some at Schuylkill Haven, but the most of them at Port Clinton. But the article also refers to rumors of abandonment, and speaks of the "dreary outlook for the continuance of navigation." These fears were soon realized, for, under date of January 30, 1888, we read in the Miners' Journal, "The Reading Company, lessees of the Schuylkill Canal, have given official notice of the abandonment of the canal from Schuylkill Haven southward to Port Clinton, a distance of twelve miles. This will end Schuylkill Haven's career as a leading point of shipment for anthracite coal, and its docks and extensive wharves are destined for an indefinite term of idleness. All shipments on the canal will be made from Port Clinton in the future."

This action finally and forever ended the shipment of coal from the Schuylkill Haven docks, so that it can be recorded with certainty that no boats were loaded after December, 1887. But though it was probably not known definitely, when navigation closed in 1887, that boats would never again pass under the chutes at the landings, yet Fate seems to have decreed that the last boat loaded should tarry until the following Spring, as though reluctant to leave the harbor to which it had returned periodically for many years, but upon whose waters it and all others of its kind would float no more forever. For this last boat, the "Capt. M. Byrnes"—an old veteran of the canal, and one of the same boats listed in the schedule attached to the lease of 1870—was reserved a special distinction. After being loaded and before it could get under way, the canal was suddenly closed by ice, and the boat lay at the entrance to the dock, just below lock No. 12, throughout the winter. So that when it passed down in the Spring of 1888, in charge of Captain Daniel Cole, of Mt. Carbon, the order for abandonment had by that time been issued, and the boat was then known to be carrying the last cargo of coal ever shipped from Schuylkill Haven by canal.

Following the departure of this boat, the canal was kept open during the season of 1888, but only for the passage of such boats as had been contracted for and were under construction at Warner's boatyard for use on waters other than the canal; and therefore the last boat to pass from Schuylkill Haven to Port Clinton was not (strange as it may seem) one that had, as it were, grown old in the service and with the canal gone to decay, but a brand-new river boat, just entering upon its career. No locktenders were on duty this season, and these new boats, after being taken up into dam No. 7 and loaded with coal dirt near the present base ball ground, so as to lower them in the water, were taken to Port Clinton under the charge of one of the company's employees, who attended to the locking. The exact date when this last boat went down the canal is uncertain, but it was late in the summer or fall of 1888, and thereafter the locks were closed forever.

The abandonment of the canal was regarded as a great calamity, and dire things were prophesied; but the communities affected soon adjusted themselves to the new order. A few of the boatmen have continued on the canal below Port Clinton until this time. The rest found other employment. Some, who had accumulated a little capital, made business ventures which, as a rule, proved successful. Different industries were started. Schuylkill Haven's career as a manufacturing town dates from the closing of the canal, and many of her prosperous citizens were formerly boatmen.

Having attempted a description of the canal when it was in operation, I shall take up the changes which ensued upon its abandonment. As heretofore stated, the shipment of coal from Port Carbon ceased in 1853, and from Palo Alto and Mount Carbon in 1872. Decay and ruin set in at once. Gradually the dams became filled with coal dirt and other refuse. The damage caused by floods was not repaired. Towpath and lock bridges were removed. Lock gates and the plank lining of locks fell to pieces or were destroyed by fire, and in a short time the towpath and those levels that had been drained were covered with trees and bushes. A few of the lockhouses have been kept in repair to this date and rented to tenants.

Dam No. 1 was torn out in 1874, at the request of property owners of Port Carbon; No. 2 about the same time. No. 3, at Mount Carbon, remained in place about ten years longer. Nos. 4 and 5 were removed on November 22 and 26, 1894. No. 6, at Seven Stars, was destroyed by a flood on May 21, 1894. No. 7, at Schuylkill Haven, was torn out on September 14, 1895; No. 8, in 1892, and 9, 10, 11 and 12 about the same time. No. 13 was still in place in 1898, but was taken out not long thereafter; and, as before stated, 14 and 15 are still being kept up. All of the thirteen dams, except No. 6, were removed by workmen employed by the company.

