

A U T O B I O G R A P H Y

O F

P E T E R C O O P E R

1791-1883

(Dictated by him February 20 to April 17, 1882)

Transcribed from the original shorthand notes

By William S. Coloe, Certified Shorthand Reporter of New Jersey Jersey 'City,
N.J. April 1948.

Digital transcription with OCR software
By Keith Yeager, May 2004.

NOTE: the page numbers referred to in the index do not translate to the pages
of this electronic document, but only to the original transcription. If you
wish to search for one of the terms, you can use the text search function.

I N D E X

Adams, Dr. 133
Air, Navigation of, 36
Alderman, Assistant, New York City 19 103, 104, 111, 155
Allison, Sir Archibald 174
Astor, John Jacob 181
Astor, William B.

Baltimore, Land speculation 33, 38 119 -) 128, 204
Baltimore and Ohio Railroad 205 128
Bank of United States 1221 148
Bank, Postal Savings 171
Battery, The 53
Banks and Bankers 122, 145, 148, 173, 194
Bedell, Sarah (wife) 47, 50, 135, 138, 194, 133
Bessemer Medal 121

Blocks, Cement, method of making 201

Bonaparte, Jerome 90
Boyhood 59 531 104P 124, 160
203, 207
Brewery, Father's, Peekskill- 6, 25, 203
British Army, Landing of 139 18
Burr, Aaron 170 54

Cable, Transatlantic 981 99) 106
Camden and Amboy Railroad 69
Campbell, Hugh (granduncle) 10
Campbell, John (grandfather) 109 11, 130 21, 17, 152,
177
Campbell, Thomas (uncle) 15, 178
Canals, Towing boats on 65
Erie 671 1239 124
Panama 108
Canton, Property at 381 126
Iron works 119
Central Park, Reservoir. 3
Clavs, Martha 158
Chain, Endless 651 124
Charcoal, Baltimore, burning of 34
Christianity, Thoughts on 820 85, 166, 206

Civil Service, method of forming 189

Clinton, Governor DeWitt 65
Cloth, shearing of 47, 112, 26
Coachmaking 25, 100, 115, 162, 179
Cobden, Richard 207
Coenties Slip 79

I N D E X (Cont 'd)

Page

Common Council, member of it 103, 1043, 1110 155
Cooper, Edward (5th child) 132, 137
Edward Augustine 135
Edith, granddaughter 138
John, father 5, 9, 11, 18, 17, 22
1131 1561 1599 203, 207
Peter, son 135
Sarah Amanda, daughter 135
Sarah Amelia, daughter 137
Sarah Bedell, wife 479 50) 133, 135, 138,
194
COOPER UNION 86P 114) 141) 143, 182)
195-
Cradle, pendulous 47
Crank, rotary motion, effect of 126
Currency, comments on, 133, 145, 157, 163, 173,
195
Curtiss, Joseph 43, 58, 70
Anna 62

Daily, Judge 40
Delafield, Doctor 136
Dement Milk Dispensary 70
Dement, Mr. 70
Driscomb, John 70
Durham, Pennsylvania 119
Duane, property of Madam 13, 178

Eckford, Henry 52
Education, Board of, member of 23, 70
Elevated Railroad 112
Elevator, mechanical 112 0
Ellis) Mr. 102
Erskine, Robert 177

Federalists 20
Fever, yellow 28
Field, Dudley 106
Fire, extinguishing of, it 199
Fish, Hamilton 68
Foster, Mr. 142
French Army, arrival of, 11
Fulton, Robert 76

I N D E X (Cont'd.)

Page

Gaines, General 53
Glue Factory, 299 32, 46, 499 55,
139Y 180
Government, thoughts on 133, 145, 157, 163, 173,
186Y 195
Grant, President Ulysses S. 105
Grocery business 491 63

Hamilton, Alexander 21, 54, 152
Hempstead, life at 262 47
Hewitt, Abram Stevens 139
Amelia B. 177
Edward Ringwood 177
Eleanor Gurnee 177
Peter Cooper 177
Sarah C. 177
Hicks, Elias, Quaker Preacher 139
Hopper, John 70

Immortality, reflections on 820 801 85) 921 186,
191, 192, 206
Iron ore, Baltimore 34
Iron, puddling of 115

Jumelle property 51
Jefferson, Thomas 147

Kinderhook, 17
Kent, Chancellor James 139
Kirk, Thomas 15
Flooder's Patent, land at 17

Labor Associations 173
Latrobe, Mr. 78, 131
Lazaretto Point 34
Lee, Gideon 1, 33, 123, 155

Loan to Colonial gov't - grandfather 13
Long Island Star 15

Money, comments on (See Currency)
Montgomery, Fort, Battle of 19

Mortising, carriage hubs 115

I N D E X (Cont'd)

Page

Mott, Doctor 135

Murray's Hill 28, 52, 181

Newfoundland 99

Nova Scotia 99

O'Donnell, Columbus 126

Oil, Heating Cooper Union by, 198

Parsons, John 1. 73

Patterson, miss Elizabeth 90

Paving, new method of 200

Peabody, George 114, 206

Pearson's Iron Works 30

Peekskill 51 22, 24

Police Department, formation of 2, 32

Port aux Basques, Nova Scotia 99

Post Office Building, changes in 105

Postal Savings Bank 171

Phillipsburg, N.J. 119

Railroad, Elevated ill

Randall, Mr., City Engineer ill

Randolph, John, Ambassador 131

Raynor, Miss, mother-in-law 51

Refuge, House of 431 58

Ringwood, N.J., 91, 139

Transporting ore at 391 119

Rogers, Doctor 1561 182

Rutgers, Colonel 64

School, attending at Peekskill 22

Schools, Trustee of Public 23, 70

Sheaves, Tanden 151

Shefflin, Judge 54

Shoemaking 125

Slavery, Comments on 1409 142, 156

Stephens, Samuel L. 112

Sweeney, Mr., shipping agent, 42

Sherman, Mr., Sec. of Treasury 165 -

Silver, demonetization of, 196

Thomas, Philip E. 129

I N D E X (Cont d.)

Page

Tides, power obtained from 74
Tiemann, Daniel F. 158
Trenton Iron Works 120
Trimble, George 70
Trinity Church 51, 109, 79

Unions, Labor 173

Valentine, Edward
Van Buren, Martin 111
Van Cortlandt, Governor and Mrs. 6
Van Plank, Senator Julien C. 153
Van Schaick, Minderd 112
Vassar College 113
Vassar, Matthew 112-113
Vaux Hall Garden 59

Volney, Comte de, Constantin F.C. 54

Wales, Prince of, reception of 111
Warner, Richard, M.I. C. 202
War of 1812, drafted in 26
Washing Machine, invention of 124
Washington, General George 8, 177, 203
Water Supply 31 103
Water, elevated, use of 65
Whigs 20
Wire Factory, New York 120
Wise, Doctor 79
Woodward, John 25

World, creation of, speculation on 93

MR. PETER COOPER BIOGRAPHY February 20, 1882.

For one, I have longed to see the day when all the festivities will be made a feast of reason as well as a feast of the good things provided in nature for the use and elevation of mankind.

It is more than fifty years since I, with my esteemed friend, Gideon Lee, was elected assistant alderman for the City of New York.

At one time our city was dependent for being watched at night by chancemen, who served four hours every night at seventy-five cents per night, and then when an alarm of fire took place every one was expected not only to have the leathern buckets in the hall but to throw them in the street so that each one could form a line from the nearest pump to the fire as rapidly as possible from the pump to the fire where a body would throw the water in the engine there, from which it would be pumped upon the fire by the laboring men. This awkward method of putting out fires made it necessary for people to apply to the legislature for a law that would enable them to organize a regular police and fire department. That law was granted and the police was formed in accordance with it where the Mayor was to make order of the police and fire department. The law made it the duty of the Mayor to appoint all the men for these departments, and he a man himself elected by a political party. The Mayor informed me that he felt the responsibility so great that he determined to have a political opponent at the head of the police department so that they might watch him to see that he did nothing wrong and have somebody help him when he was ready, and in accordance with that determination he appointed a certain judge, so astonishing the community so thoroughly that the community thought him capable, but this judge thought he could not accept the appointment, and then the choice of the head of the department fell upon another man by the name of Matzel. The Mayor said that he then told Mr. Matzel that he meant to have a political opponent next to him so that they should have somebody to defend them in whatever they did whether right or wrong. At that time, seeing the great danger of the whole force of fire and police becoming a political machine, I wrote an article and presented it to the Common Council, showing the danger of a man being elected himself by a political party, being charged with the duty of appointing such a body of men whose duty it was to watch over all the interest of the people wholly. This danger was realized in the course of a few years under a Mayor where men were appointed mainly because the men could influence votes. This danger was brought to my mind by having heard the history of the Janisaries of Tripoli, who were a kind of police body. They had become such an unbearable scourge that the people were compelled to put them all to death in order to get rid of the tyranny they were under by that police. My effort was then to point out some way by which this terrible danger could be avoided, and to do that I proposed that a law should be obtained that should authorize the police be elected to serve for and during good behavior, but that the Common Council, after having determined what their regular annual pay should be, should then declare that as a reward for reducing the loss and damage by fire below the average annual allowance set apart for fire, they should set apart additional dollars to be paid over to this body, a police and fire department, when it should be ascertained that the loss and damage by fire had been reduced below the average.

(Document Number One.)

The city now has under consideration a project for bringing the waters of several lakes to add to the water that now supplies our city at an expense of some fifteen million dollars, and it is supposed that it will require from five to eight years to accomplish it. In the meantime, we are subject to have our city at all times burn down for want of water supply. Such supply for the purpose of fire is fully within our reach now on our own island and at a very small cost, and one-and-a-half to two million dollars would bring it. For that

sum a large amount of water can be kept in readiness for use in a pond that now lies in Harlem fully within the bounds of Central Park. It must contain ten to fifteen acres of water now and it is a long pond. That pond could be raised to any extent desirable and can be made to hold any quantity of water and can be kept filled by a steam pump provided to pump it out of the ground and fill this pond and keep it filled always in readiness to supply the city in case of any emergency and by a pipe running down through the center of the heart of the city it could be made to give any quantity of water, raising the force up to any desired height to obtain the necessary pressure to bring the necessary water for the extinguishing of fires. A column of water two hundred feet high would be greater than any fire engine now can throw.

(Document Number Two.)

By an adaptation of this plan we may have security at a comparatively small expense, and this security can be obtained by raising that pond to any desired height and having a steam engine connected with it, that whenever a fire does take place, by having mains running directly by means of a pipe carrying water down through the center of the city where it can be kept at high pressure ready to supply the engines anywheres along the whole line, and when the water was not wanted for fires it can be made to run and clean the city, the gutters, wash the street, etcetera, by proper arrangement both ways to the rivers, and when they have this water they can first use it for manufacturing purposes and then use the same water for cleansing purposes in finding its passage to the rivers.

February 21, 1882

The earliest recollection of my life was when, with other children I passed up an alley that adjoined my father's store, and with little paper boxes I and others scratched out the mortar between the bricks and played that it was snuff, and while we were doing this a large black dog came down that alley and I being the smallest one it passed me and went after the other boys. I suppose that dog took pity on me and ran after the larger boys.

The next is, I found myself in Peekskill where my father moved. My father, after having done a successful business in New York for several years after the Revolution, he became enamored of the country life, and while putting up a building for his store I was but a little boy and trying to step from one beam to another I fell with my head and forehead right on a sharp iron pot and cut my forehead to the bone, the scars of which exist now. As I grew up, being able to do anything, my father set me to work to boil the hair out of the rabbit skins to be used in the manufacture of hats, and that went on for some years.

I learned from my father that when I was born he became very much exercised as to what he should call me, and in walking up Broadway one dark night he said it seemed as though a voice had spoken to him saying, "Call him Peter."

My father says that he felt it that I was to be of great good in some way. he has often told me of impressions at that time and his remarks have grown with me and have been a stimulus to do something for him towards fulfilling the wishes and aspirations of my father and mother concerning me.

My father's religion was of that kind that he feared everybody would go tumbling into hell. I remember his holding a meeting at different times and at one time I went with him to old Governor Cortlandt's Mills for people that lived in the woods, four or five miles distant; going with him in a boat up Fishkill Creek four or five miles to hold a meeting in a saw mill. I remember

seeing the old Mrs. van Cortlandt in the Methodist Church that my father built. Her husband was also living but I do not recollect seeing him at church, and he used to give me peaches when I would visit there. He was an excellent, good old man. They lived four miles from my father's house. She was a very beautiful woman. I also remember an old aunt that lived in the immediate neighborhood of Governor van Cortlandt and she used to pay great attention to her flower garden and her orchard. She was my grandmother's sister and married an Edward Valentine. He was a very large man and she was a very little woman.

When I was some twelve years old my father had built a small brewery in Peekskill for making ale and I used to drive the horse and take the kegs out and carry them out in the country in places where they were sold.

When I was a boy my father had a horse that had a great deal to do with my boyhood, for this horse was the cause of a great many mishaps to myself. At one time, when my father was building his brewery, I was helping him drag out the dirt when the horse broke the shafts from the wagon in such a manner that the shafts were thrown up over his head. He began to run and I held on to the lines, the horse dragging me after him.

Another scar on my forehead was made by my chopping wood when the axe hit upon the clothes line and flew back and hit my head.

When I was a boy going over to Brooklyn in one of the old-fashioned horse boats, there was a privateer in the middle of the river and had a line on shore and I seeing that that line was drawn so tight that we would run against them, said to our boatman that we would run against them but he took no notice of me and in less than five minutes we ran right up against that privateer, and as this boat tried to run around this privateer I was knocked right overboard, when they drew me in just before I was about to go under this privateer.

Another time, I was out with my brother trying to swim, when my brother put a plank out for me and I missed it and lost my presence of mind and went right to the bottom of the Hudson River near Peekskill, but my brother made a dive for me and drew me out.

After my father had moved back from Peekskill, when Washington was buried I was then in front of St. Paul's Church and remember well the four horses of Washington with his boots hanging from the saddle, which impressed me very strongly. I saw the whole procession.

My mother was born on the spot where St. Paul's Church now stands and that was occupied by my grandfather for his pottery and then it was moved to Duane. My mother remembered the old cheval de frise, bars with holes, through which they shot at the Indians who came to attack the city and kept people in constant fear. (It was) made of logs put in the ground, close together as they could be, and they were made about fifteen feet high. As logs when cut are never exactly straight they could see through them and could look at the Indians when they came and would shoot at them. This bulwark was placed entirely across this island at a point where Duane Street now is, and it was a defense against the Indians.

I remember well the city park itself was a cabbage garden of the poor house, and I remember that there was based a rail fence on Broadway from Chambers Street on the east and on the west side was some houses, where my grandfather had several houses on the west side where his pottery was. On the east side of Broadway, adjoining what was the hill on Leonard Street, an excavation was made and on the old pond there were pipes made out of logs which answered the purposes of the iron pipes and sewers that we now have. On Canal Street crossing the pond on Broadway was a little log which we crossed the same as a bridge. The city water pump was situated near the corner of Pearl and

Chatham Street, from which the water was carried to other parts of the city. A sun and planet wheel was within it, which I have never seen since. It consisted of a wheel, called sun and planet wheel, which had cogs inside of a crank. On front of the log was a rail so that we balanced ourselves in walking across so as not to tumble off from the log. That wheel was used for the purpose of pumping up water to supply the city, and I recollect the circumstances connected with that. The person of that work told me himself that in summer time when he had cause to pump great quantities of water the water became almost like river water, percolated through the sand, the suction being so great that it drew practically salt water from the river, the suction being so great.

My grandfather was a Moravian and had his children educated at Bethlehem and Nazareth in Pennsylvania.

My father, John Cooper, had nine children. We were seven brothers, of whom I am the only remaining one and there were two sisters. One sister died at about seventy years of age and the other at sixty-five, both sisters dying in my house; one on the corner of Twentyeighth Street and the other in the house where I am now living.

February 22, 1882.

My grandfather on my mother's side was named John Campbell and he was so long here that my mother and grandmother were born here in New York. my mother's mother, wife of Mr. Campbell, was also born in this city; and Hugh Campbell, the brother of my grandfather, was one of the first buried in Brick meeting Yard, near the entrance to the door. The Times Building is now in the place of that old Brick Church.

My grandfather and grandmother Campbell were buried in the Moravian Church Yard in John Street. I do not know whether my grandfather Campbell was one of the early settlers. I have the impression that my grandfather's brother Campbell was buried in the Brick Church, which makes it appear that he was a Presbyterian, and which was one of the oldest churches in the city. One of the printers bought the old church there. When I was quite a gentleman in the Town of Peekskill the only recollection that I now have of my grandfather on my mother's side is that I remember riding in his gig that he traveled with at that time from my father's house up to the stable. He was then on his way to his town, a place called the Village-in-the-Islands that he owned at that time.

I very well recollect hearing my mother and father if telling about the location of the French army when it landed in this country, my grandfather Campbell having general charge of it. By virtue of his office he was directed by his higher officers. he was a Deputy Quartermaster General of the American army, and it fell to his lot to select a place for the encampment of the French army, and the only place that he found suitable and most convenient was upon the land of an old Tory that was very much alarmed when he found that my grandfather had determined to locate the French army upon his ground but, as there was no other place so convenient and well-formed as that, he was obliged to submit, and when the army arrived he was so much alarmed about it, as his corn was in the roasting ear, he thought he would be robbed of all his corn, and he went immediately to the French general and begged of him to put a guard around his cornfield to keep them from stealing his corn, which was then on the roasting ear. The French general replied, "My soldier no teef." "Well," said the old man, "they will steal my corn;" but the French general replied again, "I tell you my soldier no teef." "How many shall I put around your field?" "One at the length of every fence."

"Oh, no," he said, "that would be too many." Then the old general put a guard around his cornfield, and on the next day the old man got up early in the

morning expecting to find his corn plundered and he found it all safe. When the old general got up he saw, and he told him everything was good and safe; then he said, "I told you my soldier no teef;" and what is most remarkable was that when the army left Germantown my grandfather asked the old man if he had lost anything and he said he had not lost anything, for he said that when chickens or pigs or anything came there they would ask how much was it worth and then they would pay him whatever he asked. This could not be said of an American or an English army; it was only said of the French army.

My grandfather became very intimate with one of the principal generals of the French Army, General Dugaian. This general became very much attached to a young Indian boy, and he persuaded the young Indian's father to let him take him back to France with him, and he did so, as he said he would give him an education. He took him back with him to France and gave him all the opportunities that the French schools could give, and when he got to be a young man he wanted to come back here, and he bought his blankets to go to see his parents, and this boy was very soon made an Indian chief. After he got back this boy was sent on a business mission to Washington by his tribe, and on his way he made his stop at Bethlehem and there my aunt, being at Bethlehem at school at that time, became acquainted with him. That was when he was on his way back from Washington to his Indian home, but it was unfortunate for the Indians that he did not live but a few years after he came back.

I remember my grandfather Campbell loaned to the Revolutionary Government eleven hundred guineas. he loaned this when the war commenced and he was then a major before that in the old militia of the country. He was then appointed to aide, after he had provided for his own family whom he had sent off with the two-horse waggoners, with all the family conveniences that they could carry, from New York City, when the British were laying in the harbor with their troops, "with the directions to fly before the enemy as long as they could find roads to carry them." He then hurried all around trying to get his poor neighbors out and he stayed a little too long and the English caught him with the press gang and was going down with him to the ship to put him aboard the ship where they poisoned so many. A friend of his, seeing this press gang have him, they said to him to have no business with that man, let him go, and they let him go, and he served after that during the whole Revolutionary War, seven years, and had charge of the troops at West Point for two years after the war and was there until they were disbanded.

And another little incident. Day grandfather, after the war was over, he had a sixty years' lease of the whole extent of property from Madam Duane, on which he had quite a number of houses built, and the pottery was on that property where he manufactured tiles of all kinds, as well as tiles for houses and pottery ware. During the war Mrs. Duane had collected all the rents from the houses that he left on it, and after the war was over she made a proposition to him that she would give him the real estate if he would let her keep the rents that she had collected during the war, for she thought that if she kept it it would be confiscated but if he had it it would not be, and so she was willing to give up the real estate if he would allow her to keep the rents received during the seven years war. The two years that he was in charge of the army at West Point he felt so confident, as the papers were made out to him, but there was some time before he got possession of those papers; but I believe Mrs. Duane had died meanwhile, and Mrs. Duane's successor also came to the conclusion that the government would confiscate all the property, so they would pass the property over, but as Mrs. Duane died he did not get anything but the lease of sixty years that continued on unexpired. I remember very well that when I was a boy we lived on that property, in one of the houses that belonged to my grandfather on that Duane property. The lease had not expired until after I was married. I remember my uncle, who was the executor of my grandfather's property, he sold a few years of the last of the lease, and I think we got twenty thousand dollars or thirty thousand dollars for that, which

was divided among the heirs. Another uncle of mine whose name was Thomas Campbell was an executor of my grandfather's will, and another executor was Thomas Kirk, who published for many years the paper called the Long Island Star.

I do not remember my grandmother's maiden name. my grandfather and grandmother were born where now stands St. Paul's Church. I cannot tell from whence their ancestors came. my grandmother's mother on my mother's side I remember by her always having something to give to me when a child, as she did to all children that came there, and she always had property and an interest in it as long as she lived, and helped my father. She was a very generous woman.

I know but very little about my grandfather on my father's side. I just remember of being at Fishkill at my grandfather's house, and I remember hearing him tell of a little circumstance that happened at my grandfather's house with one of his children. When it was quite a child so as to sit up alone it was put out on the stoop in the sun one morning and left alone for a little while, and when they went out to look for it they found a very large black snake had come up on the stoop and was trying to swallow the child's foot. The child was not injured and lived. * * *

I do not remember my grandmother on my father's side, although I was once there and heard this story about the snake and the child.
(***See Pg. 181, fol.)

- - -

My father and his brother had been out fox hunting, and the dogs had caught the fox and they thought he was dead and they put him on their shoulders to go and get the knife to skin the fox. When they got out on the stoop they saw the fox running off, and he had played 'possum.

On my father's side four male children (were) born in Dutchess County, New York.

My grandfather on my father's side had a neighbor that he found was going into a great state of melancholy and one day lie met him and asked him, "What is the matter with you?" "Well," says this old neighbor, "I have got a great trouble." "Well, what is it?" "I have got three sons and my sons are allborn under unlucky planets.,' My grandfather said, "What in the world do you worry about them for? It is not worth your while to grieve away your life about them." "What is to become of them?" he said, "One is born to be a beggar; one is born to be a thief, and one is born to be a malingerer." "Now, " he said, "if you will take my advice your sons will all go through the world respectably. The one that is born to be a beggar, make a minister of him; and the one that is born to be a thief, make a lawyer of him and he will pick people's pockets and they will have the desire for it; and the one that is born to be a malingerer, make a doctor of him."

I have often heard my father tell about an old property that was left to his family that was last known as the Flooder's Patent. It was a patent granted by the British government under that name. It comprised twelve miles on the North River and thirty miles back from the river. The place is known now as Kinder Hook, and before the war it was thought to be of very little value so that no one took notice of it. During the war some squatters got on it and built a mill on one of the streams, and after the war this party set up a title to it so that they had to dispossess them by law. (They) forged the title and laid claim to the property so that they had to be ousted by law to get possession of the property. The law-suit was commenced and carried on for sometime and Aaron burr was one of the lawyers on my father's side, my father's family being the heirs. My father was a boy then. Burr and an old Dutch lawyer was employed also and this old Dutch lawyer acknowledged that had got the

papers and it was a writ of division; was found indispensable to complete the title of the property, and in consequence of that paper being lost they were nonsuited and Aaron Burr would not take any pay for what he had done, for he thought they had been so shamefully cheated out of their property that he would not take any pay for the services he had rendered. (It) was all lost to our family, but I have been importuned for many years, very strongly importuned, to unite with others to begin another lawsuit. This Dutchman said that if one of the heirs would buy the rest all out he would make a rich man of him, intimating that he would get that property. The old Dutch lawyer was entrusted with the papers and when the trial came on he acknowledged that he had had it but he said he had given it up to some of the family, I forget to whom, without saying to whom he had given it. The trial was lost in consequence of the want of this particular paper, called a writ of division. but if the property had been recovered it would require so much money and so many ramifications that it would be nothing but a vexation; but one of the Cooper heirs, probably on the female side of my father, did get hold of some of the property and holds it yet. His name is Thorne.

When the British were about to land the beginning' of the Revolution, I heard my father say that his company was ordered over to Governor's Island and he being Lieutenant, and they had to dig themselves underground before morning to get out of the way of the grapeshot they might send at them from the English vessels in the harbor. lie said that they worked all that night, next day and the end of the next night, and then they were presented with a tub of rum and water and some raw pork.

Another incident of me and father. At the battle of O'ort Montgomery on the North River my father was then living in Fishkill and was a lieutenant in the militia, and he and his company, hearing that the fort was attacked by the British, started right down towards the North River from Fishkill, ten miles from Fishkill, and took part in the defense of the fort, and when they got down to the river they found that the Governor had ordered all the boats seven miles up the river and they were compelled to hear the hurrahs for the British, for King George, and our troops hurrahed for Congress. The battle raged for some time and they were driven off three times, and they came back in solid column, and it was after the sun had gone down and it was a little dark and if they had got one more gun off they could have saved the fort, but just as they were going to fire the last cannon off a British officer got near enough to strike the arm of the man who was about to fire the cannon, which would have changed the battle for that night. I recollect another little incident. After they had come together there was hand-to-hand fighting and the dead bodies were all around, were piled up almost to the top of the cannon, and a very strong man that had resided in Fishkill was in the fort and he had used his gun and had the British officer beg for quarters and he said, "I will give you quarters if you will give me quarter," but he was then finally taken on the British frigate where so many were poisoned at the navy yard in Brooklyn. Hundreds were buried in the bank. I have seen hundreds of the bodies. he used the bayonet as long as he could until he broke that off, and then he took the bridge of the gun and batted him over the head with that and then he had nothing but the barrel left and then beat with that. I have seen cart loads of the bones taken from the bank where they buried them.

My grandfather Campbell, after the war was over, placed his papers in the hands of the proper officers in the proper department of the government in Philadelphia, with the request that they should be examined for the final settlement. After waiting some time for that settlement to be done my grandfather tried his best to get a settlement but was never able to obtain it. There was always some excuse for putting them off, as they had at that time one very good excuse--they had no money to pay them--and after waiting a great while and making many journeys to Philadelphia he tried to get a settlement. At that time politics ran everything between the Whigs and Federalists, and my

grandfather, being unable to get a settlement, finally being worn with constant importuning for years he demanded the return of his papers, and they refused to give them to him, and then he went prepared with pistol in hand and demanded the papers of Hamilton, then Secretary of the Treasury, and compelled him to give them his papers. A short while after my grandfather got his papers he died, and they were put away and lay there until after I was grown up and married and in business. After some years I heard my mother saying that the government owed my grandfather so much, I went to an old aunt, the wife of my grandfather's son, who was then dead himself, but his wife was still living. I inquired of her if she had any papers belonging to my grandfather. She said there was an old trunk of papers up in the garret in New York in North Moore Street at the time. She went up in the garret of her own house and brought down a bundle of papers and gave them to me. I had them examined and found that the accounts had been critically examined by the government and a balance found due him of \$7,800, as I recollect it now, and when finding that it was a plain case, as it was properly examined and signed by the proper officers of the government, I got a power of attorney then from my mother and her sisters authorizing me to collect it if I could. I went to Washington and presented the claim and it was immediately acted upon and directed the proper officers of the government to pay it according to principles of justice, just as the account stood, and when I went to get the thing settled at the proper department I found there two of the very men in the office that had examined the account and signed the papers, so that they had no excuse for delay. Those papers are now all on record in Washington. I recollect an old officer that used to be in the City Hall a great deal and he said the difficulty my father had was because the government had no money and so they made every excuse, but they had no excuse for giving him up the papers. Hamilton was the one who refused him his papers.***

February 23.

My only recollection of being at school was at Peekskill about some three or four quarters and a part of the time it was half-day school. The reason I was the only one of the family who had a poor chance of education was my father moved in the country when I was three years old, where he opened a country store and found plenty of persons who would buy on credit until it was but a few years before a large part of what he owned was in the hands of others all around the country and he found it impossible to collect.

My father built a Methodist Church and made our house a home for the travelling clergy. It was not a great many years before my labor was required to aid in the hatting business.

(***See page 152 of this transcript.)

For nearly twenty (years) I was one of the trustees of the old public school society in New York City, and during the last part of its time I was its vicepresident and was passed over into the Board of Education when the old public school system ceased to exist. During the time while I was a trustee in the public school society, I spent a great deal of time in examining the schools. We used to visit them every week and every certain length of time., If I recollect right, it was every quarter; and in this examination I recollect sitting three or four hours on wooden benches without backs. being thin in flesh at that time I hurt the seat bone, the end of the thigh bone, bringing on inflammation which has continued from that time to this. When I went home from the school at that time I was in such pain that I kept on hot cloths all night to try to reduce the inflammation that took place in it, which was only painfully affected whenever I sit, even now. It was so bad that it makes me restless, but had it not been for the benefit that I have received from the use of India rubber cushions I do not think I could have lived until this time. I am sure I could not have lived. These are India rubber air cushions. It is so

bad that I have not been able to bear even a pillow tap the tender part. Even now when I lie in bed it is painful and I have to lie right on my back and if I get out of the right position for rest it weakens me. I have a cushion that I place under me, for I cannot bear anything to touch me it is so tender and painful. I never had anything come so near killing me in my life, and it was about forty years ago, It makes me restless unless I get in exact position for my comfort. I suppose I have suffered as much physical suffering as almost any other person living.

February 28.

The first narrow escape was a fall in climbing and stepping from one beam to another in my father's store in Peekskill, which was then in the course of erection for the country store and in carrying on the manufacture of hatting.

Number 2. The next was the breaking of the cart and running away of the horse.

Number 3. Another singular incident: I was riding along on one horse when a man came along with a pair of big boots in his hand. Just as I got right opposite the man with the boots the horse first saw him and he jumped right from under me as though I had fallen from the clouds. I was going along a walk and was not prepared for it at all when the horse, with a singular leap, jumped right from under me.

Number 4. I went to carrying some corn to mill with that same horse. After it was ground I went for it to bring it home and had the bag of bran meal on the horse, and it being an icy time I had ice spurs on my boots and when clinging on to the horse in going up a hill I stuck the iron spurs in him which caused him suddenly to whirl around and he fell back over a bank and I slid off from him with the bags down the hill and he running as fast as he could go to his home, leaving me and the bags down the hill. I fell quite a distance down a steep bank.

Number 5. The next accident was when my brother near drowned, as stated before.

Number 6. The next very narrow escape was crossing the East River to Brooklyn, as before said, when the privateer was near us.

Number 7. I do not recollect any accident for sometime after that.

After that I had served my apprenticeship at coachmaking. I had then learned three times. First the hatting business, about seven years old that I began; then my father built a brewery and I worked at that for three or four years, and while working at that brewery I had another narrow escape by the horse throwing me into the mire. I built another brewery in Newburgh, which was the oldest of the two, where I worked first. I went along pretty steadily there. After the brewery came the coachmaking, at which I worked about four years. At the expiration of the apprenticeship at the coachmaking business my employer, John Woodward, offered to set me up in business, and I should have accepted his kind offer but for the fact that we had just at that time built one of the finest coaches that had ever been built in New York for a gentleman who was supposed to be rich, and a day or two before the coach was to be delivered he died and was found entirely insolvent; and then I began to think that if I had accepted my employer's kind offer and should have the misfortune to be caught with the sale of such a carriage in the hands of such a man I should have considered myself a slave for life, as I had nothing of my own to lose, because at that time a person could be impressed for debt. I

then went to see my brother at Hempstead at Long Island, where I was persuaded to go to work for him in making machines for shearing cloth. With him I worked nearly three years at a dollar-and-a-half a day, and then I bought the written right for shearing cloth and went to work on my own account. I bought it from the original inventor, a Quaker, whose name was Mulner. He was a most excellent man. He sold me the right of the State of New York at a very reasonable sum, I forget what it was, and I went to work then on my own account. I was very soon after drafted in the War of 1812, and I was brought down to Brooklyn and stationed on some high ground there. After marking time there for some time I found that a very tedious business, for there was no enemy in sight and no telling when they would come. Then I had the offer of a substitute to take my place. He served for me for and during the war; and I got him mustered in and paid him and went home to my business. I had been there for about two or three weeks.

I will tell you another singular little incident which changed the whole course of my life. Just before I purchased the patent right of the shearing machine I had heard of a very cheap property in Pennsylvania in a coal mine, and I bought a horse and offered to go there and, singular as it happened, the horse fell three times before I got to Brooklyn and so I turned around and came back to my business again, for I thought the fates were against going there. I took it as a hint.

On one occasion when I was first grown up we had quite a large company from the country, of young ladies and gentlemen, who went down to the surf, to the ocean on the south side of Long Island. Coming back I had a very fast trotting horse that I owned at that time, in an ordinary gig of two width, having a young lady with me, and driving very fast going over a little wooden bridge it made a sudden jar. We were driving very fast and, singular to say, just as we crossed over that bridge the wheel came off and we were going so fast that the wheel ran right along for some fifty yards and stopped suddenly up alongside a fence, and we slowed down so nicely on one wheel that we were not hurt. I consider it a most amusing circumstance as there was no hurting, only some agitation.

Another occasion I went another time down to the beach. There was quite a company of us, and after we had been in bathing while at the beach there was a proposition made to swim through the breakers, and none of them got through but myself as the breakers were running very high. I was floating along not thinking of the danger I was in and, the tide falling, I was swept off very rapidly towards the ocean and, looking back, saw all the company with their hats and hands begging me to come ashore. I was then frightened a little, finding that I had got so far away from the shore, and I then made every effort to try to get back and should never have accomplished it only for one thing: I took an advantage of all my strength when my head was down and my feet up and exerted myself to keep there so as to be thrown as far as possible by the force of the rolling waves, and when I came to get through the breakers I found myself buried literally in the sand by the breakers, and when I got through I was so exhausted I could not have gone another rod, probably not another yard. That was another narrow escape.

One of the next narrow escapes I had was with the yellow fever in Brooklyn. I caught it there in Brooklyn and brought it here to my home on Murray's Hill, and if I had not had the best of attention I would not now be here. I was sick for weeks, but I cannot tell how long. It was after I was married and had the glue factory.

Another very narrow escape I had: I was in my glue factory and was called away. I think one of the children was sick. I had not been gone more than five or ten minutes from my glue factory before it was blown down.

Another time while in that same factory, which I had rebuilt somebody on the baseball field fired a ball which came so close to my head I felt it along my head. It came through the open blinds of the building so close to my head that the noise of the passing of the ball made a little whistle. I do not know where the ball went.

Another escape I had was riding with my wife along the old Albany Road which passed through where Madison Park now is. Those willow trees that now stand in Madison Square were then young trees. We were riding along just at dusk and I noticed a man in the road who I tried to pass, when he made a grab and tried to get the lines, but I gave the horse a severe cut of the whip when he went past. I shoved the back curtain away, when I saw this man with his face almost close to mine. The man was thrown off before the horse got to my house, which was then on the corner of Fourth Avenue and Twenty-eighth Street. The house is still there, and I built the house there before Fourth Avenue was open and we had to find out the location by the stones that were planted at the corner of every block all over the island. The man evidently intended to rob me but my horse went so fast that it made the man powerless.

A still more narrow escape than that from robbers was: I had been about five hundred miles with a little one-horse wagon, and on my return home, going through the State of New Jersey, near Pearson's Iron Works, I stopped at a man's house who was a large manufacturer of large iron screws and other machinery, and while there the man asked me if I travelled armed. I told him I had two pistols with me and ball with me, but never felt fear enough to induce me to load the pistols or make any use of them. he said, "You must not go away until you load your pistols," for a man was robbed a day or two before and he insisted on me having my pistols loaded before I left his house. It was then just before sundown and I was wanting to go twelve miles that night so as to get home the next day. I had not left this man's house more than an hour when it was coming on a little dark, so that I could not tell a white man from a negro. I saw three men standing right in the middle of the road before me and one of them was perhaps a rod nearer to me than the other two, but all of them were standing in the middle of the road. The road was at such a point of a hill and so narrow that I could not turn around because I was so near to them that they could have caught me if I attempted it, and I had no other way to do than to meet them as well as I could. I took my pistols out at once, laid one of them on the seat and took one of them in my hand, with the lines in one hand and the whip and the pistol in the other. I drove slowly up to the first man and then gave the horse a severe cut of the whip and he sprung with such violence that he knocked the man down and ran over him. The other two men then made an effort to stop the horse by trying to get hold of the reins and, in their effort, the horse running as fast as he could go, one man caught hold of the shaft of the horse and hung on to that and the other man caught hold of the front of the wagon and it dragged him along. I did not get too far when the wheel ran right over him, nearly throwing me out of the wagon. I do not know what became of the third man. I determined not to fire unless to clear the reins. having got clear of this man I let my horse run as fast as he could for about half a mile or more so that I felt sure I was out of their reach. I did not realize the danger I felt until the danger was over.

Another very narrow escape. I came within two inches of being killed. I went to purchase a cargo of chalk which I was then manufacturing quite largely. The chalk was in the under hold of a large ship brought for ballast from England, and I went down in the cabin with the captain and he opened the door from that cabin which let him into the first under-deck of the vessel. I did not see the open hatch and he did not tell me my danger, and after I had passed along I was looking down at the chalk. I saw when I came to go back that I had walked within two inches of stepping down into that hold where I would have fallen some fifteen or twenty feet.

There were two more accidents pretty close together at that time. One of them resulted from my going up a step ladder to the shed of one-story building to examine some glue stock that I was drying at that time. On my attempting to come down from the roof my foot was upon the stairs and the foot of the stairs slid away and I fell from the whole of that story down. I broke one or more of my ribs. This was after all the men had gone from the factory, and I lay there some time stunned by the fall until I was finally able to get up and go home.

The next was the most wonderful escape from death of the most terrific form that could well be imagined, and I was within one inch of it. It came about in this way: We wanted to put a very large pump into a well and in order to do that we raised a very large heavy beam perpendicularly and put on it three or four guy ropes to hold it firmly in a perpendicular position to enable us to hoist a large log and put it into that well. It was a log some thirty or forty feet long. we raised it up with tackles and had just got the end of it entered into the well when the log took a slide on going into the well and broke the guy ropes, and this big timber that was standing perpendicularly and the log with it, and the big timber caught me between the building so that it just tore the sleeve off my arm from the shoulder to the elbow. had it been but nearer it would have crushed me entirely. It did scrape my skin.

Some fifty years ago I became interested in a very large speculation in lands in Baltimore with two men who said they had large means, and these men had obtained a conditional contract for three thousand acres of land within the city limits of Baltimore, extending from the main shipping dock, taking the whole shore for three miles, and containing the best shipping water of the harbor. They desired me to take one-third of it with them, and I went on to see the property and found it equalled their representation, and I named the proposition to my particular friend, Gideon Lee, who said he knew all about that property, that he had walked over it and examined it. he then said in his opinion the whole property was worth within five hundred thousand dollars, and we had got the contract to purchase it for one hundred and five thousand dollars. His knowledge and opinion of the property being so valuable induced me to go into the speculation with those men, and after I had paid my part of the purchase money after some time I found that that was all the money that had been paid on the property, and I found I was then paying their board there, so that I was compelled to tell them that they must either buy me out or sell out or pay up their proportion. They were unprepared to do either. After some chaffing with them I got a proposition from one of them that he would go out for ten thousand dollars. I gave him the ten thousand dollars at once, for I found I was caught, and I bought it from them as quick as I could, and I gave the other one of them about eight thousand dollars, so that I had an "elephant" on hand. both of those men were New Yorkers. I then cast about to see what I could do with the property to enable me to pay taxes and make the best of it, and finding that there was good iron ore on what was then known as the Lazaretto Point I had forty-five hundred tons of it dug; and then I concluded to burn the wood off from the property and make charcoal and melt this ore up into iron; and to do that I built large kilns, twenty-five feet in diameter, twelve feet high, circular in form and put an iron hoop around the top and arched it over with brick. The kilns were built of brick, with small openings all around for the admission of air to burn the wood into the charcoal. After having filled these kilns entirely full of wood and masoned up the door where we backed the carts in to unload the wood into the kilns, we had then burnt the kiln very beautifully. We then smoothed it out fine by plastering up all the smooth openings which had been left for the admission of air, and then after waiting a number of days, when we supposed the fire was entirely extinguished, the men commenced taking the coal out of the kiln, and when about half out of the first kiln the coal itself took fire, and after carrying water naturally they were all exhausted and tired out; they gave it up in despair. I then went myself just to the door of the kiln and looked at it to see if anything more could be done, and at that instant the gas itself took fire and I was blown by

its force some eight or ten feet. Fortunately for me, the flame went up and I went down, but was thrown by its force beyond the reach of the flame. I found that the flame had burnt my whiskers and eyebrows and had scorched the fore of my head, down to the body, and my face was just as nearly blistered as it could be. It also burned my coat, and everything was scorched.

When I consider all these very narrow escapes through which I have passed I can hardly account for it except it is that some guardian angels follow us through life to take care of us, because in Arabia an opinion prevails every man has two guardian angels who follow him through life; one on the right hand and the other on the left, and these angels make a record of all his actions. When the action is right the angel writes it down and seals it. when the action is wrong the angel writes it down but does not seal it, but if the man who has done the wrong act repents of it before the going down of the sun then he seals that; but if he does not repent before the sun sets the angels close the book and both weep.

March 3.

Some fifty years ago I conceived the idea that it was possible to navigate the air, and in order to do it I saw it would require more power and force than any known then or now in use. It occurred to me after an inquiry that the chlorite and the nitron gas offered the material that would develop the power required. In order to ascertain the best method to control and harness up that power for the purpose of navigating the air I obtained from my brother, who is a doctor, the necessary information to form the gas, which we did several times and found its power, I thought, amply sufficient for the purpose. I then prepared the necessary apparatus to form it on a scale sufficient to make a practical test for the purpose of navigating the air and after we had all the apparatus complete and brought all materials together for the formation of the gas, the first particle formed, by having the water a little too hot, exploded and blew our apparatus all to pieces, one piece of the glass cutting me in the eye entirely across the cornea and humor in two directions, and at the first contraction of the muscles a portion of the vitreous humor of the eye protruded out about as big as a large pea and, theoretically, as soon as the contraction of the muscles went over, it drew in again. But for that the eye would have run out. My brother, being a doctor, he immediately placed the substance of the cornea in its proper place on the eye and put a handkerchief around my face and put a lance in my arm and drew from me, as near as I recollect, one or two quarts of blood, which was done in order to prevent inflammation taking place in the eye and to heal it up by a first intention. I, having been compelled to be shut up in a dark room for five months, never since that time renewed the experiment. After ten days when I went home I was almost still to do what I had never done before or since in my life. That was, having been tossing about in the bed, having been shut in a dark room for some ten days, I unfortunately threw my own thumb into my eye and broke it open again after it had almost healed, and then it was a great deal worse and more difficult to cure than ever, so that I went through a long course, keeping a leech and other medical things then, trying to save the eye which, fortunately, has been so far saved that I see out of it with nearly as much light as ever, but there is a mist about it. It is my left eye.

At another time, when a boy, sitting with another little boy a little bigger than myself (who) was aiding me in making a little boys' pile for playing with in the sand, as he was getting up from where we were both sitting down on the ground working at it he, having a knife in his hand, threw his hands up and struck me right here in the cheek with his knife, passing the knife through my cheek into my mouth.

While in possession of the Canton property in Baltimore I desired to fill up Harris Creek, a creek which runs right through the best part of it, a little

creek that comes down and emptied into the river just at that point, which I wanted to fill up. In order to do that I found sand very convenient and I adopted a rather novel mode of using that sand in filling up Harris Creek. To bring that sand conveniently into the creek I erected a frame of very considerable length, high enough to have a railroad on the top of it and another set of rails some two feet below the top, and then made little box cars and made them in such form that by hingeing together I made those boxes into a chain, and then passed a chain extending right around the whole frame, with all its boxes resting on a double set of rails, a place for the support of this chain of cars. When this framework was placed alongside of this bank of sand extending down to Harris Creak I placed a hopper just over the upper train of cars, of some length, so that a large number of men could shovel sand into the cars at the same time. These cars were so erected that the weight of the earth would cause them by their own force to descend and pass down and dump this earth into Harris Creek, and as they dumped the dirt the cars turned around and went back again on the under track which, as far as I know, has never been done before or since.

Some years after, I desired to transport iron ore from the mines that I then owned to some bloomery fires that had been erected on the property before the Revolutionary War and, in order to pass this ore down to the bloomery fires by its own weight, I erected triangles about two hundred feet apart through a very stony, rough gorge in the mountain, and by having long arms to this long triangle that I placed in the valley, these triangles were intended to support a continuous wire of some six miles in length. This wire was about five-sixteenths of an inch in diameter. This wire was supported the whole line, about two hundred feet, with grooved wheels to sustain the wire, and then I placed buckets fastened to this wire about every certain distance apart, and these buckets were intended, as the thing was revolving as they came along by the heaps of ore with men standing ready, to throw the lumps of ore into these buckets and their own weight would cause the thing to move and carry the iron ore down to these bloomery fires. This thing was erected some sixteen or eighteen years ago, and after I had erected that I found almost right away that I had no use for them. The method of making iron blooms had so changed that it was found we could make iron ore much cheaper by running the ore through a blast furnace than it could be made in the bloomery fire. It was never used only just sufficient to test it and show that it would go. Since that time certain persons have patented the same thing in Europe and it has been adopted in a great many places for a great variety of purposes for transporting different things from one place to another, and I have been so told that they carry things sixty miles in England, and more--the same thing that I had made and never patented some twenty-two years ago. This was at Ringwood.

March 5.