Although the shipment of coal from points above Schuylkill Haven ceased in 1872, it is said that cargoes of ore were carried by boat to the Atkins furnace in Pottsville for a year or two later, but no locktenders

were on duty. After that, until the abandonment from Schuylkill Haven to Port Clinton, some of the levels were used as storage reservoirs, in addition to the Tumbling Run dams, the waters from which were drawn upon in dry seasons to float the boats from Schuylkill Haven. The third Greenwood level, the Mount Carbon level, and the Waterloo level were thus utilized, and it was testified in the litigation between the Philadelphia and Reading Railroad Company and the Reading and Pottsville Railroad Company, at the time the Pennsylvania railroad was built, that such use was necessary, and, without it, serious inconvenience would be occasioned in moving the trade from Schuylkill Haven during times of drought; that the Tumbling Run reservoirs were occasionally exhausted, and without the water in these levels the boats would be unable to leave Schuylkill Haven. The levels were allowed to fill at night and were drained during the day. The Five Locks and the Waterloo level were also kept open for boating purposes until 1883, to enable lime boats to reach a kiln near Seven Stars.

In the litigation mentioned, the railroad company, lessee of the canal, denied that it had abandoned the canal above Schuylkill Haven. Whether it would so contend at this time is a question that we are not concerned with. Certain it is that the use of the canal for navigation has been abandoned above Port Clinton, and it is equally certain that it would be practically impossible to re-open and operate it unless the entire river channel were cleared of the millions of tons of coal dirt which block it.

A great deal of the canal property has been taken and occupied by the railroad company for its purposes, and some of it has been sold or leased to individuals. The landings at Schuylkill Haven are now occupied by the car shops and railroad sidings, and the dock and level above lock No. 12 are gradually being filled with the debris from the shops. At many places the railroad embankment has been extended so as to cover the towpath and portions of the canal channel. Within the past few weeks lock No. 8 has been buried from view.

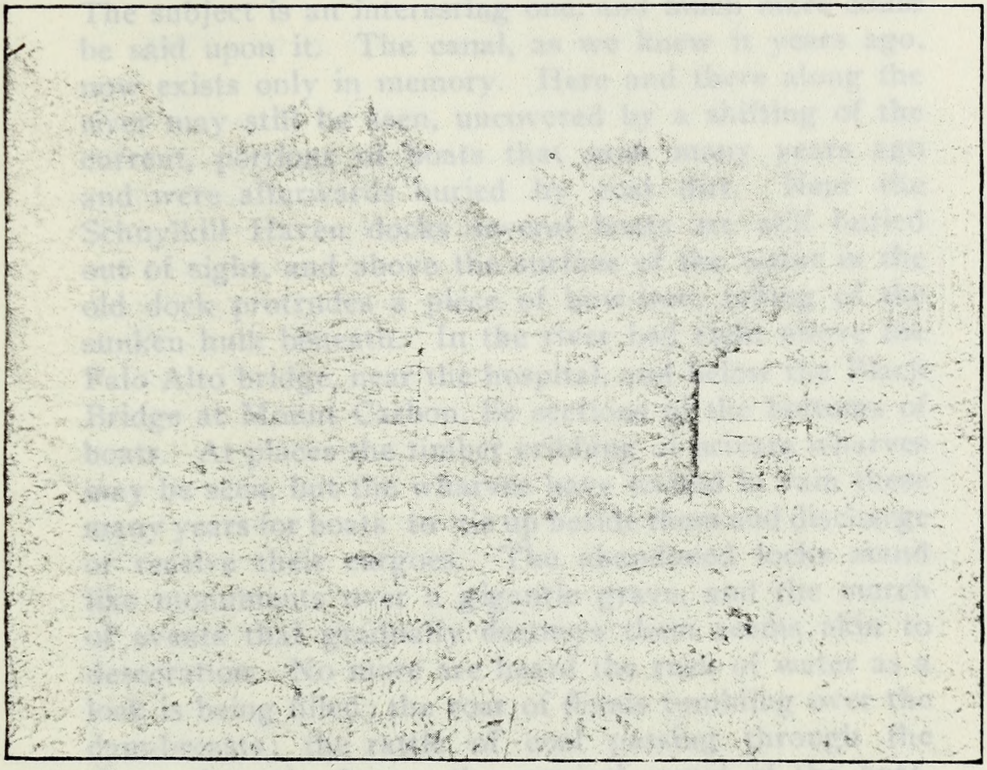
The process of washing culm banks at the mines, which came into use about 1890, and the discharge of the refuse and black water into the river, hastened the ruin of the canal works and destroyed hundreds of acres of valuable land for many miles along the river. In 1890 the river last ran clear between Pottsville and Port Clinton. Since then its waters have been black and filthy, except during such periods as mining was entirely suspended; and the diversion of flood waters from their natural channel has torn away canal embankments and worked such devastation that little is left except the massive lock walls. Where a crystal stream once flowed, bordered by fertile farm land and pretty homes, black filth now exists. Deep river channels, over which towering trees drooped their branches, have been blocked with from six to eight feet of dirt, the river has cut a new course at different points, and the trees have died and fallen. The old swimming holes have been filled up, and the grassy, shady islands, on which the boys played for generations, have been mingled in the desolation caused by modern methods of preparing coal.