Many years ago I went with Judge Daily to look at a pile of books that came from the geographical society that was stored there upon the stairway. A man went with us with a lighted candle. It was at night. And after we had examined the books I turned away from the books to go downstairs and, talking with Judge Daily, I did not notice that I was so close to the first step which was brown steps and brownstone stairs upon which we stood. Not noticing that we were so near the first and, stopping to talk with Judge Daily for a moment, I went to take the first step to go ahead when I fell down. As we were standing on the platform, with the first movement I made, I went down the steps and having Judge Daily by the arm it pulled him right down after me so that he fell on me. It did not hurt him at all, but it bruised my leg and arm in several places but there were no bones broken.

Another accident was: I was going to a store on Broadway and, thinking I was down on the lower step, I made a misstep. I thought there was only one step when there was two steps so that, while I was falling, the architect of the

building came along and caught me in his arms. It just happened that I had not seen him before for a dozen years.

Another accident happened in the following manner: Broadway having been choked up entirely with a great mass of trucks and carriages and I going up Carmine street found myself blocked in by the press of carriages and compelled to stop and wait them to open a way to get out and, while waiting, a large truck came along and came so close that it caught my hind wheel with one of his wheels and threw my carriage so that it upset and threw it over with me in it; the body of the carriage falling and striking the edge of the sidewalk broke the top of the carriage, but the inside of the carriage having a good cushion on the side it saved me from being hurt by the fall although I went clear over.

Even yesterday, meaning March 3, 1882, and in the ninety-second year of my age, while showing some gentlemen from Moscow through the institute we passed by the alcove door to the upper story and, walking around to give them a chance to see the city from so high an elevation, we all earnestly talking, I forgot myself and did not notice a depression in the floor, one step down, and not seeing it I stepped in this depressed place and fell my whole length on the floor and received no other serious injury than a cut on the index finger which punctured nearly through the flesh to the bone. I drew the wound together by a little plaster and put other plasters over it so that it should not be drawn open again and now, March 4, it is healed by first intention although it pained me quite severely yesterday.

Another somewhat singular circumstance happened in this way: A man having come from Ireland to our city went to work at labor and digging in a bank and had the misfortune to have the bank cave on him and kill him some two weeks after he arrived in our country. This man left a wife and one son, ten years old, and that wife was in the course of a week or two after his death killed by a stairs on which she stood giving way and she fell and broke her neck, leaving this boy of ten years old without anyone to protect him. He wandered about the streets, sleeping in hogstys and stoops and wherever he could get a chance, and begging for something to eat from door to door, until he was finally taken up as a vagrant and sent to the house of Refuge, which was then located where Madison Park now is. There, under the care of Mr. Joseph Curtiss, who was then president of that institution, he was very carefully trained for the short time that he could remain there in consequence of the great number that pressed upon the institution, so that they were compelled to bind them out to make room for those that were desiring to get in. This boy, after having been very carefully tutored by Mr. Curtiss while there, was bound out to a whaling ship as a cabin boy. -From this position he rose to be a whaler, to be the master and then got to be the second mate of a vessel and then first mate and then captain and then became half owner of a vessel. In the intercourse of his connection with a partner he was finally cheated out of all the interests of his former toils and was compelled to go a second time out on whaling voyages. On one of these voyages the crew became so scurried that all the crew died but himself and another. They attributed their escape to the most singular circumstance of a large bird alighting on the shrouds of the vessel, when they went carefully up and caught it by the leg and sucked its blood and ate its body raw, they were so eager to get some fresh meat. To that bird they attributed their lives being saved. Finding themselves in the neighborhood of the Cannibal Islands they concluded that their chance of life would be better to go ashore than to stay on the vessel and die with the scurvy as the rest had done. While on the Cannibal Islands he had the good fortune to so ingratiate himself in the good will of the controlling tyrant so that, by his usefulness in showing them what they would not otherwise have known, he became a very important man among them; so important that his whole body was tattooed with something like hieroglyphics as marks of distinction among the tribes, showing the different titles that he had received, which he showed to me. While among the cannibals he saved a number of lives, on one occasion three, by a very hazardous experiment, as

these cannibals did not desire victims for the sake of food; they desired them for the sacrifice of their bodies. On one of these occasions when the whole tribe was assembled to see three who were about being sacrificed he placed himself in a position right alongside of the high priest and at the instant at which they were about committing a fatal act he seized the robe that rested upon the shoulders of the high priest and threw it around the victims and by that act the victims were so consecrated that their lives were made sacred. During his stay among them he contracted a disease which neither they nor he could relieve. he then determined, seeing a vessel in the neighborhood, to go out to it and take passage with it to Otaheite. In their passage they were terrified by a terrible storm into New Zealand, where he soon became second officer in the police department under the British government. while acting in that capacity a rebellion took place in which all the English inhabitants were killed except those that were in the port or could get on board the ships. This man had the good luck to get aboard on one of the English ships and take passage to England where he got married, and a short time after determined to come back to America. After arriving here he went right back to his old friend, Mr. Curtiss, who had been his friend in giving him the instructions in the House of Refuge which enabled him to better his condition in after life. Mr. Curtiss took a great interest in him and called on me to know if I could give him employment. I sent him to frenton to take charge of the delivery that went to and from the factory, he acting in the capacity of shipping agent for all the iron passing to and from the rolling mills, where he continued in my employ for over twenty years. His name was Sweeney; and some other man, being an author, got all these facts from Sweeney and then wrote a book and published it in his own name.

A lad came to me when quite a little boy at a time when we were in the habit of employing many small boys for running out the casein glue on nets for the purpose of drying the glue. That boy continued in my employ for fifty years and when he concluded he had made enough to live without working, having saved enough to buy some twenty lots and built houses in Williamsburgh, Brooklyn. When we parted we gave him three thousand dollars as a token of our good will towards him. he is still living on his property. I remember an amusing incident that happened to this boy soon after he first came to me. There being a large number of other boys employed for the same purpose, those boys finding that this boy was very sensitive and that they could tease him they told him, "Hi, your mother is a Yank and your uncle is a and he thought that was so terrible that Dutchman, almost broke his heart. So he came to me at the office one morning with his heart almost breaking. After my earnest questioning as to his trouble he blubbering and stamping out, "They told me my mother is a Yank and my uncle a Dutchman," he thinking that was something terrible. It took me sometime to satisfy him that a good Yank mother was an honorable thing and something to be proud of and his Dutch uncle being a Dutch clergyman it was something for him to be proud of, as both were good blood.

Doctor Bellows (?) at the death of my wife gave a full description of her good qualities, to which I subscribe most heartily.

Having gone to Hempstead to see my brother I, as before stated, entered into an engagement to work for the man in the manufacture of machines for shearing cloth. While in the Town of Hempstead I became acquainted with miss Sarah Bedell, who afterwards became my wife. A short while after our marriage I bought me a house in Hempstead and in the course of the year we had our first son; and at that day we did not keep servants as they do nowadays, so that when I went from my employment to the house I often found my wife rocking the cradle and I al ways took that work out of her hands and rocked the cradle myself while at home. I soon concluded that I could make that cradle go itself and so I went into my shop and made a pendulous cradle that would not only rock the child but, having a musical instrument on it, would sing for it and by hanging a little cloth on the back of the frame by the swinging motion of the

cradle it would keep the flies off. A Yank peddler coming along one day saw the child being rocked in the cradle, when he insisted upon my selling him the right of making those cradles in Connecticut and so I asked him to make me an offer, when he said he would give me his horse and wagon and all that he had in it--for I had a patent on my cradle--if I would only give him the patent right for the State of Connecticut. His was a good wagon and horse. Among other things, he had a hurdy-gurdy in his wagon which I had heard a boy play on a steamboat, when I thought I had never heard any music so good, and so I bargained with him for the patent right.

I continued a while in Hempstead making the shearing machines during the continuation of the war with England of 1812, and having had the good luck to make a very decided improvement in the machine I succeeded in making it a profitable business which continued until the war was over. Then, not being able to sell any machines, I fitted in my shop a room which I filled with cabinet furniture, as I could make almost anything that was made with wood or iron, and finding that there was no sale for anything after the war as all kinds of business was broken up in consequence of all factories having stopped, including foreign competition and scarcity of good money to buy, not being able to sell furniture I had to sell my property, Hempstead property, and moved to New York, taking what I could get for it.

I then commenced a grocery business in New York, although I had had no previous experience in that branch of business. I continued that several years. I then bought a lease of twenty years on two houses and six lots where the bible House now stands. On those lots I built four more frame houses and kept a grocery store on the corner. While there I got an opportunity to buy a glue factory on what was known as the old Middle Road, which commenced at Twenty-eighth Street and diverged from the old Boston Road to the north. I believe that the two willow trees that now stand at the entrance to Madison Square near Twenty-third Street were planted.

March 6, 1882

It happened shortly after I was married that Mrs. Cooper and myself made a visit to New York from Hempstead, and on our return, not far from Jamaica on Hempstead Plains, we were caught in a shower and as the shower abated a violent wind arose and presented what I had never seen before: three water spouts, all in sight at one time. One of them was so close to us that my wife was greatly alarmed for fear it would come upon us. It was not certainly under five hundred yards from us. We were going towards it. It gave us a good opportunity to see the workings of a water spout, for it broke and was discharging its water some forty or fifty or sixty or seventy-five feet. I do not think it was seventy-five feet from earth. It presented to the eye a most beautiful black marble column, with its curvular connection with the clouds, making it very beautiful to look upon. It gave us an opportunity of seeing the wall, seeing it break into spray at the base of the column and, perhaps more singular, the next one was that it laid at an angle of forty-five degrees to the heavens and the end of it tapered off to a small point towards the earth and the water was pouring out of it just as though it came out of a fountain and on its fall broke into spray. One was perpendicular and the other was inclined, making an angle of forty-five degrees to the heavens. Some distance beyond this was another very large one, perpendicular in form, of which we could see only the column itself, but it was about four or five times as large as either of the others. That looked like a solid black marble column standing upright to the heavens. This must have been many hundred feet in height. Each one was distinct and separate, quite a distance apart.

I first met my wife about three years before our marriage. We often met at parties and different places and I would visit at her father's house. It was

quite common at that time for the young men of the town to engage a room at the hotel and to employ a black fiddler to have a dance. It was a cheap method of making a very pleasant evening and bringing the young people of the place together. The young lady who was with me at the time the wheel came off on our way home from the beach was a particular friend of my wife's. We had a Methodist and Presbyterian, but the Episcopal Church was the largest and that I usually attended; but my wife was a Methodist and I was married at her father's house in Hempstead. both of her parents were Methodist. My wife's mother's maiden name was Raynor. Her father, Mr. Bedell, was of French descent. For anything further in reference to my wife I would refer to the remarks of Dr. Bellows (?), who very particularly inquired concerning her, but I most fully concurred with all that he said at her burial services.

Some fifty years ago (this Jumelle property was) while living at the corner of Twenty-eighth Street and Fourth Avenue an old gentleman, then ninety-odd years old, was in the habit of visiting my neighbor where he gave an account of the fact that he said he was offered a ten-acre lot, extending from Broadway to the North River, where Trinity Church now stands. he told his father, "Father, I have got the money to buy that lot and I have thought of doing it." His father said, "Why, you fool you, would you give your money away like that; give your money away for an apple orchard? Why, you (would) do a great deal better to send your money to Cuba to buy sugar. You cannot even get the apples because they will all be stolen." He took his father's advice and sent his money to Cuba to buy sugar. He did well with that, but he would have done a great deal better to have bought the land. He was no more silly than I when I refused the offer of eighteen acres of ground bounded by Fifth Avenue and Twenty-first Street and Eighth. The reason I did not accept it was that I had made up my mind never to go into debt if I could help it, and I had just at that time bought thirteen lots over on Third Avenue and Thirty-third Street and used all the money that I could spare from my business to do so. This property was afterwards bought by Henry Eckford for twelve thousand dollars. He very soon sold a part of it for four hundred thousand dollars. They came to me about this property and offered it to me for less than eleven thousand dollars, saying that it had been foreclosed by an insurance company and that I might have it for just what it cost them.

Before I lived on Fourth Avenue I occupied a place on Murray's Hill where Dr. Springs now stands. It was in that house that I had the yellow (fever) which I had contracted in buying hides from a ship that came from yellow fever country. while living on Fourth Avenue and Twenty-eighth, the large trees yet remain that were planted at the entrance to General Gaines' property and they were then considered the largest and finest trees on this island. This General Gaines' property was from the gate posts at my house, by way of a line to his old county seat to the East River. When I first built my house on the corner of Twenty-eighth Street and Fourth Avenue I planted elm trees some fifty feet apart which grew to be enormous trees, the finest, I think, that could be found on the island. About four hundred feet from my own house there stood two enormous elm trees, also from between which formed the entrance to the lane leading to the mansion of General Gaines near the East River.

I remember when I was some seven or eight years old that the Battery had an old wooden fortification forming a kind of fence around the battery for the defence of the city, and the main street on the east of the battery formed an actual end of New York, as far as I can recollect it, for the finest houses were there and the most beautiful scenery around New York, and it was there that the elite of New York lived. At the time that the City hall Park was a cabbage garden for the poor, the ground on which now stands Stewart's lower store, there was the Potter's Field or the negroes' burying ground.

I remember Aaron Burr lived in a very fine house, one of the most extravagant houses there were in the city at that time. It was situated between Union Square and the North River. While living there he was visited by Volney, a French gentleman, who had paid to Burr great attention when Burr was in France.** Volney called at Mr. Burr's house. When the servant brought in word that a gentleman had called on Colonel Burr, a servant answered that he was at dinner, and left him sitting down in the hall for a long time waiting for Colonel Burr to come from his dinner. When he came out he found the man who had waited so long was his particular friend., Volney, who had showed him so great attention when in Paris. he said he was never more ashamed of any act of his life than in keeping him waiting so long, and thoughtlessness. This was told me at that time by one of Colonel Burr's most intimate friends.

(**See Encyc. Britt, 14th ed., vol. 23, ,g. 245.)

Another somewhat singular incident in relation to an act of General Hamilton was this: I had this from the mouth of Judge Shefflin. he said that Hamilton was visiting at his father's house. he was walking in his parlor one day and, in a peculiar agitation of mind, he threw up his hand and smote upon his breast and said, "Man must have an idol," and that was about the time, as near as I can recollect, that a very extensive effort was made by the advocates of a limited monarchy for our country, which made the remark very significant.

An old pond adjoined my glue factory on the middle Road on this island. A very singular circumstance took place that I may never be able to see the like again. It was on a beautiful sunshiny day with a light wind blowing that I saw, all of a sudden, that the skins that were manufactured into glue that were drying on a shed, I noticed that they were all turning around in a circle, caused by a whirlwind. That wind passed over the shed to the meadow where I had very large clover and the whirl was almost sufficient to tear up the clover, although the wind seemed so light that was blowing at that time. It passed from the meadow over to the old Middle Road at a dusty time which gave us an opportunity of seeing the beauty of a whirlwind, which formed a column of dust some ten to twenty feet in diameter, taking leaves and straws and everything in its path with it, making a column some two hundred feet in height. It passed from the Middle Road over into another field on which was a very extended flat rock occupying a surface of some half an acre of ground. On this rock the adjoining factory was in the habit of drying their hair. This whirlwind, passing over this rock, got into that hair and made a round column of hair such as very few have seen, so that the hair and lime formed a very beautiful column some hundred or more feet high. It passed from there again over the Middle Road and there gave us another beautiful column of dust like the first, and then from there it passed into another field and went into a large buttonwood tree some ten or twelve inches in diameter, that seemed almost sufficient in power to twist that tree off. And that large flat rock on which the hair was drying adjoined Sunfish Pond, which was about two hundred or three hundred feet wide, between what is now Thirty-first and Thirty-fourth street. Many boys at that time would catch fish in this pond.

Between the house where I lived on the corner of Twenty-eighth Street and Fourth Avenue and the House of Refuge, which now forms a part of Madison Square, lived an old man, an old farmer, who had accumulated what was then supposed to be a large fortune, and considerable of it was in gold which he kept lying in a box under his bed and he would not allow anyone to touch or have any thing to do with it. When he was taken sick and was supposed to be on his death bed, while he was asleep, they thought they would take the box away and place it where it would be taken care of and safe. When he woke up he managed to find out the box was found and he would not give them any rest until they put it back again and he made them leave it under his bed until he died.

His case was very similar to another man back of Newburgh of immense wealth who, on his death bed, insisted upon being taken up bed and all down

into his cellar, and to gratify him they took him bed and all down into his cellar. He could only let them know his wants by motions, and he pointed to a wall in the cellar, indicating (to) them he wanted the wall taken down when they removed the wall they found that it uncovered an iron chest that contained twenty thousand guineas, which was afterwards taken and deposited in a bank of Newburgh, and he also owned an immense property which was situated here in New York.

What formed the State Armory, about the time I was in Twenty-eighth Street, occupied the grounds which now forms a part of Madison Park. It occupied a point bounded on two sides, one with the road leading to Albany and the other known as the Old Boston Road. A few of the old willow trees now standing in the park were just outside of the armory on the Boston Road. I remember the trees very well when they were planted. I think those very trees came from willows that I had on my factory lot about the same time that I planted the limbs in my own house at the corner of Twenty-eighth Street and Fourth Avenue, which have grown great and old and have passed away.

After this the buildings that were this armory were converted into a House of Refuge. This House of Refuge boys and girls were both sent to who were found as vagrants or who had committed some petty crime. The old armory was so soon filled up Mr. Joseph Curtiss, who was then in charge of the establishment, was authorized to commence a building as an addition to the premises, and quite a large building was started and mainly put up by the work of the boys who were there confined as vagrants for whatever cause. A Most singular circumstance took place in the course of the erection of that building. My friend, Mr. Curtiss, seeing that the boys were wearied carrying the hods of brick and mortar for the erection of this building, he took upon himself to supply them at eleven o'clock every day with a drink of molasses beer and a piece of molasses cake to encourage and strengthen them in performing their work in the hot summer days, as he saw them sweating and working so hard. This act of kindness to the boys was made by some very selfish, opinionated people a charge against Mr. Curtiss, who said he had no business to give beer and cake to prisoners.

Another very singular circumstance took place there under his management that is worthy of notice. He told me that every boy who came in he made it his business to take him into a private room and there explain to him the rules that governed the institution. He would go on to show and tell them that the laws must be observed and failure to comply with the laws would make it necessary for him to punish them and he most sincerely hoped that they would avoid making him punish them with what the law required. One of the punishments was that they must drink tansy tea. He took great pains to impress the boys with the indispensable necessity of always telling the truth and, as much as he could, he got them to unburden themselves of all their faults, for he said that he could even tell the character of the boys by the way they would tell him all their own faults. Then he would tell them of the blessings that come to those who do right and the punishments that come to those who do wrong. He impressed the boys so fully with the fact that he, in all that he did, had no other object than to promote their honest welfare, whether he punished them, clothed them, fed them, or whatever he did; and in dealing justly and kindly with those boys he got their confidence so fully that although they were prisoners he could send them on business matters and they would always return to him.

A peculiar circumstance took place. A number of the boys asked the privilege of going to what was then known as Vaux Hall Garden, a pleasure garden. This garden extended from where the institute now is to Broadway, a square piece of ground right in that vicinity. These boys asked the privilege of going to the garden to see the fire works on the Fourth of July evening, and as a reward to those who had distinguished themselves for good behavior and usefulness he trusted them to go. I remember very well Mr. Curtiss telling me

what an anxious evening he experienced after he had let them go and trusted them, as he thought he could do with safety. Finding that they had not come at the time agreed upon he said he spent hours of great anxiety not knowing what course to take in the night. Towards morning the boys all came back. Then he took them right into a room and inquired what had been the cause of their not returning at the time agreed upon. The boys united in saying that one of the boys had run away. They all ran after him as fast as they could, each one going a different road, until finally towards morning they caught, made him their prisoner, and brought him back; and Mr. Curtiss took these boys in his room and asked them how they could bring this boy back when they knew that the punishment was to whip the runaway with the cat-o-nine tails made of small fishing lines tied in knots at the ends, the whipping to take place on the bare back. The boys all spoke up and said they thought it would do him as much good as anything they could do for the boy and they knew Mr. Curtiss would do what was best for the boy, for he had done them so much good.

The boy that was brought back made such a complete acknowledgment of his fault and was so sorry and promised that he would never do the like again, so that Mr. Curtiss said he thought it would be an injury to inflict this punishment and so he took the boy back and forgave the boy from his heart. After this the trustees of the institution, when they found that Mr. Curtiss had taken this boy back without inflicting any punishment, they insisted that he should then punish this boy. he told them that if they insisted upon it he would give up the keys and resign, for he could not do that after the boy had acknowledged everything and promised to do better. The directors accepted his resignation for what was in addition to the cake and molasses that he had given them, which they considered an unfortunate fault.

The directors of the institution accompanied a committee to wait upon Mr. Curtiss and stay there until he had inflicted this punishment upon the boy; and Mr. Curtiss then repeated his statement that he had forgiven the boy from the fullness of his heart and believed it would be a decided injury and wrong to inflict a punishment upon him, and as they insisted upon its being done he told them that they must accept the keys of the institution from him, for he could not carry it out, and they did accept the keys, when they put a man in his place by the name of Heart who had been a schoolmaster and believed in the rod.

His daughter, Anna Curtiss, partook of the same spirit as her father and has been conspicuous for the past twenty years for her constant devotion to watching over and seeing if anything could be done to aid the almost helpless and pitiable class of her fellow creatures, the fallen women, of which I will relate one circumstance which will show the wonderful benefit which results from the labors of such persons as she was, as will be apparent from one fact. Miss Curtiss, with others was in the habit of visiting Blackwell's Island to inquire into the circumstances of those persons that had the misfortune to be found there. Among those I recollect one particular very singular instance. A very beautiful young lady had been courted by a young man of rather loose habits and her parents very strongly objected to her being married to him, but she was so infatuated by his persuasion that she consented to run away with him.*** This Miss Anna Curtiss has been at Cooper Institute for a good many years until her health failed her and we advised her that as she was not able to do her duty any more we would give her four hundred dollars a year as long as she lived, which is cheerfully given. She had charge of the office of the School of Art for many years and was a sort of mother to all the young ladies, giving them advice and counsel to them, all of whom respected and loved her. To show the changes that have taken place in the value of property, lots were actually sold at auction between Broadway and Fifth Avenue, a large number of them, falling from a hundred and fifty to two hundred dollars a lot.

(***See pg. 70 of this transcript, fol.)

I used to go to that house of Refuge every Sunday to see Mr. Curtiss and learn how the boys got along, for I thought his course was right and that he was one of the reformers of his age. He was a Quaker in his faith. Before Mr. Curtiss went to the house of Refuge he used to go over to Flatbush and tutor every Sunday a class of blacks. He made his letters out of pasteboard which was all that he had to instruct his black pupils with. After making a letter he would hold up the letter and ask what it looked like. They would tell what the letters looked like, which was sometimes very amusing. While teaching these negroes he had a hardware store in Maiden Lane. Mr. Curtiss was a very good friend of mine. He was somewhat older than myself and he gave me a great many ideas in regard to doing good.

The old man which had charge of Potter's Field, which is now Washington Square, used to come into my store, where now stands the Bible House, and I have been down with him to look at the excavations, which were trenches, which were some eight feet deep and they would pile three and four coffins, one on top of the other, before they covered them. As the coffins came in they would pile them on top of each other and fill them up with dirt. I have often seen this done.

I was still living on Twenty-eighth Street and Fourth Avenue. It was then high ground and rock, making quite a hill. At Thirteenth Street the rock must have been ten feet higher than the street. There was but little dirt in that vicinity then, it being almost all rock. I lived some twenty years in my home in Twenty-eighth Street and Fourth Avenue.

When quite a boy I remember seeing a man and woman hunting just north side of Canal in an open field. I remember very well about that because I was standing on a cart so that I could see. When the victims fell my horror was so great that I came very near falling myself.

March 8.

I remember it was started by a number of Quakers.

I recollect one night when I was a boy and taking a very long walk up to old Colonel Rutgers's farm. It was then up on the point where the East River makes a short turn to the west around the point called Brandy Moody Point. He had a large place which extended nearly down clearly to Catherine Street. The property is still in the Rutgers family, a large part of it. What makes me remember particularly about Brandy Moody Point is that I ran my chain which carried Governor Clinton two miles in eleven minutes in a boat which traversed a mile stretching from Brandy Moody Point to Bellevue dock. This distance offered the only opportunity that I found where a mile stretch could be found nearly in line with the shore, on which I planted posts extending for one mile from the said Brandy Moody Point to Bellevue Dock. This was to exhibit an experiment to show how all elevated waters on the line of a canal could be made use of as a motive power to tow boats as they are now. This was all done while I kept the grocery store down where the Bible House is, when I was about thirty years old.

In arranging to show how all elevated water on the line of the canal could be used as a motive power for towing boats, to accomplish this I made a chain of number nine wire, two miles in length, each link in the chain measuring eight inches bent around its own body. In order to use this chain I planted posts in the East River two hundred feet apart. On these posts one mile in distance, on these posts I placed the two wheels with grooved surfaces in each post to bear up this endless chain. This chain then passed around the shaft or water wheel, having under it a wheel with a crotched surface which prevented the chain from slipping by the nubs that were on the chain. When the

chain was made endless and suspended one mile in distance, and when this endless chain had been passed around the crotched wheel, then it was provided with a reservoir of water on Bellevue Dock, which was pumped up for the purpose of bearing up the endless chain which was intended to tow the boats. Such an arrangement for towing boats on canals will be found to be of immense advantage in our southern states, as boats of all sizes could be hooked on for the transport of all kinds of produce, and on such a canal such an arrangement would be of double advantage to the southern states where their waters are navigable the whole year round while our waters are blocked with use about six months of the year, giving them the opportunity of transporting the products of their farms in the winter, where our people are deprived of that privilege.

To show how elevated water could be used wherever it was found, this water was so arranged that it could be let on an overshot water wheel, having on its shaft a crotched wheel around which the chain was placed and when water was let on it showed that the weight of the water was the means by which the boat was towed. When everything was ready and everything in the boat we hooked on to that chain, having long tow-lines connected with this hook by which the boat was propelled with Governor Clinton in it and a number of other gentlemen two miles in eleven minutes on its trip. The water wheel was nine feet in diameter and the crotched wheel was five feet, both made of wood. A much better plan could now be adopted by using the turbine wheel, taking the water from the locks. The small wheels for bearing up the chain were made out of a mixture of block tin and zinc which I cast in a wooden mould. by whitewashing the mould it prevented the burning of the wood so that I was enabled to cast fifty wheels in the same mould. The mould was made of mahogany. These wheels were about twelve inches in diameter, a grooved surface some two inches deep, and weighing nineteen pounds each.

About the time that the Erie Canal was nearly finished it occurred to me that boats on that canal may be towed by the use of elevated water such as could be found at the locks and any other elevated water on this line, from which the power could be obtained. That power I proposed to use as a means for towing the boats, instead of towing them as they are now done by the use of horses. To show the practical working of such a canal I planted posts extending one mile from Bellevue Dock to a place known as brandy Moody Point. On each of these posts I put two wheels with grooved surfaces to bear up an endless chain which was to extend from Bellevue Dock to the said brandy moody Point. When the chain was completed I invited Governor Clinton to witness the experiment. The boats were to be propelled by this chain passing around a crotched wheel on the same shaft on which the water wheel was suspended, and water was let upon this water wheel out of a reservoir on the dock filled to represent the use of water for such a purpose. Then Governor Clinton and a number of other gentlemen were invited to take a seat in the boat in which they were propelled two miles in eleven minutes, and that included the necessity at the extreme end of losing something like a minute in having to stop and take the hook from one chain and hooking it on to the lower one.

The following is a sample of the links of that identical chain that drew DeWitt Clinton in eleven minutes: The chain was made out of iron wire. On this same voyage with Governor Clinton, Hamilton Fish informed me that when he was a very small boy his father took him by the hand and carried him up to Bellevue dock where he says he, with his father, got into a boat with me and other gentlemen and had the first sail with Governor Clinton in the boat. Its great success was a great surprise to myself as well as others. DeWitt Clinton was so well pleased with it that he gave me eight hundred dollars for the privilege of the patent right to that invention to be used on the Erie Canal.

After he had returned to his home he informed me that he then recollected that he had promised all the people on the line of the canal, in order to get the convenience of the right of way to make the canal, that as soon as the

canal was completed the farmers would be able to sell their horses to tow the boats and their hay and their grain to feed them, and great provision had been made for the purpose of entertaining the passengers that would travel and stop at different places on the canal. After he saw that all this was to be done by water instead of horses he became afraid that he would never be able to finish the canal after he should introduce it, for it would disappoint so many in their expectations for carrying on the trade of the canal through the promises that he had made, and he was compelled to abandon the idea of introducing my endless chain.

Nothing was done with it after that, except to run it about ten days in which I carried nearly a thousand people in the boats to show how conveniently practical such a plan would be, until about seven years ago now when Mr. Welch, the president of the Camden and Amboy Canal and Railroad, invented the same identical plan of towing boats that I had exhibited in my experiment. When he found it such a saving getting his boats through the locks of the Camden and Amboy canal locks he went on to Washington to take out a patent for it, and he informed me that he there found that I had a patent for the same thing which had been granted thirty-three years preceding the application of his invention. Therefore, it is now about sixty years since I took out my patent. Mr. Hamilton Fish related this circumstance at the commencement of my ninety-first year and alluded to it the year following.

Mr. Joseph Curtiss, Mr. Dement and, I believe, Mr. John Driscomb, George Trimble, Joseph Collins were prominent and active members in getting up the Dement Milk Dispensary, now at the corner of Twenty-third Street and Second Avenue. They were also active members of the old public school society. I was one of the subscribers, trustees, and vice-president for a number of years of that society. That society turned over its effects and all that it possessed into the Board of Education and I passed over to the Board of Education when this change was made.

***A very important institution of our city was active very many years ago, principally by a company of ladies led by the daughter of John Hopper, a Quaker, who remains to this day a very active member of an institution which has been to this city of great value and has given its influence to a class of women the most helpless and the most to be pitied. To give some idea of the work and influence of those ladies I will relate one circumstance that came to my knowledge. A certain very beautiful young lady was courted in the City of Albany by a young man whose parents would not give their consent to her marriage and she was prevailed on by this young man to elope with him. They came here to New York and put up at the Astor House. After a few days or weeks this man disappeared and she was left without protection or any means, until her board bill became so large that she was notified that she could not remain any longer at the Astor House. Well, she had to leave; had no place to go; knew no one, and went into the street and inquired of a policeman where she could find a cheap place to board. This policeman took her and introduced her to a house of ill fame. As bad luck would have it for her, a riot took place in this house where she had gone to board and she, with a number of others, was taken off to the Tombs and from there sent to Blackwell's Island. The business of these ladies is to visit the prisons weekly or monthly to ascertain the character and cause of these women being in prison. On inquiring from the young lady who revealed herself to these visiting ladies and told the story of her misfortune to them, when they made application for the privilege of taking her out to the home which they had established for the very purpose of this class of women. While she was there she showed them she was willing to make herself useful and they looked for a place for her and found in Massachusetts a place where she could go and learn the art of braiding straw for ladies' hats, and there she worked industriously and successfully for two or three years, when a rich uncle of hers heard that such a woman was in Massachusetts working at this trade; and on going to inquire after her he found that she was the daughter of

one of his dearest and most intimate relatives. he immediately took her out of that employment and took her to the milliner and dressed her up in the fashion of the day and took her with him to Saratoga where he was staying, it being summer time. There her beauty and accomplishments attracted the notice of a young gentleman from this city, who became very much in love with her and proposed marriage. After receiving his attentions for some little time she told him that if he would listen to the story of her life she would tell him just the things had happened and after that if he chose to offer her marriage she would accept him. he was so much in love with her that he would not give her up. They were married and he brought her to New -York, where they lived in great style. After some years she drove up in her carriage to see this daughter of John Hopper who had been the means of her salvation. She was introduced into the parlor, where she found a lady that she had entirely forgotten her looks. This lady asked her if she did not remember knowing her. Miss Hopper replied, "No," she did not. Then she asked if she did not remember a young lady that this Miss Hopper had taken from Blackwell's Island to an institution called The Women's Home. She said she did remember that, to which this visitor replied, "I am that person." That home has been the means of saving many just such worthy young ladies. I have been a subscriber to it from its commencement, and I have always felt a great pleasure in contributing to maintaining such an institution.

(*See pg. 62 of this transcript, supra.)

In this connection I will mention another institution which I think of great importance, which is known as the "Working Women's Protective Union." The object of that institution is to give protection to working women who very often find that so many men are heartless and will take an advantage of working women and reduce their pay to a mere pittance and then try to cheat them out of that little. When thus such circumstances take place, any woman going to this institution and making it known, such men as John I. Parsons, who is one of the principal supporters, volunteer to defend these women and send a note informing them that they must pay or a prosecution will take place, which almost invariably brings about a settlement. I have found pleasure in subscribing to this institution which gives protection now to a vast number of hapless defenseless women without pay on their part.

While I was an apprentice at the coachmaking business, instead of going about with the other apprentices and spending my time at night in sport of all kinds that they were in the habit of indulging, I made it my business to go to a little room furnished me by my grandmother in one of her buildings that she had on Broadway at that time, and there I employed myself at various things; among the rest, such carving as I could sell to the coachmakers, and when I had nothing else to do I worked at a machine to show how power could be obtained from the regular current of the tides. At that time a point of rocks put out where Fulton Ferry now is into the East River and I noticed that the tide ran so violently around that point of rocks that I saw that great power could be obtained from the current motion of the tide. In order to get that power I planned a building placed upon these rocks and from that building I proposed to extend a large frame out over the water, and in that frame I erected a large wheel with its paddles so arranged that they could be let down to any suitable distance in the water to get the effect of the current of the tide. In order to make this power practical I proposed a trunnel head of length equal to the height of the rise and fall of the tide. The surface of the trunnel head was cog work into which another wheel would be formed so as to mesh into the cogs of the trunnel head and admit of its rising and falling with the tides. In order to show how this water wheel with its connection with the trunnel head could be made to move machinery I made a model small frame building in which I placed two run-of-mill stones with an arrangement for a saw mill to saw lumber, and with another arrangement by which all the power of the wheel could be thrown off on another kind of machine expressly formed to compress air. This

compressed air I proposed to force into a large reservoir on the dock in sufficient quantity to be able to draw from it a constant supply of compressed air to fill the hulls of a ferry boat. These hulls were to be made of iron of size sufficient to form all the buoyancy required two of these large cylinders made to support the deck of sufficient size to form all the convenient room for the purposes of a ferry. This deck was to be bolted fast to these two cylinders which was to form the buoyancy of the hull of the ferry boat with all the conveniences of our ferry boats. This ferry boat was to be supplied with compressed air at every time when it came into the dock to discharge and receive its passengers and freight by a flexible tube extending from the reservoir on the dock to the hull of this ferry boat, by which means these appliances could be made to fill the hull of this boat with compressed air which was to be used as so much steam in propelling the boat from one side of the river to the other. I remember that while I was making this machine Robert Fulton came to see this experimental machine that I was making. As I was but an apprentice boy Mr. Fulton merely looked at it without comment. I have the wreck of that in my garret, and another improvement for a different purpose. The object of the second one was to show the loss that is caused by being compelled to convey the power of steam through a crank, on which I showed by an experiment made afterwards that there was an actual loss in connecting power through the crank caused by its dead points equal to a loss as five points is to eight in all machinery driven by a crank.

In order to demonstrate that fully I made two machines. One was made to go by direct application of the power of a suspended weight, while the other was made to go by the direct alternating motion of a descending weight, using the stem to stem weight to drive both machines; the one by the direct application of power and the other by being forced through the crank. The same weight that would drive the one applied to the other. The direct application of the crank motion would be as five points is to eight. The same weight was made to use both machines. The direct application I used a small steam engine which I afterwards converted into a little locomotive and put it on the Baltimore and Ohio Railroad. It was actually the first locomotive engine made in this country that actually carried passengers on a railroad. A more particular account has already been given of this engine.

This little engine I ground chalk with.

* * *To keep them from abandoning the railroad I got them to use a run so that a hundred and fifty feet was the least. From England came the report that nothing less could be used than nine hundred feet to be successful for locomotive purposes. This was so discouraging to the directors of the road that the principal stockholders of the railroad said they would not pay any more.

When I learned that, I begged of them to hold on a little while, for I thought I could make a locomotive that would go around those short turns. To do that I took this little small engine that I had in operation in my factory and went into a coachmaker's shop in Baltimore and made it into a locomotive. When I got it down to take it out to the railroad to put it on the track and get all ready to go out with it, just at sundown one afternoon I got steamup on it when the president and some other gentlemen were there, who went out two or three miles to see whether it would go or not, when I appointed the Monday following, this being on Saturday. During Sunday some unprincipled person wrung off the copper pipes that conveyed the steam from the boiler to the working part of the engine so that I had a great time to get it fixed up again. After a great deal of trouble and delay I got it fixed and invited the directors to witness the experiment. We started with thirty-six passengers in a car and took six men on the locomotive, which carried its own fuel and water, and we made the first passage from Baltimore to Ellicott's Mills, a distance of thirteen miles, in an hour and twelve minutes, and we came back in fifty-seven minutes. In going out we had to go up eighteen feet to the mile besides turning the short turns around points of rock.

A full account of this first trip was given by Mr. Latrobe, now eighty-nine years old, some years ago, who was then their counsel and is still the counsel for the Baltimore and Ohio Railroad. He then took an exact count of the time it took for every mile going and coming. One of the miles on our return trip was made at the rate of eighteen miles an hour. He was then a young man and I paid him the first fee, which was sixty dollars, to get a patent for this locomotive, which he said at the one

hundred and fiftieth anniversary of Baltimore, which I attended two years ago, that it was the first fee that he had ever received for taking out a patent.

March 8.

In riding past city hall Park with Doctor wise it brought to my recollection one of the most painful scenes that I have ever witnesses in my life. There I stood by and saw two men whipped at the whipping post, one a white man and the other a black man. The white man's back resembled, from his shoulders to his hip, just a bloody blister. The screams of that man will always remain in my memory. The scream of that man was perfectly frightful, he would scream, get a little lower down, and it seemed as if it was beyond his endurance. This was at the same place that was formerly the cabbage garden of the poor house.

Corenties, vulgarly called Coonchies, Blip.

The first recollection I have of the lower part of the city was when Coonchies Slip was the center of the business of the city. My father's house, where I was born, was two or three doors from the corner of Coonchies Slip on Little Dock Street, now known as Water Street.

I remember when the rafts that came down North River were landed about opposite (where) Trinity Church now stands and so along up towards Washington Market. I remember when I fell in the river there myself one Sunday when I went up there, when I ran away with one or two other little boys, and we went along the shore stepping from log to log, on the rafts and logs for timber that landed there on the shore, when I slipped and fell into the water, my clothes being so wet I could not hide my having fallen into the water.

March 9, 1882.

It fell to my lot to have been led like one of old by ways that I had not known and paths that I had not trodden. I was led not only forty days and forty nights but for more than forty years up into and through the tangled maze of creeds and systems of human device, where I found myself longing and hoping to find something that would satisfy the cravings of a rational and moral mind. in my anxiety to find a place of rest for my anxious mind, after I had been taught to fear that there was such a thing as a state of endless misery after the pleasure that was possible for mankind, as I had heard that there had even been a war in heaven, a picture was drawn to my mind that the angels who had been cast out were banished to a place of endless punishment where the worm dieth not and the fire is not quenched. In this state of anxiety I heard and went to hear all the different "Lo, here's" and "Lon, there's", all professing to show me the way to safety to escape from the terrible consequences that caused me so much dread, and in my efforts to obtain relief I lit upon certain passages in the scriptures that inspired me with the hope of a deliverance from that state of mind with which I had been so much oppressed. I saw that the Apostle declared that that which may be known of God is clearly seen, being understood from the creation of the world, by the things which are made. This inspired me with the desire to study the works of nature more carefully, and I reasoned with myself, and with every one that I had hoped to obtain information from, until I found myself compelled to believe that mankind were all the offspring of one common Father who had not only given us the same form, His likeness and image, but had given us the world with all that in it is, with a spark of his own immortality and eternal life, telling us or giving us the power to keep, subdue and have dominion over the world with all that in it is, with full permission that we may eat of all the good in nature's garden, only telling us that we must not partake of the evil, that most inevitable result by eating too much, drinking too much, or playing or working in excess; that for our benefit it was necessary that these pains and penalties should follow from excess, showing us that the privations were a Fatherly creation designed in infinite wisdom for the use and elevation of mankind; showing us first that the poet was right when he says that God has connected in this our world our highest virtue with our greatest joy, and has made our own prospect to be blest our strongest motive to assist the rest, so that I brought myself to the belief that Christianity is as old as immortality, as the mod that I have been taught to love, serve and reverence is without variableness, the, same yesterday, today and forever, without shadow of turning. So that we may ask what more could He have done for us than to give

us the world with all that in it is, richly to enjoy, with our reasoning powers to enable us to, as it were, put the world under our feet, or to subject the world to our wishes. I find myself compelled to believe that there are but two things in the Universe; that the one is man and the other is matter; that man is the active principle in nature, while matter is the thing moved in all the forms in which it ever has been or ever could be moved, showing that matter contains in itself all power and is moved by a great ordaining mind which causes it when it ever has moved or ever can move. Wherefore, I say that God is love, and that love must use all its power through all eternity to accomplish the greatest good to the greatest number; that the God I find myself compelled to believe in is the center and fountain of all that is just, powerful, wise, pure and good.

For one I now rejoice in the belief that mankind throughout the world will improve and better their condition in proportion as they draw from the revelations of God in nature a more rational theology, a theology that will present to the intelligent inquiring mind of man a God in the character of a loving and an affectionate Father who has given to us, His, intelligent offspring, a spark of His own immortality and eternal life. Such a God can rightfully claim the affections of mankind. Such a God will not be to us a nothing creating everything. On the contrary, he will be to us the greatest of all possible realities; our highest idea of all that is just, powerful, pure and good. We shall then see that all the unfolding leaves of creation are one continued demonstration that our God is to us an ever-flowing fountain of light and life. He is that true light that makes every man feel all he would like every other man to do unto him, and makes that feeling a pleasure and duty with all of those around us. In this view, I see that the name of Christ presents to the world a principle, and that the man Christ Jesus came to understand that principle and lived it out by going through a life devoted to his fellow man, proclaiming to them that to love God and keep his commandments was the whole duty of a man, and that where he says, "What doeth the Lord God to us but to deal justly, deal mercifully and walk humbly;" and where Christ declares to the man who asked him what shall he do to be saved, he tells them, "Thou shalt love the Lord thy God with all thy heart, with all thy soul, with all thy mind and strength, and thy neighbor as thyself" and declares that this is more than all burnt offerings and sacrifices. When we come to ask what Christ **is**, and **look** to the Scriptures and the New Testament for the answer we find that Christ is the first born of every creature, and when we ask again what Christ is we are told that Christ is the head of every man, and if we ask again what Christ is Paul tells us that we must grow up into Christ and have Him as a loving guide or head, and then he tells us that we must have Christ formed within us as a new creature, showing clearly that the name Christ represents a principle lived out by a man, although His name had been cast out for evil; that that Person so poor that the foxes had holes and the birds of the air nests but He, the Son of Man, had nowhere to lay his head, and that he as a man, with His name cast out as evil, went about the world living out a righteous life and letting his light so shine before men that His life may well be said to be the light of man, to guide us all in the path of duty. Although His name had been cast out for evil and though he had been tempted in all points like as we are, yet he lived without sin, going about the world letting His light shine before men, showing that man did not gather crops and fruits or figs and thistles but letting His light shine before man, showing that love is the fulfilling of the law. Paul gives the world a valuable lesson when he says that charity is the greatest of all virtues. So that a man may give his body to be burned and all his goods to feed the poor and if he has not charity he is but a sounding brass and a tinkling cymbal. My experience has taught me that mankind will only improve and better their condition just in proportion as they come to see and (are) made to realize that what a man, a community, a state or nation sowest that they must also reap somewhere, somehow, and at sometime, and that by the operation of a reign of beautiful beneficent laws designed in infinite wisdom for the use and elevation of mankind. These laws are so wise and so good that they will never require to be altered, amended or revoked.

March 10.

Having been brought to believe that science is the rule or law of God by which the movements of the material creation are rendered intelligible to man, that science itself is nothing more nor less than a knowledge of this law or rule, actually

demonstrated by the experience of mankind--believing this, I have given the labors of a long life to the advancement and diffusion of scientific knowledge, feeling sure that when Christianity itself is felt in all its purity, power and force, when it is relieved of all its creeds and systems of human device, it will then be found to be a simple system, a science or rule of life to guide and regulate the actions of mankind. My hope is that the love and desire for scientific knowledge will cause unborn thousands to throng the hall of Cooper Union to learn the beauties and to obtain the benefits provided in nature for the use and elevation of mankind. These will be known and enjoyed where men keep, subdue and hold dominion over the world and all that in it is. I trust the young will here catch the inspiration of truth in all its native power and beauty and find in it a source of inexpressible pleasure to spread its transformed influence throughout the world.

In view of the blessings provided in nature, we may well take the advice of the poet when he says,

"Awake * * *¹ leave all meaner things
To low ambition, and the price of kings.
Let us * * *expatiate free over all this scene of man;
A mighty maze: but not without a plan;
A wild, where weeds and flowers promiscuous shoot;
Or garden, tempting with forbidden fruit.
Together let us beat this ample field,
Try what the open, what the covert yield!
The latent tracts, the giddy heights, explore
Of all who blindly creep, or sightless soar;
Eye nature's walks, shoot folly as it flies,
And catch the manners living as they rise:
Laugh where we must, be candid where we can;
But vindicate the ways of God to man.
Say first, of God above, or man below,
What can we reason, but from what we know?
Of man, what see we but his station here,
From which to reason, or to which refer?
Thro' worlds unnumbered tho' the God be known,
'Tis ours to trace him only in our own.
He, who thro' vast immensity can pierce,
See worlds on worlds compose one universe,
Observe how system into system runs,
What other planets circle other suns.
What vary'd being peoples every star,
May tell why heaven has made us as we are.
But of this frame the bearings and the ties,
The strong connections, nice dependencies,
Gradations just, has they pervading soul
Look'd thro'? or can a part contain the whole?