The coal dirt nuisance along all streams draining mining territory has become so great and led to such a large amount of litigation within recent years, that it may be well to refer to it with reference to its effect on the operation of the canal. From the early days of mining, a steadily increasing quantity of refuse was carried away by the streams from the piles of culm deposited on their banks. As we have already seen, the dam at Port Carbon was abandoned as early as 1853 on this account. Some of the efforts made to overcome the evil are referred to by Mr. Robert Allison, in his paper read April 24, 1912. During the maintenance of navigation above Port Clinton, however, no trouble from this source was experienced below dam No. 13, at Auburn. Above that point the channel was kept open to the required depth by means of dredging, and along the banks of the canal large piles of dirt and sand taken from the dams may be seen to this day. In 1864 five dredging machines and twenty to fifty men were em-

ployed at this work, and the labor was double what it was in 1850. The work was usually done in the spring. Below Auburn, practically no dredging for coal dirt was ever done prior to 1888. None had been done in the Blue Mountain dam at Port Clinton for twenty years. It was very seldom that navigation above Port Clinton was interrupted from this cause, after the accumulations of the winter were removed, and boating was carried on for nearly nine months out of the twelve. Since 1888 constant warfare has been waged at Port Clinton. The channel in the Blue Mountain dam is kept open with difficulty, and dredging for coal dirt is done to points below Reading. In the ten years from 1888 to 1898, 300,000 cubic yards of material were dredged from the Blue Mountain dam. Each year the opening of navigation is delayed, sometimes until late in April or early in May, until the channel can be opened at Port Clinton, and each little rise in the river necessitates a repetition of the work. Whether the company can successfully contend against this obstacle in the years to come, is an open question. Already coal dirt has been deposited on the river banks far below Pottstown, and its black traces may even be seen at times near Fairmount Park, Philadelphia.

In addition to dredging, a large number of low dams were built on all the streams feeding the Schuylkill, in order to catch the dirt and prevent it from getting into the canal channel. The remains of these dams may still be seen on the West Branch and the Mill Creek. As the dirt accumulated it was removed from the dams and deposited on the banks of the streams.