Is the great chain, that draws all to agree,
And drawn support, upheld by God, or thee?
Presumptuous man! the reason wouldst thou find,
Why form'd so weak, so little, and so blind?
First, if thou canst, the harder reason guess,
Why form'd no weaker, blinder, and no less?
Ask of thy mother earth, why oaks are made
Taller or stronger than the weeds they shade?
Or ask of yonder argent fields above,
Why Jove's Satellites are less than Jove?

Of systems possible, if 'tis confest
That wisdom infinite must form the best * *^t

All this shows the beauty of what Paul declared that what may be known of God may be clearly seen. From the creation of the world all may be able to see there God shining in the sun, blossoming in the trees, living in all life, flowing through all understanding, spreading undivided and pure and unspent. Such is our God as shown in the wonders and works of creation.

"The bliss of man (could pride that blessing find)
Is not to act or think beyond mankind;
No pow'rs of body, or of soul to share,
But what his nature and his state can bear.
Why has not man a microscopic eye?
For this plain reason, man is not a fly.
Say what the use, were finer optics giv'n,
T' inspect a mite, not comprehend the heaven?
Or touch, if tremblingly alive all over,
To smart and agonize at ev'ry pore?
Or, quick effluvia darting thro' the brain,
Die of a rose in aromatic pain?
If nature thunder'd in his op'ning ears,
and stunn'd him with the music of the spheres,
How would he wish that heav'n had left him Still
The whisp'ring zephyr, and the purling rill?
Who finds not Providence all good and wise,
Alike in what it gives and what denies?"

Far as creation's ample range extends,
The scale of sensual, mental pow'rs ascends:
Mark how it mounts to man's imperial race,
From the green myriads in the peopled grass:
What modes of sight betwixt each wide extreme
The mole's dim curtain, and the lynx's beam:

"Is not thy reason all these pow'rs in one?"
"And middle natures, how they long to join,
Yet never pass th' insuperable line!
Without this just gradation, could they be
Subjected, these to those, or all to thee?
The pow'rs of all subdu'd by thee alone,
Is not thy reason all these pow'rs in one?"

The celebrated Doctor Young declares that reason is a progressive principle. He says slow reason feebly climbs, while instinct leaps. brutes soon their zenith reach; their life all flows in at once. Could they live a thousand years they would no more know or eat or wear or enjoy; but man, could he live coeval with the sun, as pupil would be learning still and, dying, leave his lesson half unlearned. God wills our happiness, but allows our doom; invites us ardently but not compels.

The most beautiful thought that is to be found almost is from Pope's Essay on Man, where he says that God loves from the whole to every part. Man, he says, should rise in his affections from the individual to embrace the whole, just as the pebble stirs the peaceful lake. The center moved, a circle first ensues, and still another and another spreads. Friends, parents first he will embrace, and next his country, and next all human race; wide and more wide the floorings of his mind, takes every creature in of every kind, until earth shines around in boundless bounty blest and heaven beholds its image in his breast. Know then this truth, enough for man to know, that virtue alone is happiness here below; the only point where human bliss stands still and tastes the good that a fool could ill; where only virtue's sure reward receives, alike in what it takes and what it gives.

There are so many beauties in Pope's Essay on Man that all should possess this valuable treasure of a book. There he says that

"One self approving hour whole years out-weighs
Of stupid starers, and of loud huzzas,
And more true joy Marcellus exil'd feels,
Than Caesar with a senate at his heels * * *"

In another place he says that

"Sometimes virtue starves while vice is fed."

He then asks,

"Is the reward of virtue bread?" "No," he says,, "It is the soul's calm sunshine. It is the heartfelt joy that is virtue's prize."

The poet, in speaking of the wonderful ineffectiveness of pride and selfishness, throws out a most beautiful effusion of thought, which he calls the language of pride.

"Pride still is aiming at-the blest abodes."
"Ask for what end the heav'nly bodies shine,
Earth for whose use? pride answers, ' 'Tis for mine; For me kind nature
wakes her genial power,
Suckles each herb, and spreads out ev'ry flow'r;
Annual for me, the grape, the rose renew
The juice nectareous, and the balmy dew;
For me, the mine a thousand treasures brings;
For me, health gushes from a thousand springs;
Seas roll to waft me, suns to light me rise;
My foot-stool earth, my canopy the skies."

That is the language of pride. Then he goes on and says,

"Pride still is aiming at the blest abodes, men would be angels,
angels would be gods. Aspiring to be gods if angels fell,
Aspiring to be angels men rebel:
And who but wishes to invert the laws
Of order, sins against th' eternal cause.

(Young). And nature rationally implies the power of being as blest or as wretched as we please, else idle reason would have naught to do; and he that would be barred capacity of pain carries incapacity of bliss. Heaven wills our happiness, allows our doom; invites us ardently but not compels. (Young, 161.)

On one of my first visits in Baltimore I recollect very well seeing the bridegroom, Jerome Bonaparte, and his bride, miss Patterson, riding through a part of that city on horseback. I recollect a singular expression made at that time in reference to the Baltimore and Ohio Railroad. He had made such extravagant calculations of the profits that would result out of that road that he said they could afford to make the rails out of silver. I have seen the beautiful home of Jerome Bonaparte on the Delaware River.

In searching the operations of nature I saw, I thought, a wonderful evidence of the power of instinct. On one occasion at Ringwood, our country place, I noticed or saw on the lawn in front of the house a most beautiful specimen of a caterpillar, very large, covered with splendid colors. This caterpillar, it appeared to me, was struggling to get up a hill in front of the house while the sun was burning. I watched him for sometime to see his perservering struggle, until his effort excited my pity and I picked up a little limb which lay on the lawn and held it to him and let him crawl upon it; then I carried him up the hill to the house and held the limb with him on it up against one of the vines that was running on one of the columns at the house, which he immediately went on to, and there I left him. On the

next day I went to examine to see what had become of him, when I found that he had already begun to cover himself up for the great change that was about to take place with him. I watched him from day to day and it was not many days before he was entirely covered up with leaves, and I there found him hung by a thread which he had formed to suspend himself to the limit where nature, by the power of instinct, had led him to pass through the wonderful change which was to take place. when we removed from our country place to the city one of the children cut that little limb off and took it into the house and stuck it by a pane up on the window. It hung there suspended until we went to our country place the following summer. We took the same caterpillar that was wound up in this shell that he had formed for himself, put it under a glass cover out in the sun, and it was not long before he came out of his shell in a most beautiful miller or beautiful butterfly, so his extended wings from tip to tip would extend about six inches. We kept it with us for sometime until it had laid hundreds of eggs, but some person must have let it away. I inferred from that that the instinct that guided that caterpillar to cover himself up to go into another change, the change being so great as to pass from that form of a caterpillar to a butterfly, what (it) would be for us to take on a life in another world. 'l'o my mind this was the evidence of the immortality of man, this change of the worm to take on that beautiful foam instead of grovelling in the dirt. I could not but infer that man should follow also, giving me strong evidence of immortality. In the transactive change this caterpillar was but a mass of corruption, it first being a crawling worm, then a beautiful butterfly flying in the air.

As I have allowed my mind to wander over the possibilities of the past and the future, I have supposed it possible that the whole universe has been made to contribute particles, powers and influences out of which this our world was formed. The evidence is carried within its own body everywhere around us that it had a beginning and that it once existed in a gaseous form, having received these particles, powers and in-fluences as a contribution from surrounding worlds, all made to contribute and that, in the operation of the ages, was to come out of the gaseous form in which it had been made to take on, which is somewhat represented by the air damps in the mines when certain particles, powers and influences come together in certain combination. They take fire, and burst, explode; and my mind has supposed that our world was similarly formed until it arrived at a point of spontaneous combustion, like the air damps in the mines, and it had burned for untold ages, causing all that we now find as water and of watery substance to take on the gaseous form by becoming suspended and driven from the center in every direction and, by the intensity of its heat, kept away from the earth from the more solid particles which, like drops or water, all being fluid, take the globule form, so that all the waters that now form our oceans and rivers must have been held at an immense distance from the earth for a great length of time until the surface had become sufficiently cool to allow the water parts of the elements to come in contact with it. The evidence is in the globe itself that this must have boiled for untold ages with an inconceivable force, where it would have boiled on until it had formed our earth by the grinding and shelling of a granite column which, by pouring water upon it when heated, shows us that the earth must have shelled off for untold ages and been ground by the water of the elements. It would have been shelled off; so that the evidence is clear that the particles of earth has been ground by the particles of rock before the earth was cool enough to come to rest, and when it had come to rest then the great ordaining mind which controls matter in all its forms, that God whose body nature is body and soul, working; inall for the accomplishment of the greatest (greatness) and most glorious purpose in forming a world that should in its operations develop all that is necessary to organize, individualize, and immortalize intelligent minds, capable of becoming so pure in heart that they could see God, which is to see that God Himself is all and in all, the truth, the beautiful and the good; and as the poet says, Dr. Young, "Man is that for whom all else were made." Young says that, "To be rational is to possess the power of being as blest or as wretched as we please, and all that would be barred the capacity of feeling pain carries incapacity of bliss." Then he goes on

with this train of thought to show that without this capacity we could not enjoy what we do. He almost uses the same language there that he does in the other place where he tells about the old man dying. "God wills our happiness, invites us ardently, but not compels." (Young, page 171.)

I often repeat the old Methodist hymn:

Father, how high do Thy glories shine,
 How high Thy wonders rise,
 Known through the earth by Thy signs
 By those through the skies.

Part of Thy nature divinely stands
 In all Thy creatures right
 They show the work of thine own hands
 And impress of Thy love.

That spacious firmament on high,
 With all its blue ethereal sky,
 Spangled with stars and shining frame,
 Their great Original proclaim.

Soon as the evening shades prevail,
 The moon takes up the wondrous tale,
 And nightly to the listening earth
 Repeats the story of her birth.

While all the stars that round her burn
 And all the planets in their turn,
 Confirm the tidings as they roll,
 And spread the truth from pole to pole.

What though no real voice or sound,
 Amid these radiant orbs be found
 In Reason's ear they all rejoice,
 And utter forth a glorious voice,

Forever singing as they shine.

March 11.

The hope of mankind is inspired by some of the beautiful sayings of Christ, where he answers to those who come from without and say to him, "Behold, Thy mother and Thy brethren stand without and desire to see 'Thee.'"

He asks, "Who is my mother and my brethren?" and says, "They that do the will of my Father are both my mother, my sister and my brethren." I think that one of the most touching passages in The Book, on a par almost with His dying sentence where, when looking over the crowd that had placed the nails in his feet and the spear in His side, in the midst of that agony, he was found to say, "Father, forgive them for they know not what they do." He saw the great truth and the only truth that can ever bring the Kingdom of Heaven into the hearts of mankind either here or hereafter; His allpervasive and omnipotent power of the circumstances that make us, our God being the greatest of all circumstances, and He, having a law unto Himself, controls the universe by the operations of law; and lie is so wise and so good that he has not allowed the natural state of mankind to depend upon anything that they could say or do in this life, so that it is not to him that "Lo, here," or to him that "Lon, there," that we should be saved but it is of God that showest mercy and knowest how frail we are and (He) had an express purpose to accomplish in causing the light afflictions of this short life, to work out for the world a far more exacting and eternal way of glory. This shows us the beauty of those inspiring words that promise that when knowledge shall cover the earth, as the waters cover the great deep, that then the crooked shall be made straight and the rough places smooth, and that all flesh shall see the

salvation of our God, who is no respecter of persons but will have all men to be saved and come to the knowledge of the truth. This shows a good ground for our hope that the glad tidings of great joy shall be to all people, where all will see and know, when we are permitted to see as we are seen and know as we are known. We shall then see that we have suffered doubly for all our iniquities in this life as a part of the great preparation to inspire us with love and gratitude to that God who is all and in all.

To illustrate my views, I can do little better than to repeat a conversation that I had with the venerable Dr. Spring. Sitting by him one day while we were floating on the ocean in our efforts to connect Europe and America by a telegraphic cable I ventured to say to him, "Doctor, when I reflect on the omnipotent power that the circumstances of our birth, our education and our country exert on making us what we are, I not only know that the children, etcetera. (Also Dr. Bellows.)

To show how the unfolding leaves of creation were intended to teach us our duty, and our privilege to read those unfolding leaves of creation and learn valuable lessons from their instruction, it so happened with me that on one occasion a canal on which my rolling mill depended for its water power to drive the works had become filled up with a great flood that part of its banks had been carried away and a great deal of rubbish had to be taken out of it to restore it to a condition of usefulness. After it had been repaired I walked through on the bottom of the canal that takes a portion of the waters of the Delaware River and brings it down to the City of Trenton where it is used as a means of driving various mechanical powers. In passing through this canal I discovered that the bottom had not been dug out exactly level and that the rains that had fallen during the six weeks that it was undergoing these repairs had filled up the low spots, where I noticed that in some places grass had grown up in that course of six weeks in the bottom of the canal some six or eight inches in length. Where water had formed ponds, there I found the surface of these ponds entirely covered with green leaves, some resembling lettuce leaves. I noticed in one place where some flaw of nature had struck this pond and broken these leaves loose and pushed them all to one side of the pond. This discovery showed me, I thought, how our coal mines had been formed from vegetable matter. I thought I could see that at the time water had surrounded our world in its formation and it must have been nearly equal all over the world then, after boiling for untold ages. I thought I saw that after the water had become cool enough in its contact with the earth to settle and form a slimy substance, which we see form on every pond in summer time when water becomes stagnant, that it immediately develops various kinds of vegetable and animal formations. These go on and increase, particularly the vegetable increase, and grow in profusion and strength, somewhat similar to what we see going on where hot cane breaks and other rapid vegetable matter takes place. I saw that these would likely grow up out of the warmth of the water under the heat of the sun to be something like a large leaf that I once found when we were in the course of our efforts to lay a cable across the ocean from Newfoundland to Nova Scotia, we being detained several days waiting for the cable to arrive in the harbor of Port aux Basques. On that occasion I took one of the boats and went on shore and passed up in a singular water passage amidst the rocks, where the water was entirely quiet and undisturbed by anyone, it being deep down in a crevice with rocks rising up on both sides. There I found a leaf of some four feet in width and six feet in length lying on the surface of the water. It was most beautifully formed, with ruffled edges. The leaf was so singular that I got the man that rowed us to pull it up into the boat. When I got it in the boat I then put an oar down to learn the depth of the water, which was about ten feet deep where that leaf had grown, having a very small point in contact with the earth, and where it came to the top of the water and the stalk entered into the leaf it was about ten times the size of its root. It

was so curious that I had it spread over the gunwale of the ship, intending to bring it home. Unfortunately, our ship was caught in a gale that came near destroying the ship and all hands and the leaf was lost overboard. But I learned from that the wonderful growth of vegetable matter that must have taken place when our earth first became cool enough to allow quiet water to rest upon its surface. This would, in the course of time, bring about an immense amount of vegetable tangled matter that, when by the cooling of the earth's surface, cracks should open in it and let the water lying upon its surface fall into those open cracks where it found the ordinary hot mass of internal material, which would very naturally be forced out with such a tremendous power that all the earthy particles that had been ground up by the ages of boiling water that had covered its surface, these earthy particles would be, forced by the power of water, converted instantly into high steam and be forced immediately up into the water thrown at a great distance, while the force of the explosion would very naturally push this vegetable mass found on its surface and bank it up in heaps that would be immediately covered again with the earthy particles that would be thrown out and held there. This wonderful growth of vegetation on the earth's surface, in connection with what I saw of the vegetation that grew in the bottom of the canal and also of the great leaf and stalk that I found in the harbor of Port aux Masques, opened up to my mind what appeared to me to be the real philosophy of the formation of the coal mines on which we are now so dependent for a large amount of comforts and luxuries of life.

How vain are all things here below,
 How false and yet how fair,
 Each pleasure hath its poison, oh
 And every sweet a snare,

The brightest things below the sky
 Give but a faltering light
 We should suspect some danger nigh
 Where we possess delight.

Our dearest joys and nearest friends, the partners of our blood,
 How they divide our wavering minds, and leave but half for trod.
 Dear rather, let thy beauties be my soul's eternal food
 And love commend my heart away from all created good.

He also sang this stanza:

In boundless mercy, Gracious Lord, pure
 Darkness dispel; the humble mourner cheer;
 Vain thoughts remove; the objects that divert
 And cease to draw from me, Dear Lord, my heart.

One thing from Dr. Young I have thought of a great deal and thought how much I have lost in not having courage enough to preach of my thoughts to others, as Dr. Young says. Thus I went in my thoughts of human device. I often felt like crying out in the language of the poet where he says,

Oh how was my heart engrossed by the world;
 How sore fettered was my grovelling soul;
 How like a worm was I wrapped around and around
 In silken thread which raptured fancy spun,
 Till darkened reason lay quite clouded o'er
 In self-conceit and endless comfort.

Mr. Ellis was not a miserly man and was conspicuous for the many benevolent actions, among which I recollect on an occasion when the Methodists held a conference meeting in the neighborhood he killed an ox and sent it around to distribute it in helping the neighbors and those that attended the conference in making suitable provision for them.

Some fifty years ago I was elected to the common Council of this city and one of my first duties, I found, was to see what could be done to get a supply of water for New York, and to ascertain how it could be got I went with a committee to Philadelphia, where they had obtained. water from the Schuylkill by pumping it up on a high elevation from which it runs to all parts of the city by its own force. After examining and getting all the information we could from old Mr. Grift, the water commissioner of that city, I then went to examine the different sources from which we could get our water. I examined, in the first place, Croton River and there it was a very dry time and there was so little water running that I felt we would not get a supply from that river, which showed so little quantity that I almost despaired of getting water from there. I then examined Bronck's River which was not so promising as the Croton River. after that I then examined Patterson falls, and then in order to see how these waters could be brought across the North River or Harlem River I devised a plan which would be equally applicable to both rivers for bringing the water into the Patterson Falls or Croton River or Bronx River, all of which had to pass from or under the North River or Harlem River in order to supply our city with it. And for a convenient method of doing that I made a model to show how pipes could be laid down under the river without going down to put them in place, and this plan was like I found a man has brought the water across the Hackensack River upon the same plan that I proposed bringing the Patterson or Croton water across the Harlem or North River. It was put down in a place and has been there for years. I made a model of wood and painted it.

When quite a small boy I made a small wagon and when riding one of my younger brothers in it a friend of my father's saw it and offered me six dollars for it and I sold it to him; and that six dollars with four dollars that I obtained from some other work that I did, with that ten dollars I was persuaded by an uncle of mine, who was then an agent for selling lottery tickets, authorized to sell them by the state for certain purposes, and I had the good luck to draw a blank with my tickets and I consider it was one of the best investments I ever made, for I learned by that that it was not my forte to make money by games of chance like that.

When I was first elected to the Common Council I was put upon the Committee of Arts and Sciences. There was a petition came before the board asking for a lighted clock to be put on the city Hall, and that petition was referred to me to work out. There used to be a paper box top on it, and it was one story lower than now and I saw that to put a clock on that it would look badly, so I drew a plan to make a story higher. I have got that little plan yet of that story higher.

(February 20).

I found the other day a twenty-dollar continental bill among my papers, which was the first continental bill that my grandfather saw. It was given me by my mother and she said it was the first, and my grandfather gave twenty Spanish bills for it, which showed his confidence in the paper money. (February 20.)

(Mr. Cooper has the bill now.)

Mr. Cooper is the one who authorized the top story of the Postal Building. He was walking through city Hall Park and noticed the deformity of putting the cornice on and he went in to the architect and asked him if he did not agree with him that it would be better to have another story on. The architect said Yes, and so Mr. Cooper said, "I will see what I can do about it." So he wrote to President errant, and others then wrote the President, asking for another story on the building. Within ten days the order came to have another story put on, making the Post Office Building look less squatty. (February 20, 182).

Dr. Young asks the question, "Hast thou no friend to set thy mind abroad, all sense will stagnate; and thoughts shut up want air and spoil like bales unopened to the sun." A want of confidence in myself in life has made this sentiment peculiarly applicable to myself.

The poet has well said that, "'Tis greatly wise for us to talk with our past hours, and ask them what report they bring and how they might have borne to us some welcome news."

In our first meeting at the Clarendon Hotel, where we met to stimulate our courage to embark on the great work of laying a cable across the ocean, I recollect my having been appointed president on that occasion, when I had to say something as best I could, and I recollect that in ending up I gave a sentiment, which was that electricity (was) the great solvent and equalizer of the universe. Since then, when I have watched electricity, it is present with us and in us and through us and, in fact, its abstraction from us would be instant death, so that it may be said to be our life; electricity being that power in nature on which all life is dependent, both vegetable, animal, and mineral, it pervading everything. It is in all and through all. In thinking of light, to account for the varied formations that take place so (as) to show that an omnipotent power and circumstance operate so that no two instances are alike, as the sun shines obliquely to the earth it makes a new position continually so that in every instant there is an alteration, making light well up in everything at all times, which is the fountain of all life.

After that meeting at the hotel, we employed Dudley Field and one of the directors, Mr. White, to go with him land to bring it to the best point for landing a cable to Newfoundland to obtain a charter authorizing us to land the cables on the island of Newfoundland, to get the best privileges we could, provided we could lay the cable across. They secured to us various privileges on the condition of connecting Europe and America by telegraphic communication. It required a right-of-way across the island in order to meet the cable on the opposite side, and no one will hardly ever know the difficulties of establishing a telegraph line through such a country as that is. we found the poles in one part of the country, most of which came from Nova Scotia, which had to be carried miles on mules' backs as there was no other way of getting them, it being through tangled underbrush, the greater part being kelp, immense fields and rock. Then we had great trouble in setting the poles and found it necessary to support them by a stone embankment built around them, for we could not get a hole in the ground on account of the long continued rock surface, there being long distances where we found no dirt.

For a fuller account of the most insuperable difficulties in laying the Atlantic cable and in its passage of over four hundred miles over the island of Newfound will more fully appear in the Origin, Progress and Destiny of the English Language and Literature by Dr. Wise.

I was president nearly twenty years of the New York, Newfoundland and London Telegraph company.

The Panama canal. William Seward, also Roscoe Conkling's brother was present, and other gentlemen, the meeting being held in my own house. Later I made on the same subject a speech in Chickering Hall showing how a canal could be built and paid for without cost to the government or people.

The plan was this: It only wanted the government to become the custodian of the people's money, to be taken in by the government through postal savings bank system, the government to take charge of it and put it in this enterprise, and have the money so collected by the government expended under contract for the building of a dead level canal across the isthmus, which can be done, as I have said, without cost to the government, by having it made under contract given out to the lowest bidder who will give proper security for the work according to proper plans and specifications furnished by the government. Unless a better way could be found to build this canal, I will give a short description to show how sand

blasting could be made effective for cutting a passage right through six Miles of rock of size sufficient for any ship to go right through it, and find the smooth rock on each side which will be so left by cutting through with what is now known as the sand blasting. The rock to be so cut through can be taken out in what would be equivalent to cutting stone of any thickness with the desire to leave it in condition situated to form the banks of the canal along the river through which vessels must pass. In order to bring this stone out in the best possible form to form the banks of the canal on the largest part of the way, this stone to be taken out in from two to three feet thick of rock and seven to ten feet long, which could be effected by deep cuts which could be made with this sand blasting right into the rock itself, and when cut to the necessary depth in lines all the way up from bottom to top the rock could be wedged off in large masses and will be just in a condition to form the bank of the canal in the easiest and, I believe, the cheapest method by which stone can be got out for that purpose. The stone can be moved from where it is taken out and placed right upon the tram railroad which will convey them to the spot where they are to form the banks of the canal.

I was made president of a company to connect the Pacific and Atlantic Ocean by means of an open canal without locks.

Congress should make the property of the country pay and be responsible for it. Some day I want to show how the government shall do this in conformity to all the requirements of the Constitution. I hold that every member of the government is compelled to take an oath that binds them individually and severally to make their every legislative act an effort to establish justice as the only sure means by which domestic tranquillity can be secured. And when domestic tranquillity has been insured by the establishment of justice, by the organization and execution of constitutional laws, such a government will always be able to provide for the common defense, to promote the general welfare and secure the blessings of liberty to ourselves and our posterity. This beautiful preamble to the Constitution carries with it a clear, distinct direction for the guide of legislative action, such action as is fully and clearly directed by the words of the constitution, which declares that

"Congress shall have power to lay and collect taxes, duties, imposts and excises, to pay the debts and provide for the common defense and general welfare, but all duties and imposts and excises shall be uniform throughout the United States."

They are next commanded, in order to supply the wants of the country, to borrow money on the credit of the United States and to regulate commerce with foreign nations and among the several states, and to establish a uniform rule of naturalization and uniform laws * * *; and one of the important requirements of legislation is to coin money and regulate the value thereof * * * and to fix a standard of weights and measures * * *. Congress shall make all laws which shall be necessary and proper for carrying into execution the foregoing powers and all other powers vested by this Constitution in the government of the United States, or any department or officer thereof.

Reception of the Prince of Wales.

I remember very well of being appointed by the city authorities to receive the Prince of Wales. On the recommendation of William B. Astor I was appointed to perform the honors of the city towards the Prince of Wales while in New York

In relation to Martin Van Buren when he left the, Presidency and lived in New York, he was tendered by the common council the freedom of the city and I, being charged with paying him the proper respect and attention, invited him, just as he was leaving, to go to my house. while there I remember a very significant expression he made. He said that if the sub-treasury, the establishment of which caused him the loss of his rejection--he said if that sub-treasury could have a life of four years it would be the most popular measure gotten up in this country as well

as the most useful, which has proved to be the case, showing his discretion and good judgment.

I remember that Mr. Randall, the engineer, who laid out all the streets of this island and planted stones at the corner of every block of the island, invented a plan for an elevated railroad and he wanted means to help him bear the expense of carrying it out, which was principally furnished by Mr. Samuel L. Stephens, Minderd Van Schaick, and myself. The model, when made, showed how passengers could not be only conveyed but taken up in different places on the road without stopping the train, this plan was to take the passengers up by an elevator at the corner of streets by the operation of machinery instead of climbing up the stairs. This model was exhibited at Castle Garden and shown in operation there on a small scale. The principals interested were so much encouraged with its appearance and looks that we furnished means to aid him to build it on a larger scale, intended to go all around the crystal Palace, on a scale sufficient to enable children to ride in it to show the practicability of the scheme. Unfortunately for him and our city, the Palace took fire and burned down with all that was in it and was never revived until the late elevated railroads which resemble almost the exact plan.

March 14.

It fell to my lot to make my first sale in the manufacture of machines for shearing cloth to Mr. Vassar of Poughkeepsie. I sold him the machine and the right of the county, Nassau county, to use it in for some six hundred dollars, as near as my recollection serves me. On my return, after having made that sale, home to my father's, who lived in Newburgh, there I found my father and family in great distress as he had got in debt; and at that time they could put a man in jail for debt, and he could not pay the debt so he was in the greatest tribulation on account of it. The money that I received from Mr. Vassar enabled me to relieve my father by paying his debt. I then became his security for seven hundred dollars more for debt that had not yet matured. The paying of the first debt took all the money I had except just enough to carry me home and buy material to make another machine. It then took all that I could earn for a long time to make up the other seven hundred dollars so as to keep him from making any failure, which he never did. But for this he would have been compelled to fail at that time. He afterwards received some money from my grandmother's estate on my mother's, Campbell, side; and she often helped him by this money from the property of my grandmother.

Some forty years after I made Mr. Vassar this sale he wrote me a letter and wanted me to go up to Poughkeepsie to make an address on the opening of a commercial college which he had converted an old church into.

I went up in compliance with his request, although I had not seen him for between forty and fifty years. Sometime after I had commenced building Cooper Institute I found one morning on my desk at my office a monthly periodical with a representation of the building that I had put up at that time and the Vassar College that he was intending to build. I found in this periodical Cooper Union on one side of the page and Vassar college on the other.

* * * Mr. Peabody, when in this country, called at my house and inquired very particularly about my plans in relation to the Cooper Union, evidently having something in his mind of what he might do with the immense wealth that he had accumulated, although he did not then tell me what his own plans were; but his works have spoken for themselves. His munificence to the south in establishing schools will illustrate his views and generosity better than anything I can say about him: his cheap but comfortable buildings in London for the laboring classes, with the accumulated but moderate rents increasing their number in furnishing accommodations for the laboring classes, to be constantly expended in building more houses for similar purposes. I gave him all the information I had at that time while here and also in

driving downtown with him to his hotel.

(F* *See pr. 206 of this transcript, supra.)

(* * *,see also Encyc. Britt, 14th ed., vol. 17, p. 412)

When an apprentice I employed my leisure time in various efforts and plans and, among the rest, I made a machine for mortising the hubs of carriages for my employer, which is now mortising all the hubs of the country, as they can now buy hubs of any description mortised in every city and town in the country. Previously it had got done by hand, which was a very tedious operation.

The things that I have patented among the improvements I have made are among the following:

As I have before mentioned, one was the pendulous cradle. The next was a machine showing how to elevate water on the line of canals to be made useful in towing boats, including the endless chain. The next was a patent for a machine to grind and polish plate glass and all other substances that required a true perfect surface. I next took a patent for the method of evaporating glue. I filed a caveat for a machine for puddling iron. In this measure of puddling iron into steel, the pig iron must pass through a process with a sufficient quantity of carbon as burned to it before it becomes iron. Next I took a patent for making isinglass so that it could be preserved in jellied form fitted for use at all times, only wanting the addition of water.

Some thirty years ago I filed a caveat for an improved method of puddling iron by the mechanical puddling furnace made in the following manner

A strong iron cylinder of sufficient size to receive a complete lining of fire brick on its inside. This cylinder, when completed, was to be fixed on a frame with wheels that should be formed with flanges similar to the flanges of a railroad car and a rail placed right around the cylinder, on which it was to rest and by the operation of mechanical power be made to turn, and be placed on a slight inclination descending from the stack made large enough to receive a chimney within the stack made of fire brick. This chimney was to be placed directly out to the end of this cylinder and have its internal stack to receive iron ore, with all that was necessary to carbonate the ore and prepare it to be melted down into iron. One end of this cylinder, being right adjoining this stack, was to be so formed that a screw working right through its bottom could be moved at any required speed to push the pulverized ore that should be prepared in the inner stack, which would be surrounded by the heat that would, in the first place, be created by a heating furnace at the opposite end of the cylinder. This flame going from the heating furnace is intended to pass through this cylinder containing the iron ore being puddled in its passage from the stack to the heating furnace; the cylinder, in the meantime, being made to turn slowly and, being on a slight inclination, the ore then would be prepared by the action of heat in the course of its passage to the heating bottom at one end of the cylinder, as described, when enough of it had fallen out of the end of the cylinder into the heating bottom to make what is called the ball, by the puddlers, it is then rolled over into another part of the heating bottom where it gets the same intense action of the heat, where it is the business of the puddler to knock it into the form of a ball as well as he can, so that it may be taken out from the heating bottom when thoroughly heated so that it may be then carried to a squeezer, which takes this rough lump of iron and rolls it into a loaf in which other men catch it and take it right to the rolls and roll it into what is called a bar. These bars were roughly rolled in that they are cut certain lengths, piled up in heaps, and put into a heating furnace again, subjected to the welding heat, when they are taken to the rolls again and rolled down into any form for which the different purposes of iron is used. It should be remembered that this plan proposes a moving cylinder - between the stack that I have described and the heating furnace, as well as the inner stack that uses up the heat that would otherwise be lost in preparing the ore to go down and be melted into a moving cylindrical puddling furnace. This iron made in this loaf is piled up in large masses to be cooled to any form in

which iron is required to be put into for various purposes. for instance, to make a beam such as we are able to make now, sixty feet long and fifteen inches deep, weighing something perhaps more than a ton weight for a single beam, it may easily be imagined how strong it is necessary to have machinery to press that immense amount of iron so it comes out of the heating furnace to go to the rolls to be rolled into a finished beam. It is easy to imagine the strength and power that must be exerted to press such a mass of iron with one heat into a finished beam. To perfect machinery for the accomplishment of such a work for rolling such beams I expended, before I got a perfect beam, some seventy-five thousand dollars. This great cost was occasioned by having broken machinery before I succeeded in getting a perfect bar. It takes two thousand horsepower to put a bar through of that size, fifteen inches in depth and sixty. feet long. This machinery was gotten up, in the first place, for making beams for Cooper Institute. We stopped the work in rolling the beams for Cooper Union to make beams for the present building of harpers, which we did, and they finished their building before ours was done, theirs being the first building, perhaps, ever completed in the world with iron beams. In order to get the pig iron to make these beams and all other kinds of rolled iron I found it necessary to build blast furnaces. I built the three largest blast furnaces in the country at a place called Phillipsburg, in New Jersey, near Easton, in Pennsylvania. These furnaces were twenty-three feet bosh, which was then the largest then known in this country, and none have been made since any larger. In order to supply these furnaces with iron ore I built a railroad through the very rough country, eight miles in length, and put on it a locomotive with which we transported from thirty to forty thousand tons, and beyond, of iron ore from the mines to the furnaces. I afterwards built two more blast furnaces at a place called Ringwood, in New Jersey, about thirty-six miles from New York. I bought eleven thousand acres of ground at Ringwood for the purpose of getting the ore to supply the other furnaces with, and afterwards built two furnaces at that place. The principal value of the land that I purchased was in the iron mines. I purchased two more blast furnaces with a thousand acres of land at a place called Durham, in Pennsylvania. I pulled down the old furnace at the latter place and built a large one at a cost of over three hundred thousand dollars.

My first effort in the manufacture of iron was the building of the Canton Iron Works at Baltimore, the building of these works was undertaken in order to burn the wood off the property that I have previously described, and to use the iron ore found at Lazaretto Point in the manufacture of iron. In my efforts to accomplish this I built large kilns heretofore described, circular in form, twenty-five feet in diameter, twelve feet high. It was the taking out of the coal out of these kilns that I came so near losing my life.

Then I built small iron works here in New York, first building it for the wire factory on Thirty-third Street near Third Avenue. This property I leased out to a man for a wire factory and in the course of two years he failed, and I then had it on my hands, to which I added and converted it into a rolling mill to roll not only the iron rods for making wire but other forms of pure iron. In this rolling mill I believe I was the first that ever puddled iron with anthracite coal. In the course of a few years the noise and the smoke of bituminous coal was found objectionable to some of the neighbors and I bought a place at Trenton with water power and removed the rolling mill from Thirty-third Street to the very end of the canal that takes the water from the Delaware River down to Trenton for some miles, and the water of that canal tours a great number of miles of different descriptions. After enlarging this rolling mill several times I built a second rolling mill for the purpose of rolling wire rods for the mill in Trenton, and also other forms of similar iron. The large beams spoken of elsewhere are also made in our works at Trenton. From two to three thousand people are now employed in the different iron mines and factories.

It was for the various improvements that I had made in the manufacture of iron and steel that I received what is known as the Bessemer Medal from England.

In all the different forms and kinds of business in which I have been engaged it has been my constant endeavor to carry them on in a way, with such means and in a way, that I should owe nobody anything but good will and, in looking over the whole field from its commencement to the present, I am unable to recollect any time when the men that worked for me did not get their pay when they required it. I could not have done this if I did not studiously avoid, through my whole course in life, a constant avoidance of allowing my business ever to depend for its continuance on business notes discounted at banks. I had seen such ruin brought upon a great many at the time that I commenced, where persons had been made to depend on bank accommodations for the continuance of their business and when money was very plentiful they could get the money they wanted, but whenever it required the banks to contract their accommodations then those that had depended upon them found themselves in ruin. It was the sight of such ruin that had been brought upon the country by the operations of the old United States Bank about the time of the commencement of my business life that led me to form a firm resolution to do what business I should ever be able to do on such means as I could have of my own so as not to be dependent upon the tender mercies of banks. So fearful I was of debt that I well remember that for for fifty years I never allowed a year to pass that, if every one with whom I dealt did not come for the money that was due them, I made it my business to carry it to them and get their receipt in full settlement at the end of every Saturday before Christmas. As a kind Providence permitted, in all those fifty years I found myself well enough to attend to that carrying this money to them, which I found a very great source of pleasure. My constant advice to the young men who have attended the Cooper Institute has been that they should all remember that debt and dissolution are such near neighbors that it is always dangerous to keep their company.

Always during the long business life that I have passed through, when the panics came that have carried thousands of my fellow-countrymen to ruin, I found that those were the times that I could buy things the cheapest and that I was most easy in my own money affairs, for in such times a little money would go a great ways.

When my friend, Gideon Lee, was in the legislature of the state and the subject of enlarging the Erie Canal was under consideration, and that since a general enlargement was made, an idea presented itself to my mind that I communicated to him in which I showed how the canal could be made to bear about one-quarter greater burden than it now does, by supplying its water from the salt wells of Syracuse that was found near the highest part of the canal, which would make the buoyancy one-quarter more than it is by floating in fresh water. I proposed that the salt water that floated the boats from Syracuse to Albany, and also in the opposite direction, should at each of the ends of the canal be evaporated and converted into salt; so that while the boats are enabled to bring down to the North River something like this one-quarter more burden they would, at the same time, bring the salt down in the shape of a fluid which could be converted into salt at both ends of the canal.

I have often thought of the wonderful advantage that is within the reach of the southern people when they have such splendid opportunities to form canals in their flat countries on which all their products could be transported from one place to another with such great facility and convenience, which also would be one of the most pleasurable sources of travel that could be found, where the country would be seen at the very best possible advantage, and where families could enjoy the pleasure of having their own boat with all conveniences arranged to travel from one end of the canal to the other or for stopping at any place they desire, and at any time by night or day to hook on the endless chain on the other side of the canal, for there would be no danger of their boats running foul as each one would be drawn by the chain on his own side of the canal.

I very well remember the pleasurable travel that I had on the Erie Canal when it was first made where the conveniences and comfort of the boats was equal, I think, then to about anything that could be imagined, although it may not be enjoyed so well now. I also remember the good dinner that I had and the excellent

appetite on board those boats. The travel was so quiet that one could sleep with perfect repose.

In my early boyhood I recollect aiding my mother and family with a contrivance known then as a pound barrel, in which clothes were put to be pounded clean in an operation of what is called washing. This was done by a single pounder taken in the hand to pound the clothes in the bottom of the barrel where soap and water had been applied to the clothes for the process of washing. I, having been often set to pound these clothes in a barrel, thought I could make an improvement in it, which I did in the following manner: I connected two pounders with a wheel about half the size of the diameter of the barrel and on each side of this wheel I connected a handle to a pounder. In order to work these pounders most conveniently I used a double lever, as it may be called, connected by one end fastened to a pin connected with the wheel, which had a pounder fastened to each side of it. A post in the top of this wheel connected this double lever, which enabled me to take hold of the double lever on the opposite end fastened to the wheel on the pounding barrel, and when so fixed I could take hold of the handle and move two pounders instead of one and cause them to strike in a new place every time, which was about the first improvement on anything that I ever made.

One of the next things that I recollect making in my boyhood was an idea that I had of making shoes which, in order to do, I took an old shoe and carefully dissected it in all its parts so as to understand how it had been put together. When I had ascertained the mode of structure I made a last and got my mother to give me some money to buy leather, awls and shoe thread. Then I went to work making shoes. I then made shoes and slippers for myself and other members of the family which were said to compare well with other shoes then manufactured.

March 16.

The name Canton originated from the fact that a gentleman who lived in that property was in the habit of buying and importing tea in Canton, China, and while he was in China he fell in love with a Chinese girl and the father of the girl gave him her weight in gold as a marriage dowery. In remembrance of this he called the place Canton. I had this account, as near as I recollect, from one of his sons, whose name was Columbus O'Donnel.

Some sixty-five years ago I conceived the idea that there must be inevitably a very great loss attending the application of steam power by a crank to effect rotary motion. As every crank has two dead points in the course of every round, it must overcome two dead points by the energy of a fly wheel set in motion, which expends a portion of its power in going beyond a dead point which it is compelled to pass in effecting the rotary. Believing that there was this loss of power, I conceived the idea of a plan (in) which I thought the rectilinear motion of the steam piston could communicate this power directly in the effect of rotary motion without the use of a crank. To accomplish this, I had a small brass engine made of three-quarter bore and fourteen inch stroke. When this engine was completed in the factory where it was built I got permission to try this power in comparison with another engine that was then being used for the purpose of boring a steam cylinder. When completed, I then promised to throw off the shackle bar that was then being used by a small engine in boring a steam cylinder, and then had an arrangement made that, when this shackle bar was thrown off, the belt could be passed from my little engine over a drum so that when one engine refused to work the other could take it and go on with it. I recollect at that time there was an English engineer standing by waiting to see the experiment tried and when he saw the one engine stopping and the other go on with the work I remember he made this remark: if anybody should ever tell him that that little engine would carry that work he would have told them that they knew nothing about mechanics. And when he saw the engine actually work he said, "I now see that we shall cross the ocean in six days

by the power of steam. I am sorry I do not now recollect the name, and I have never since seen the man who made this prophecy more than sixty-five years ago. That little engine I afterwards took from the Sterling Works in Stanton Street towards the East River in New York at that time and used it in my factory for pumping water and other purposes, and when I found the necessity of doing something to encourage the continuous construction of the Baltimore and Ohio Railroad. They had become very much discouraged at that time by a book that came over from England showing that steam could not be used on a railroad with a radius of less than nine hundred feet; and they had made many of the circulars on the thirteen miles of railroad they constructed ranging from one hundred and fifty feet circular and upwards to get around the different points of rock that they had to contend with. They were so discouraged that the principal stockholders told me that they would not pay up any more; that they would lose what they had put in first, as the short cuts on the railroad could not be effected successfully by locomotive power. And my having been drawn into the purchase with two other persons, as before stated, of some three thousand acres of land taking the whole shore for three miles of what is known as Fels Point Dock, the principal shipping dock of that city, I then saw that the success of the speculation that I made in the purchase of that property would depend almost entirely on the continuance and success of the Baltimore and Ohio Railroad. And in order to show that an engine could be made to pass around those short turns I took from my own factory the small engine that I have just mentioned, frame and all, to Baltimore, where I went into a coachmaker's shop and got permission to buildup in that shop a locomotive out of the driving power of this little I had gotten up for the experiment to show the method of getting power without a crank. This little engine, with that arrangement, was actually in that form the first that moved by steam on that railroad. When I had got it complete I arranged for an experiment on one Saturday evening just about sundown. I got it ready and steam up to see whether it would go or not, and the president of the road, Mr. Philip B. Thomas, and one or two other gentlemen, stepped on to the locomotive, when we went out a few miles and return, which was the first effort I had made with it, and the only one with an engine in that particular shape. Luring the time from Saturday night to Monday morning, when it came to be Monday morning, I found that some unprincipled person had got into where the engine was and wrung off all the copper pipes and stolen and sold it for the value of old copper. After great difficulty I got it arranged again for another trial, and someone had gotten into the guilding, where it was so light that men could shove it and they had done so, not understanding the effect of running the thing backwards and forwards on the rail where it stood. They had broken a bit of a piece out of one of the wheels and that prevented me from being able to make the experiment as I intended, for I had to bet another wheel made; and when that was done and fixed I had a second difficulty of the same kind, as someone had again broken a piece out of one of the other wheels, it being so small that they could shove it backwards and forwards. I then went and got a third wheel cast and, watching it while it was being completed in the turning lathe, the man who was doing this work, trying one of the keys in the edge of it to see if it was perfect, the key slipped out of his hand while the turning lathe was in motion and broke a piece out of that wheel. I was so discouraged that I determined that I would not be balked entirely, that I had the engine so changed as to use its power with an ordinary shackle bar connected with a crank; and when completed with this last alteration I invited the directors to witness the experiment. When they came, thirty-six persons got into a car which we took in tow, with six men on the locomotive which carried its own fuel and water; and to make the passage we had to go up an average ascent eighteen feet to the mile, turning all the short curves in its passage, which we succeeded in doing, so that we made the passage of thirteen miles in an hour and twelve minutes and then returned in fifty-seven minutes, and would have come sooner but for a little accident that happened in going back by the belt running off from the wheel which was formed to drive the blower to increase the fire to enable me to get the necessary quantity of steam from a very small boiler. Mr. Latrobe, the counsel for the road, took an exact count of the time expended in passing every

mile both going and coming, and his account of it will be seen in his own words, as already stated, in the address he made in Baltimore and afterwards gave the same to me in pamphlet form.

I acted as engineer and found that my springs that I had placed to govern the pressure of steam in the boiler were not strong enough to prevent it from being blown to waste, when I caught a wire that was then on the engine and fastened the safety valve down, and held there in my hand. No one can ever know the difficulties that I encountered and the anxiety that I passed through that day, in addition to the difficulties I had previously experienced.

I was living in New York and went back and forth many times and took my family with me to Baltimore, where we spent several months at Barnum's Hotel there, where I boarded in the adjoining room to John Randolph and heard his squeaking voice, who was then there temporarily, being on his way to take passage as Minister to Russia. I remember one circumstance when going from New York to Trenton on our way to Baltimore. After crossing the bridge at Trenton, it was but a mile or two before we took the steamboat which carried tie to Philadelphia, where we had to take the stage again to Baltimore. In going to Baltimore on that occasion I hired the stage coach to take myself, my wife and children, also a colored servant, and I had ten thousand dollars in specie with me at that time in two kegs, one keg inside of the stage and the other fastened on behind. When the men took the keg from the back of the stage they had the misfortune to let it drop and broke the head out and spilled the money in a sand heap. There was a dozen or more scrambling to put it in the keg again, and I did not lose but a dollar or two.

During my stay in Baltimore at that time I had the room adjoining the celebrated John Randolph, where I was constantly hearing his singular squeaking voice. He looked at that time like a man going to his grave instead of a man fitted and on his way as Minister to Russia, as he then was.