The filling of the river bed and dams with coal dirt has brought about a new industry. From Schuylkill Haven to Felix's dam, a few miles above Reading, there are a number of coal washeries erected on floats or rafts in the river, and by means of these devices hundreds of tons of the smallest sizes of coal are taken from the river and used by various manufacturing plants for steam purposes. At Port Clinton the coal taken from the Blue Mountain dam is loaded on a scow,



Lock No. 7, 40 Years After Abandonment

which is towed by a rudely constructed stern wheel steamer to Hamburg. The same is true of the coal taken from Felix's dam, which is deposited several miles from where it is recovered from the river. Coal was taken from this dam in this manner as early as 1905. Thus the material allowed to go to waste at the mines, from ten to twenty and more miles away, has proved to be of some benefit, in spite of the ruin it has caused.

But we must bring our lengthy paper to a close. The subject is an interesting one, and much more could be said upon it. The canal, as we knew it years ago, now exists only in memory. Here and there along the river may still be seen, uncovered by a shifting of the current, portions of boats that sank many years ago and were afterwards buried by coal dirt. Near the Schuylkill Haven docks several boats are still buried out of sight, and above the surface of the water in the old dock protrudes a piece of bow-iron, telling of the sunken hulk beneath. In the river bed right above the Palo Alto bridge, near the hospital, and below the Black Bridge at Mount Carbon, lie sections of the bottoms of boats. At places the timber cribbing of private wharves may be seen, but the wharves have waited in vain these many years for boats to tie up beside them and discharge or receive their cargoes. The abandoned locks stand like monuments over a gigantic grave, and the march of events that gradually destroys them seems akin to desecration. No more are heard the rush of water as a lock is being filled; the roar of floods tumbling over the dam-breasts; the rattle of coal passing through the chutes into the boats; the musical sound of the boatman's horn echoing among the hills; the sharp clatter of hoofs as the mules crossed a bridge; the tinkle of the bells; the call of the driver to the mules, and the gentle lapping of the tiny waves feebly opposing the progress of the boats. No more are seen the levels and dams filled with crystal water; the idle boats tied up in the shade of the trees; the boats in transit rising and falling in the locks; the plodding mules; the barefoot driver boys; the occasional steam tug, raising what seemed to

be a huge wave in its progress; the dredging machines, scooping up mud and coal dirt; the scows; the rowboats, and the boatyards. All these are now but pleasant memories, and, while we deplore their passing, we know that many of the boatmen have since prospered far more than they would have otherwise, and the communities through which the canal passed, forced to seek other industries, have in the end been greatly benefited by their own exertions.

to see these little shooting stars away up in the heaven sailing along, bent on destruction, to the rebel stronghold. Our men had no fear of these shells, as they burst high in the air, sending fragments flying all around us, but one man was injured, his arm was injured while he was eating his supper. But I saw a rebel guard throw down his gun and run for his life, when he heard the pieces whizzing in the branches of the tree.

We noticed many odd customs among the people of the city. The bakers carry the bread on their heads in clothes baskets. Of course all these people were negroes, and setting their baskets on the ground, they cry out at the top of their voices, "Bread me! Bread me! See me quick! I 'spect you see me. I'se gwine now', and off they would go to the next corner. These people are all blacks and slaves, and do all the work, turning all earnings over to their aristocratic masters, who ride in chaises and live in luxury.

The barber who came to shave us was the grandson of the Episcopal Bishop of the city, a fine looking, portly mulatto, who shaved the "Yanks," and took his earnings to his master. The negroes seemed to take great interest in us, and would pass up and down in front of our building, giving us a friendly recognition. The young mulatto girls were remarkably fine looking, with long black hair hanging way below the waist, and, as they paraded about clothed in pure white, I could but wonder that these girls, born in a Christian land, were slaves, owned by a Christian people, and were kept on account of their fine appearance, and for immoral purposes, being owned by rich men, married and single. The summer was passing well along when we were again ordered to move.

The yellow fever breaking out among the rebel soldiers, they found it best to take us farther north. We were taken by train to Columbia, and up through the city and across the Congaree River to an old abandoned plantation, with a nice stream of water running through it. This was partly grown up with young pine, and, as we had no tents or buildings of any kind, we made our homes under these pine bushes, using the pine needles for a bed. The nights were getting cool, and having only part of a