My son, Edward, was then but a very small boy just commencing to run alone and I recollect seeing how much he was amused as a little boy in the yard of the hotel where we could look out of the window and watch him, where he was allowed to play with the head of a large turtle which had been cut off. He would point the stick to(* * See par. 2, pg. 133, fol.) this head and it would bite at the stick for some two or three bites.

March 17.

A most singular thing: When Dr. Adams' funeral took place somebody preached the funeral sermon. During the prayer my mind turned all at once and I saw Mrs. Cooper. She looked just as if the sun was shining upon her and she looked just like she had in her best days. She gradually faded away. I was sitting close by the man who made the prayer. I was not sleeping. I was one of the pall bearers, I think. I was invited to his home to a sometime before and he had the old doctor of St. Luke's Hospital there, who was a very humble and devoted man, devoted to his cause in instruction. Dr. Adams died somewhere about a year and a half ago.

* * This will show the immense loss of time and labor that everyone is compelled to undergo that have to make large payments in silver and gold coins, and particularly if they have to carry it a great distance to do it and encounter the danger and labor necessary for the payment of the object they want to accomplish. It will show the, immense loss to the whole country, with all the convenience which the people had by the use of the small currency that had been authorized and circulated to the (**See par. 1, pg. 132, supra.) (See also pg. 174) amount of some sixty million dollars, making it convenient to make small payments by letter or otherwise with such great facility to the common people. This great privilege was so shamefully drawn from the people by taking it away without a petition sent to Congress from the common people for the purpose of taking that currency out of circulation. How anybody could have been found to commit so great an outrage on the people as to take from them such a great convenience, as it was without cause to either government

or people, is more than I can conceive. It would seem impossible that such a thing could have been done, to take a currency from the common people so convenient, as it was to the amount of sixty million dollars, costing them nothing and converting that same amount into a national debt and then calling on the toiling masses to pay interest on it from that day to the present, an amount of sixty million dollars and lose all the convenience and comfort that they formerly had with the use of so admirable a currency. more than that, it is now found that more than ten million dollars of the money has never come in and, therefore, if it had been issued by bankers they would have had the ten million dollars besides the interest they now have, by taking the money of the government at one percent and in the loaning it out from six to fifteen percent, all of which is a loss to the toiling masses of the American people.

THE FAMILY.

First, Peter Cooper and wife, Mrs. Sarah Bedell Cooper.

Our first son was named John. Died. Croup. Edward Augustine died.

Sarah Amanda died. Affection of the throat.

Peter Cooper died, and the four oldest.

Edward Augustine died by fall and struck his head. Dropsy of brain.

Sarah Amanda when born was a perfect child, one of the prettiest we ever had. I never saw a prettier baby than she was. The nurse who had charge when she was born in winter time placed her on a pillow with her face to the bright fire, blazing fire. It brought on cataracts in both eyes. She became entirely blind. Dr. Mott was employed to operate on her for the cataract. When he came he brought half a dozen of medical students to witness the operations. He found he had forgotten an instrument to do it with, so he made a temporary instrument to hold the eye, and when he attempted to hold the eye with it was too large and it went right over the eye. Then he tried to bend it more, trying it three times before he could hold the eye, and ruined the eye entirely and caused the child intense suffering. The child was literally bruised with' the operation and was terrible to look at. When he brought his bill I told him he might think himself well off to escape malpractice. It was an outrage. It was like cutting a child to pieces. The students held her so that she was like being in a vise. She was about two years old, and she lived in that condition, entirely blind, until she was about five years old. After a year or so after that we employed Dr. Delafield. He came with the proper instrument so the child hardly knew what was done. When he was all ready the child lie on the table and was laughing. He clipped the instrument right into the eye and fixed it in less than a second or two (so) that the child did not know about it. As soon as the cloth was put on her eyes to bandage it she says, "Papa, me going ta-ta." That eye was made to see. The other one was a different color and was terrible to look at, as well as being totally blind. He had mashed the eye by having this hook slip over it three times. He tried it about four times. I was so overcome with the screams of the child that it made me almost frantic. The child's mother could not stand it to see the sufferings of the child. He did not press his bill. I was living at the corner of Twenty-eighth street and Fourth Avenue.

Peter. A little circumstance that I recollect now about him: I used to come through a field from the factory. He used to watch me when I would come to my dinner and he would. watch me at the gate through the panels. I was always pleased to see him. He was a beautiful child. By watchine me he was taken with a cold and probably had acute bronchitis. He was about three years old, He died very suddenly and was the picture of health.

I recollect about the last struggle of the oldest one. He put his hand down his throat and drew it up with blood on it and said, "Papa, I can't stand it." He was about five years old. This was John; and died a few moments after that utterance. That was the last he said.

My loving son Edward was my fifth child, and Sarah Amelia was the sixth (now Mrs. Hewitt).

My last child was always a very good child and I have always called her my pet, and have found in her a very great source of pleasure and comfort. She now takes all the possible care of me that she knows how. She leaves nothing undone that she knows how to do for me. She seldom goes to bed without coming to my door and asks if I want anything. I think it one of the greatest sources of comfort in old age to have such a daughter and such a son.

My son comes up every two or three nights to see me and he always kisses me. He obeys the instructions of his mother with great fidelity, who said in her last words, "My son, take good care of your father," and then added, "Holy angels, guard my daughter," and then in a kind of death struggle, as I held one of her hands, she made this expression: "My son, take good care of your father," and then said, "Holy angels, guard my daughter," and then in her death struggle she turned very suddenly on her side and put her hand under her face, put her hand under her cheek and breathed her last. She died thirteen years ago.

My son had two children, one son and one daughter. My son Edward married miss Redman of New York. She has been a modest wife and mother and was brought up in the Quaker belief. Her grandmother and mother were Quakers and used to quarrel very greatly by saying "Thou" and "Thee." His son died about between five and six years old, a very bright, promising boy. He died with scarlet fever. He was just beginning to play about again when he died. He was named after me, my namesake, Peter.

He had this daughter, who married Mr. Loyd Bryce, and her name is Edith and she is married and has had two daughters and has not named them. These are my great grandchildren. They will probably have a name before we get through with this. I think they will name one of them Edith.

My son-in-law, Mr. Hewitt, is a very highly educated man, having graduated at Columbia College. He taught mathematics for Mr. Anderson, and went to Europe before his marriage. Since his marriage with my daughter he has been largely and particularly concerned with my various manufacturing estates for the last thirteen years. I think it was about the time after my wife's death that I gave up my whole business to him, except one-third which I gave to my brother. My brother I was paying twelve thousand dollars a year; one of his sons five thousand dollars; and one two thousand dollars. This was one-third of my glue factory.

Then I gave my daughter our country place at Ringwood.

My son Edward is now about fifty-five years old. We have been here about thirty years; and my daughter was married here at number 9 Lexington Avenue, and has since lived here with me. She has been married about thirty years.

March 18.

Mr. and Mrs. Hewitt have six children. The oldest is Amie.

I somewhat owe my religious beliefs to Elias Hicks, who was a regular Foxite Quaker. He hardly ever kept 'silent meeting but had a plain straightforward talk.

As Chancellor Kent thought, the individual states, (* * *The shorthand notes indicate no name.) (See pg. 177 of this transcript) having found that they did not pay their quota under a legal status, were soon found unable to comply with their promise and most of the states failed entirely in making these payments. So that Chancellor Kent declares that the reliance on individual states for paying up their quota in paying the government was a phantom influencing the absolute necessity of a more perfect union of states as formed by the people by a convention that assembled for that purpose, where they made the establishment of justice by the organization and execution of constitutional law the sole dependence of the continuance and maintenance of the government of this country. And so our grand failure took place—the fact that the fathers of our country had been compelled to attempt, what John

Wesley said was the sum of all villainy, to enter into a constitution in the shape of a provision that allowed and made it legal for all the states to import slaves for twenty years. After the most serious deliberation whether they should lose all the labor of forming a constitution or admitting that privilege to import slaves in it for twenty years, the question arose, What should be done for the best? They saw that slave labor was becoming unprofitable, as a number were agitating the propriety of prohibiting by law all the slaves in their possession. This inspired the founders of our Constitution with the hope that as slavery was becoming unprofitable it was better to accept that canker in the very heart of the Constitution, in the hope that it would soon become so unprofitable that it would be thoroughly abandoned and the constitution would be saved. And their hopes would have been realized very soon in the depreciation of slave labor becoming unprofitable but for the fact that a means was discovered by which the seeds of the cotton plant could be taken out by machinery and almost doubled in value all the products of the south in cotton; and that fact raised the question at the south whether they had not better be separated from the north, as they had an article that depended mainly for importation to foreign countries (on) which, in order to send to foreign countries, they were compelled to pay a duty on the bagging necessary, which fell upon them, which made a constant sore between the north and the south. It again made slavery so profitable that if they could have had this bagging free it would have been profitable. It was to them like taxation without representation, and they very readily reasoned themselves into a belief that they had to revolutionize for the sake of controlling the government in this matter.

About twenty-six years ago I laid the cornerstone of the building now known as Cooper Union. At that time I took occasion to state that my intention was, if I was ever successful in building the building, to have in it a department on the science and philosophy of the republican form of government, giving direction to the trustees to whom I committed the charge of the institution that that subject of the science or government should forever be one of preeminent importance in the course of instruction. My intention was expressed, got into the newspapers, and was read by a gentleman in Boston by the name of Foster, then ninety-two years old, who wrote me a very earnest letter urging me, by all means, to carry out my intention in relation to the science of government, as he said that was the thing of all others most important and of all things most neglected. He followed that letter up by others in order to urge me not to neglect what I intended in relation to government; and to do that he described a scene which he had witnessed in Paris of the massacre of the La Vendee and the Chouans. He said that we in this country were approaching a desperate revolution which would come upon us inevitably, in his opinion, out of the struggle between slavery, on the one hand, and the unalienable rights of man, on the other. Then he said whoever lived to see that struggle would witness a scene that would leave as mere gymnastics the massacre that he had witnessed in France, as he said there are no people in the world who had carried destruction to such a pitch when all the boiling passions of their nature was wrought up against justice as the American people. These letters of his can all be found in the files of the old Sun newspaper published by Beach at that day.

We have been made to realize the truthfulness of his prediction in the late struggle which aimed to place the government of this country with its cornerstone founded upon slavery. So deeply impressed was I with the terrible fear of that approaching revolution that I placed on the front of the Cooper Union the single solitary word "Union", and on the other end I placed the words of "Science and Art", having a determination in my own mind, if I ever lived to finish the building, I would invite all the Governors of the Southern States and all the governors of the Northern States to meet me here in New York and dedicate that building to Union. with the hope that if I could get them to come, I would then try to prevail on the Governors of the Southern States to go with me and the Governors of

the Northern States through all the northern states; and that the Governors of the Northern States should go through all the southern states, hoping thereby to make them better acquainted with justice and to let them see the decided advantages that could be obtained by a more perfect union, provided for us by the Constitution with its admirable Declaration of Independence. The very preamble of that Constitution covers in the finest possible words the whole field of the nation's wants, where it stands written, as it were, in letters of light, declaring in so many words the intention of its framers and their hopes that would be coeval with all time. In that preamble we find that: "We, the People of the United States, in Order to form a more perfect Union, establish Justice, insure domestic Tranquility, provide for the common defence, promote the general Welfare, and secure the Blessings of Liberty to ourselves and our Posterity **", declaring that they ordain that Constitution for the government of these United States.

They then, in order that it may not be misunderstood, declare that Congress shall have power to make all laws which shall be necessary and proper to carry into execution the foregoing powers and all other powers vested by the Constitution in the government of the United States. They declare that: "Congress shall have Power: To lay and collect Taxes, Duties, Imposts and Excises, to pay the Debts and provide for the common Defence and general Welfare of the United States; but all Duties, Imposts and Excises shall be uniform throughout the United States; * *." They also declare the Congress shall have the power "To regulate Commerce with foreign Nations, and among the several States **", as heretofore stated, for the express purpose of providing a government of the people, for the people and by the people in all its operations. Nothing can be made clearer than the fact. Having the consent of the whole people to this Constitution, which provides in the fullest manner that congress shall have all power to legislate for the wants of the nation, by declaring, as aforesaid, that congress shall have power to make all laws which shall be necessary and proper, nothing could be more necessary and proper for Congress to have done than to have provided, at the close of the Revolutionary War, and after they had succeeded in forming a Constitution, for the payment of the old Continental money as agreed that it was to be done when it was issued, where they promised, each state agreeing to it at that time, that they would pay a Spanish milled dollar for every dollar so issued in the shape of continental money. Had that been done and made the fluctuating measure of all values for all coming time, never to be increased or diminished, only as per capita with the increase of the inhabitants of the country, this would have given to our country a currency for which they suffered all kinds of inconvenience for the want of issue in consequence of the government failing to establish justice by the payment of that debt in some form at the time when it should have been paid,--immediately at the close of the war by the issue of treasury notes receivable for all forms of taxes, duties and debts as the true and only means by which our government could cause every person in the country to bear his proportion of the expense of that war; by a national debt incurred by that Continental money paid off to the people by the issue of treasury notes of that amount made receivable for all forms of taxes, duties and debts and never to be increased or diminished, only as per capita, as I have said before, with the increase of the inhabitants of the country. So it was then, as it was with our last war, in the power of the government to have made us the richer and the best provided nation in the world if the government had only established justice between government and people by carrying out the law passed by the house of Representatives which declared in the fullest possible manner that the money so paid out and used by the government should be and remain the permanent, unfluctuating measure of all values for all coming time, never to be increased or diminished, as I said before, only as per capita with the increase of the inhabitants of the country. This would have secured to our people an unfluctuating measure of all values as uniform in its purchasing power as a yardstick and the pound weight.

The suffering and inconvenience occasioned by the want of such a currency can never be realized by any calculation that we can now make. It will always be a cause

of sorrow and regret to every right mind when they come to look back and see the wants of a great people allowed to make their exchanges with so much difficulty and left to the tender mercies of local banks. Thomas Jefferson, who was the author of the Declaration of Independence, claimed that in view of this terrible curse, the local banks had been allowed to come into being by the neglect of our government to perform its duty in the payment of this money in some form or shape that would have given the currency of the country a thing that it so much needed and the people had every reason to hope for and expect. As all the states had been in the habit, for a number of years previous to the Revolution, of issuing what was then known as Colonial Treasury notes, these notes were made receivable by the several States for taxes, and anything that the government would take for taxes everybody was glad to take in exchange for every other kind of property. These local Colonial notes, which all the colonies had adopted, led to a great and unexpected degree of prosperity with the colonies, so great that when Franklin was brought before the Parliament of Great Britain and questioned as to the cause of the wonderful prosperity that was growing up in the colonies he plainly stated that the cause was the convenience they found in exchanging their various forms of labor one with another; that this convenience was so great that it was really the cause of the prosperity that then prevailed in the colonies. With many of the states this Colonial paper, wherever they had declared it to be legal tender in addition to taking it for taxes, it rose two to three percent above the par of gold and silver, as everybody found it to be in reality so much more convenient in the payment of their exchanges and the convenience with which it could be secured from theft and otherwise. This account that Franklin gave as the cause of the prosperity of the colonies caused the British government to pass laws immediately forbidding the taxes on manufactures of the colonies to be paid in this paper. That caused such great inconvenience and misery among the people that it was the principal cause of bringing on the Revolution. It was not so much the Tea and Stamp Act as it was the taking from them of the paper money.

* * *One of the best business lessons of my life I obtained some nearly seventy years ago, at the time of what was then known as General Jackson's war upon the United States Banks. I thought I saw, with General Jackson, the terrible danger that was always a result from allowing individual corporations to control the money of the country.

I thought I saw that (danger), (* "' *See pg. 194 of transcript, fol.)(See also pg. 202.) in the hands of even a good man, when such an institution as the Second United States Bank was chartered with the privilege of controlling a capital of thirtyeight million dollars and loaning out four dollars in paper for every dollar that they had under the control of their bank charter. Thus, as I have said, such an institution with the power and privilege could open a branch in every state, with authority to issue what was called United States money based upon this charter, which was actually obtained by giving fifteen hundred thousand dollars to the government to get it; and, as Mr. Benton says in his history of thirty years in Congress, the advocates of that bank spent three million dollars in bribing senators and members of the house of Representatives and editors in the accomplishment of their purpose in obtaining a charter for that bank. As I have said before, such a bank with branches in every state would be under the control of a president, who might be called a good man, and as it was made his duty to loan out this money and take the best security for its return that he could obtain this good man would very naturally see that as soon as he commenced loaning this money out to the people that all the property of the country would commence to rise, and he would say to himself that, "It cannot be wrong for me now to buy property with such money as I had before I was made president," and so this good man would buy property with all the money that he could spare, knowing that it would certainly rise in value as soon as this money loaned out went into circulation, which would be the course that the presidents of all the branches in all the states would reason in the same manner. This would go on for a certain time, the property increasing in value and the people increasing in their

prodigality and extravagance in property by borrowing money, until the extravagance of the people would come to such a point that this good man, the president of the mother bank, would find it his duty to issue an order to all the branches saying such was the extravagance growing up in the country that it was made his duty to curtail their accommodations in his bank and all others. Then this president and the presidents of all the branches would at once see that if they are compelled to curtail the accommodations of the people in their loans of money that they would find great difficulty in paying their debts and would have to make great sacrifices of their property to pay the notes that had already been issued, and not as they fell due, which would give a warning, and all the banks having the warning, in carrying out this order would, of course, before they carried it out, sell all their property, knowing it would certainly fall. After all the arrangements were made to make all their individual concerns safe then they would carry out this order of the mother bank to curtail the accommodations of the people.

The panics in the money market are always occasioned by the curtailment of bank accommodations on which the people had become dependent for their business operations, and when that accommodation was cut off they were compelled to make all sacrifices to pay the banks. Some of this course of bank policy, on which General Jackson is said to have made war, turned out that way at a certain time that the bank was found with some forty million dollars loaned out, all promised to be paid in specie on demand, and they had but three hundred thousand dollars in the bank to pay it with.

When Tanden Sheaves, the celebrated financier of Charleston, South Carolina, was called to take charge of the bank, where they held a council for five days to ascertain whether it was possible to save the bank from an entire failure, they adopted as an expedient a determination to curtail the bank's accommodations that had already been loaned at twenty percent a month. This expedient barely saved the bank and brought on the ruin that may be imagined when I say I saw in Philadelphia and in Baltimore rows of houses given up; in Baltimore particularly, and some in Philadelphia. The buildings had been bought, yet under the excitement were given up to the landowner to get rid of the extravagant ground rents which they agreed to pay under the inflation that had taken place. As I recollect now, I think upward of four rows to be worth eighteen thousand.

It so happened that during the administration of General Jackson I had found that my grandfather had a valid claim on the government of money loaned and services rendered during the Revolutionary war which had never been settled. Finding the papers showed that an examination of his accounts had taken place with the amount stated as due my grandfather. The question seemed to be so clear and plain. Although my grandfather had been dead so many years, while in his life had tried in every way to get his account settled and had failed to accomplish it, as politics ran everything at that time. The question between the parties was whether we should have a republican government under our Constitution or whether we should have a limited monarchy like that of England. Hamilton and a number of other men at that time advocated a strong government as undesirable, while Jefferson took the opposite; and such men as my grandfather, following Jefferson's ideas, contended that it must be a government of the people, by the people and for the people in accordance with the letter and spirit of the Constitution which had been formed by the fathers and founders of our government.

While getting this matter arranged by the government I was several times at the President's House and was received there with great kindness by him; and I recollect on one occasion he had a large company of ladies at his house and while I was there Senator Julien C. Van Plank came in, and after the President got up and introduced him to the ladies and all present, Mr. Van Plank addressed him and the ladies, "Mr. President, I have had the honor today to receive an appointment. They have appointed me as one of a committee to take charge of the government lands," and added, "I have now come to counsel with the ladies as to the grounds around the President's

House." The President then replied, "Mr. Van Plank, you are right, sir, for the ladies always rule." Then a few minutes after, while sitting on his sofa, he, the President, jumped in a great hurry, as though someone had stuck a pin in him, and rang his bell for the servants to come, saying, "I came near forgetting to say I had a present today." He directed the servants to bring in a bust of himself as large as life. A few moments after they brought this bust in and placed it upon the table. The President then went to the mantelpiece and took a candle in each hand and held it to light this bust, on which he wanted the company to express an opinion as to what kind of marble it was made of. It was beautiful and as white as snow.

While this was going on Mr. Van Plank impostured that there was something wrong, so he put his finger in his mouth and tasted of it and then proved that it was made out of white sugar.

March 20.

So long ago as when I lived on the spot where the bible House now stands a certain wretchedly poor and dissipated family lived in the immediate neighborhood that had a very small boy who was, say, some ten or twelve years old, as I now recollect him, and I did not see that boy for many years until he had grown up to be a man some twenty or twenty-five years old; and riding one day near Chatham Square the young man stopped me in the street and presented me with a dollar which he wanted me to take, and said he owed me that dollar. I told him that I could not take the dollar unless he told me how he owed it to me and how he came to owe it to me. It was with great hesitation that he at last consented to tell me how he became possessed of that dollar. After insisting for sometime, as I would not receive it without he told me, he then asked me if I did not remember a little boy that used to live in the immediate neighborhood where I lived on the ground where the Bible House now is. Then he said, "When I was a little boy I came to your store to get a five-dollar bill changed and," he said, "you gave me one dollar too much, and now I want to pay you that dollar." That must have been some ten or fifteen years after, at least; and he had grown up to be a man in the meantime. As my memory serves me, I tried very hard to get him to keep that dollar but I do not remember whether he did take it or not.

This shows that when an act deliberately and knowingly wrong is done it lives in the recollection and conscience of the wrong-doer so that it may well be said that he suffers doubly for all the wrong that he has done. So that the wicked may flourish, as the Good Book says, like the greenbay tree and their eyes stand out with fitness and they have no bonds in their death, yet, he says, when they enter in the sanctuary of the Lord truth takes possession of their minds and they then see the rewards that come and the recompense of all their folly.

Some fifty-one years ago I was first elected to the common council of this city as an assistant alderman to serve with my particular friend, Gideon Lee, in what was then known as the Twelfth ward of this city. It extended from where the bible house now stands at Eighth street to Kingsbridge, taking the whole upper end of the island from Eighth Street in that ward, while serving in this capacity I became acquainted with a gentleman who had then lately returned from Paris, who informed me that while he was in Paris he had attended the institute or the School of Arts and Trades, as it is called, an institution that was gotten up by Napoleon the First. What interested me most of all was his description of the consummate ability of the teachers and the wonderful appliances they had to illustrate all branches of science. And what interested me most deeply of all was, he said he found hundreds of young men living on a bare crust of bread a day in order to get the benefit of that course of lectures. I then saw that in every great city there would be a great many poor boys who would gladly turn in to an institution that would offer them instruction in the application of science to all the useful and necessary purposes of life, something that I had felt the want of so much myself in all my business life that I determined that if I could ever get the means I would build an institution and have its doors open at night so that boys no better off than I

was could attend and get the benefit of such knowledge of science as would be applicable in the various trades and callings that they would fill in after life. (See printed pamphlet for further information upon that subject.) The name of the gentleman who gave me that information was Dr. Rogers, who has been dead for many years.

I learned from my father that before and during the Revolutionary War father kept a black man making what then was known as wampum, a species of currency particularly formed and suited to the trade with the Indians, and largely adopted in the trade of the white people for the want of a better currency after the war for some time. The Indians had a peculiar fancy and love for the wampum, as it was so well suited to sew upon their garments to represent their ideas of beauty and dignity. This wampum was made from clam shells. The white part was one-half the value of the blue part. The clam shell was broken in small pieces with a hole in each one, which was then strung upon a wire and and these wires were held upon a grindstone made to turn by water or by machinery and, by shoving them backwards and forwards, they were ground down until they were of the proper size and round; then the white ones were strung upon a string for one price and the blue, which were of double value, upon another string. These beads were about one-eighth of an inch in diameter and round in form.

I learned from my father also that slaves were, in his time, driven about in the country for sale like a flock of sheep; and he remembered of often throwing corn among them to see the poor creatures scramble for the corn, they were so hungry to get every grain of it. Slavery being common and general throughout the country in my grandfather's and also in my father's time, they held slaves. As these slaves (were) being driven about all persons were tempted to use them, and as slave labor was thought to be cheaper than white labor they were used as a matter of economy; and it being so universal it was thought no harm or crime. The principal criminality was in the abuse of them after they got them.

It happened some ten years after our marriage that my wife's sister died, and soon after her husband died also, leaving, an orphan daughter who we took to bring up. Her name was Martha Clavs. After she grew up to be a woman she was courted and married to Daniel F. Tiemann, who has since been mayor of New York City, and he made one of the best mayors we ever had, and is really and truly an honest, good and kind-hearted man, who I hold in the highest possible respect. Some six years ago we were invited to their house to witness the fiftieth year of their married life. They were married at my house. Since that she has had ten children and she has twenty grandchildren and great grandchildren.

Mr. Tiemann was brought up on, and afterwards owned, the property where now stands the Young Men's Christian Association building at the corner of Twenty-third Street and Fourth Avenue, from where he moved up to Manhattanville, where he still lives. Both are now living and well this March, 1882. Mayor Tiemann had for many years been subject to the most violent attacks of headache and the cause of his great relief from that terrible malady should be widely known. It resulted from his living entirely on toast and milk, which has proved in its effect to give him apparently confirmed health, so that he looks like a different man from what he was when he had those terrible headaches.

A singular incident related by an uncle, who was an aged clergyman, as a fact known to him: That a certain man, who had done a very large business here in New York, had made a very bad failure and had settled up his accounts by taking the benefit of the bankruptcy act and had then moved in the country where he purchased a fine place and had never done any business afterward, except to go from house to house warning people to flee from the wrath to come and taking a great deal of pains to inquire as he went into the condition and state of mind in which he found the people. He was very particular in asking whether they had made their peace with God and whether they felt that they had an interest in Christ. After going through his

line of questions to ascertain the condition of every state of mind, when he was talking, he fell in with a very venerable old man in his travels who had never connected himself with any church, but a man who had won for himself so completely the confidence of all his neighbors and all who knew him for his honesty and his intelligence that all the people around were willing to leave to him, in matters of differences, what was right in any of their transactions, believing that he would come as near as could be in his opinion of right and justice and as well as could be expected. After this merchant had made all these inquiries as to the state of his soul, etcetera, he waited for the old man's answer, and it was in the following words: He said he believed that his Heavenly Father had kept a strict account of all his good deeds and of all his bad deeds and, he said, if it should so happen that his bad deeds should outweigh all his good deeds he supposed that he could be compelled to take the benefit of the act.

When I was a small boy I remember of hearing that a law prevailed in Connecticut that made it possible for an unmarried man having contracted debts that he could not pay the law allowed him to be sold for a servant, if anybody would take him to work out that debt, which might take him all his life. I very well recollect that my father had an apprentice in the hatting business whose family lived in Connecticut and this young man, after he was of age and had left my father, fell heir to quite a little fortune left him by an uncle. This fortune coming suddenly upon him looked to him as though there was no end to it and that he could act as though it would never come to an end. By starting out in an extravagant course of living, getting a horse and carriage, going about and keeping expensive company, he found that his fortune was gone and that he had contracted debts that he was not able to pay and that subjected him to the liability of being sold at public sale to any person who would pay that debt for the shortest possible time. He was so terrified with the possibility of being sold that I remember that he said he had walked sixty miles to come from Connecticut to my father's house in order to advise with him as to what he should do. My father advised him to go back in the night and go to a rich uncle that he had and confer with him to see if he would not take his obligation for enough to pay this debt and save him from the possibility of being sold. He went back, as my father advised, and found this uncle, who made an arrangement that satisfied the debt and saved him from the terrible ordeal to which he had been exposed.

I remember of seeing the jail in New York literally filled with persons confined there for the payment of debt, even after they had given up all their property. Many people confined them hoping that their friends would pay the debt for the sake of getting them out.. I remember very well of going with my father when a boy and seeing a man by the name of McClain, a shoemaker, who had a crooked leg, so that he walked with one leg crooked up, and walked on a crutch. That man had then lately lost his life and had had taken from him all his household furniture, except his bed and a few chairs, and they talked of taking even his bed from him. My father went to see about it and tried to get some relief for him from the debt that he owed, for it was entirely out of the power of this poor man to pay it. He had some children, among whom was a young girl. Even now many persons are importuning me to save them because of their want of a little money to meet their rent, for there are so many heartless persons who will take everything from the poor, and there is constantly going by us suffering by which people are put out of their houses and the few goods that they have, which the law can take, being thrown into the street. There are many every day; so we little know of the amount of suffering and poverty that prevails around us while in the midst of abounding wealth.

Although I served four years and a half in the coachmaking business, my employer never asked that I should be indentured in writing, taking my word for it that I would stay with him; so that I served my four years without being indentured.

I will say that I cannot, perhaps, do better than call the attention of Congress to what I regard as a whole course of clearly unconstitutional financial legislation that has taken place during and since the termination of the last war.

General Garfield declared in Congress that whoever controlled the volume of currency was absolute master of the industry and commerce of the country.

It should never be forgotten that the amount of notes given out during the war, having been declared as legal dollars, every one of them, were actually paid out

to the soldier, the sailor, the farmer, the mechanic and laborer as legal dollars for all the forms of labor and property that was actually consumed and used in the prosecution of our late terrible war. This money so spent by the people's government was the price of the nation's life and should be regarded as the best investment that has ever been made by our Congress and, although it saved the nation's life, might have saved it with a great deal less amount of issue had they continued to guide their course of legislation by the advice of Thomas Jefferson, who framed the Constitution and declared that the taxing power was amply sufficient to meet every possible contingency and, to use his own words, that treasury notes should be issued bearing or not bearing interest, as the case might arise, and in case of war should be issued without interest but still made positively legal dollars. Each dollar should have been, in effect, as valid as a legal mortgage on the whole property of the country and, as it was entirely out of the power of the people to pay it at once, a necessary and proper law should have been passed making that amount of money so found in circulation at the close of the war the unfluctuating measure of all values for all coming time; that it should never be allowed to increase or diminish, only as per capita, with the increase of the inhabitants of our country. All must see that such a currency so issued for the salvation of the nation would have been regarded as the richest treasure that a nation could possess. If its purchasing power had never been interfered with by preventing this money from paying duties on imports and interest on bonds this money, instead of being less in value, would always have had a preference to gold and silver; as it actually was when the Bank of Venice issued paper circulation running through a period of more than five hundred years which was always of more value than gold and silver. It ran so far above the value of gold and silver that the government had to pass a law making it unlawful to pass, declaring it (unlawful) for any man to take more than twenty percent premium on this paper. During the whole period of that five hundred years there is no account of any panic having arisen at any time. The credit remained perfectly good until the country was overrun by the army of Bonaparte.

And so it will be found with the treasury notes of our own country, if our government will only give to the American people as money a similar amount of legal dollars actually found in circulation at the close of the war, every dollar so paid out by the government to the people for value received, had this been continued as an unfluctuating measure of all values those millions could have been saved to the American people, which has now been lost, and we have today a national demoralization as a recompense for the unconstitutional, invalid financial laws that have been passed.

It must be apparent to all that when the knowledge of these facts comes to be fully understood by the people they will become fully impressed with the cruel injustice that has been done them by passing laws which Secretary Sherman assured them, as I have so often published, every citizen of the United States had conformed their business to the use of that money. He further said, to take that money from the people would be an act of folly without a parallel in ancient or modern times. Then he further assured the people in a speech made by him in the Senate. He further declared that that money could not be taken away from the people without bringing upon the country a sense of wretchedness and ruin that no senator has much better described than himself. In view of all these facts, which must have been known, President Hayes, who yielded to the importunities of bankers and money dealers, vetoed a bill that had been passed by Congress for the people's protection. With all this evidence before him, President Hayes actually vetoed a bill passed by Congress to protect the people from the ruin that was already brought upon them by the failure of the law that had been passed.

March 24, 1882.

The laboring part of the community are coming to see the cause of their oppression and present enslavement to the national debt, and they find that it has grown out of the cunningly devised system of legislative traps especially calculated to entrap the weak and undiscerning part of the community, and by that means drag from them a large part of the products of their labor without giving them any substantial equivalent in any form of useful labor in exchange for all the varied products of their industry, until there has grown up in our community a vast moneyed oligarchy

that now feels its power so great as to be able to control both the state and national government in their interest. This is what the fathers and founders of our country foresaw might happen when governments would become corrupt and adopt means to oppress the laboring part of the community. When a course of systematic oppression has been persisted in by a government so as to establish the fact that they are determined to make it a despotism it is then the duty of the people to say, as the Declaration of Independence says, that the laws of nature and nature's God has declared that all men are created equal, that they are endowed by their creator with certain unalienable rights and that among these rights are life, liberty, and the pursuit of happiness, and that to secure these rights governments are instituted among men, deriving their just powers from the consent of the governed; that when and if any form of government becomes destructive of these ends it is the right of the people to alter or abolish it and to institute a new government, laying its foundations on such principles, and organizing its powers in such form as to them shall seem most likely to effect their safety and happiness * * *. All experience has shown that mankind are more disposed (to suffer) while evils are sufferable than to right themselves by abolishing the forms to which they are accustomed. but when--as it has now happened within the last eighteen years--a long train of abuses and usurpations, pursuing invariably the same object evinces a design to reduce them under absolute despotism, it is their right, it is their duty, to throw off such government and to provide new guards for their future security. Such has been the patient sufferance of the people.

With the unconstitutional financial loss we have been passed since 1863, it has become apparent to the thoughtful part of the laboring portion of our country that the cause of their financial sufferings has grown out of a course of financial laws which, as I see it, has been in open violation of the very first injunction of the Constitution, which declares that Congress shall establish justice, and that is the only possible means by which liberty and life can be successfully protected against the avarice and cunning of those that lie in wait to deceive.

For my own part, I feel a great deal of alarm on account of the long persistence of this train of evils and the consequences naturally growing out of it. Unless it is carefully dealt with by giving back to the people some evidence, clear and substantial, that the government are determined to protect their right and give them such relief as their rights demand--unless this protection is given by the government--there will be great reason to fear that the great body of laboring will find that they have been literally legislated into an enslavement to a bonded debt, and that will not a great while longer be patiently borne. And I have before called attention to the warning voice of the man, who was ninety-two years old when I laid the cornerstone of the cooper Union, whose letters to me were published in the bun paper, who at that time predicted:- what was about to happen to our country when he saw that a conflict was then literally inevitable without some radical measures to avoid it, which was the conflict between slavery on the one hand and freedom on the other; the South claiming that it was their right to extend slavery over the whole of this continent. And one of their great men declared their intention to be that they intended to build up a government with its cornerstone based on slavery, which was Stephens' prediction at that time. This brought the whole subject squarely before the people, that either slavery or freedom must rule, and that having been settled in favor of freedom it is now made the privilege and the duty of every American to defend that freedom by every influence of life and property that is necessary for that purpose.

It will be a part of wisdom of the American government to take measures as soon as possible to show their determination to give back to the American people in the most convenient form, when the thing can be done, the amount of money wrongfully taken from them for which they have given their lives and their property of every description during the whole course of the late terrible war, which they had then taken for their pay, the government declaring them to be legal dollars and which the government had allowed to be circulated for so many years that it had bought and sold the value of the whole property of the country many times over; showing that Secretary Sherman when in the Senate in 1869 declared the truth, that every American citizen had conformed his business to the legal tender use of that money, and portrayed at that time, as I have before shown, in his own words the scene of wretchedness and ruin that would come to the

American people if the government should attempt to take that money out of circulation.

That money was taken out, wrongfully taken out, of circulation both as small and large national currency and the whole amount so taken from the American people was converted into a national debt. This course of national policy so long persisted in during and since the late war will inevitably be called to their attention and they will see that they have the power in number, at any time when they will it, to so change this government as to make it conform to the positive requirements of the Constitution and the laws authorized by it. We must hold to the Declaration of Independence with its constitution and code of laws as the sheet anchor of our American hope for the continuance of the freedom and independence of our country. When all hope is blasted by further continued oppression it needs no prophet to foresee what will be possible in the ruin that may happen, that will be inevitably forced on our country by a continued persistence in oppressing financial laws. We may learn from the prediction of the old gentleman of Boston, who said that when all the boiling passions of the American people are wrought up against injustice that there is no people in the world that will carry destruction to such a pitch as will then be carried by the American people. And this terrible possibility of ruin and destruction is now in the power of Congress and can be averted, and will require nothing more than a course of just and equitable financial laws that will show to the whole country that the government are now determined that justice shall be enacted and carried into execution in accordance with constitutional laws. These laws should, as I have said, give back at once to the people in some form that which will most conveniently extinguish the debt; and then to provide, as the English government has provided, for the savings of their common people by a postal savings bank that shall furnish money to the government for all its purposes by taking up the unoccupied money of the country, the profits of which now go into a national banking system. To obtain this certain means of maintaining the government it will be only necessary to furnish the country with a convenient method of safely depositing their unoccupied money at a low and reasonable rate of interest. When these national bonds have been paid off and the money returned to the people who now own it they will find it necessary to look for honest and trustworthy persons to whom they can loan their money, which money when so loaned will not be like loans from a bank, which demands a return to it in from thirty to sixty, ninety days, and four months, but it will be loaned to persons who will commence some profitable business and will keep and use that money until the profits of his business will allow him to pay it at his convenience, when it will be re-loaned to some enterprising mechanic or working man who can make a profitable use of such money, and the longer he keeps that money and pays interest for it the better the owner of the money will be pleased with the arrangement.

In my opinion Congress can fully regulate commerce with various nations and among the several states without declaring how much could be legally collected for the interest and use of money in order to establish justice in the different transactions that are constantly being made in the operations of trade and commerce. To establish justice in the operations of trade, such as interest on money, it is only necessary for the government to adopt what would be the nearest approach to the regular increase of the wealth of the nation and make that sum the fair and just equivalent to be legally collected for the interest and use of money.

It is now known to nearly all throughout the country that the large body of the working men are now united in various forms of organizations called labor associations for their mutual protection and benefit. This, it seems to me, soon will render it easy for them to settle upon any plan which they may find indispensable for their safety and happiness, in strict accordance with the Declaration of Independence with its Constitution and code of laws; and they will naturally come to unite in a positive demand on the government for such relief as they feel to be their right and their duty and indispensable for their welfare.

It is now necessary and indispensable that this government, being a republican government, must become a paternal government, otherwise it cannot exist.

March 25.

It must be remembered that the moneyed interests of our country have taken the place of the enslaving power that brought on the late destructive war, and it needs but perception to see and know that the moneyed powers of our own country, with the aid of those in Europe, have introduced and carried out measures that have literally enslaved all those millions in our own country who have nothing to sell but their own labor. They are now left at the mercy of their employers who get their labor for the smallest possible consideration for which they can obtain it, by facilitating the moneyed power that has been created by the government of our country, which enables certain classes of men, banks, and corporations without souls to expand and contract the circulating medium of our country to such as periodically, every seven or ten years, to bring about such an amount of panic, pressure, and general ruin as to throw all these poor people out of employment and leave them worse off than were the slaves at the South, many of whom had good masters to take care of them such has been the influence of banks and moneyed corporations created by special, partial, and unconstitutional class legislation.

* * Under our rulers they made the same mistake that the English Government made in taking away from the people their paper money and making what was left subject to being redeemed in gold and silver; and all this (* *See pp. 132, 133, supra.) after the warning of Sir Archibald Allison, who stated that he hoped the American government would not make the same mistake that had been made by the Government of Great Britain which, he declared, had brought upon Great Britain a greater amount of suffering in their efforts to get specie payments than had been occasioned by all the wars of invasion and all the earthquakes and all the pestilence and famine that had ever fallen upon Great Britain.

Yet, after all this warning, our government on the importunity of banks and bankers have forced our country through a similar scene of suffering, wretchedness and ruin since 1863, causing thousands and millions of dollars in the lessened value of the property of the country occasioned by a law that took from them the people's money then used as a national currency, for which they had given value for every dollar in circulation found at the close of the war, as I have so often said.

We may well take warning from the advice of the celebrated Dr. Young, who says:

"It will be greatly wise for us to talk with our past hours, and ask them what report they bring and how they may have borne to us more welcome news."

Their answers are: "What men experience call, if wise our best; if not, our veriest foe."

This note from Dr. Young on "Time."

"If time past and time possessed both pain us, what can please?"

The answer is: "That which duty to please ordain; time used."

Then adds, "The man who consecrates his hours for vigorous efforts and honest aim at once he draws the sting of life and death, and walks with nature on her paths of peace. Man must soar, and obstinate activity then will toss him up in spite of fortune's load. Not kings alone have their ambition; no sultan prouder than his fettered slave. Slaves build their little Babylon of straw; echo the proud sultan in their efforts to cry, Behold the wonders of my might! And why? Because mortal is their world, and souls mortal must forever heave out something great; the glitter of gold, the praise of mortals, or the praise of heaven."

I have had a scrap in my drawer for some twenty or thirty years with these words, which always made a very strong impression upon my mind:

"Knowledge, economy and labor are the shining efforts of civilized man. Man without knowledge is a helpless animal, and without science he is a straying wanderer."

My daughter's oldest child is named Amelia B. Hewitt, whom we call Amie. She is my oldest grandchild and is a most excellent girl of humble disposition.

The next child is Sarah C., who is famous for riding horses and jumping fences and full of life and gaiety.

Then comes Peter Cooper Hewitt, who is fond of mechanics and would far rather make something new in that line than learn Greek or Latin.

Next is Eleanor Gurnee, called Sally, a girl possessing all the good qualities that is possible to find in one person, and loves her studies.

Next is Edward Ringwood, one of the nicest boys living, and a very promising boy.

The next of my daughter's children is Erskine Hewitt, Little Erkie, and is named for Washington's principal engineer and was one of his corps during the Revolution. They were at one time stationed at Ringwood. He is a very remarkable child, and there was some difficulty in keeping him from refusing his breakfast by reading his book.

My grandfather on my mother's side, John Campbell, was, as I remember him, a thick-set and not very tall man, not over five feet eight or nine inches, around my height. My grandmother was about of middle size, not a large woman, and a rather delicate woman.

Prior to the building of St. Paul's Church where it now stands, they lived there and his pottery was there, and it was where he made the principal part of his fortune. He died when I was quite a small boy, after having served nine years in the Revolutionary War, the last two years having charge of the troops at West Point, until they were disbanded. In consequence of his defense of the country, and being so ardent in it, he neglected a matter that cost him a large fortune. (****See pg. 13, supra, description of loss of Duane property.)

I have heard persons tell that my grandfather on one occasion during the war had to carry five hundred thousand dollars of Continental money to pay the army, as he was Deputy Quartermaster General. The way that he took it along most safely was, he wrapped it around the body of his, Thomas Campbell, a boy, and took his son with him on horseback. I remember of visiting this uncle that was the boy after he was grown and had a home of his own in North Moore Street, New York.

I remember also my Aunt Campbell telling a singular story about an old watch that hung in the house for so many years and had never been wound up and, suddenly, for some jar or other, it started to go. This was the subject of conversation that evening when I was visiting there. If it had been in our day it would be called a spiritual manifestation.

My grandmother Campbell was one of the most estimable, kind-hearted women that I have ever known. All my recollections of her are that I used to go whenever I could go to her house when a boy, and I went there whenever I could get an opportunity, and we never went there but what she gave us kind words and some little token to take away with us. I remember that she had one of the most beautiful cows that I had ever seen, and she was so careful of its welfare that in winter time she had the feed warmed for it, and I recollect on one occasion of seeing her go to the tub that had the feed in to see if she had been obeyed about its feed.

The horse that my grandfather rode for nine years during the war was an imported horse from England, a stud horse that in the course of nine years' riding in this country over all sorts of roads had never brought a point to the ground. He was estimated at that time to be worth three thousand dollars, and he was offered that for him.

When I was an apprentice I was constantly being sent down to the hardware store for such hardware as was used in the coachmaking business, which store was situated on the exact spot where the Harper Building now stands. I remember very well of becoming well acquainted with the man who there kept the hardware store, and many years after a certain old man called in my store, when I occupied the store where the bible House now is, and informed me that Mr. Vreeland, who then occupied the hardware store where the Harper (building) now is--when Mr. Vreeland had built the glue factory on the old Middle Road and had established his son in it, his son had become so dissipated as to entirely neglect his business, that he wanted to sell the property. I hearing this, when he came by my house I stopped him and asked if it was true that he had a factory that he wanted to sell. He said he had a desire very much to sell it. I just stepped into my store, put on my hat and went up with him to look at it, and when I saw what he had there for sale and the price he asked for it I concluded at

once to take it and told him that I would take it at the price at which he offered it. I went right downtown with him, without going home, and closed the bargain and paid him for it and went into a new business, from the grocery to the glue business, believing that if other people could carry it on I could try to do so. The situation of this was on the old Middle Road, occupying about three acres of ground which bounded it from 'thirty-first to Thirty-fourth Street.

After living at where the Bible house now stands, I moved to Murray's Hill, the country house of a gentleman named Thompson, a place of seventeen acres, which was afterwards purchased by John Jacob Astor. From there I moved to Twenty-Eighth Street where I built on the four lots I then purchased, afterwards buying five other lots. I lived there about twenty years, and the house is still standing.

From there I purchased this place at the corner of Lexington Avenue and Ninth Street. I should not have left Twenty-eighth Street but for the building of the railroad, the noise of which disturbed me so much that I could not get the needed rest. I made a great many improvements in that place and had many luxuries there in the way of fruit, having cherries, apricots, figs and apples and plums, and enjoyed that home very much indeed. I remember on one occasion of taking home one of the most beautiful peaches I had ever seen and gave it to my wife who, after eating it, raised up the sash of the basement window and reached her arm out and stuck the pit of the peach in the ground, which pit grew to be the most magnificent tree, and for many years bore us loads of peaches, so that I believe in its time it must have borne us carloads of peaches.

* * *I have no recollection of ever seeing grandfather and my grandmother on my father's side. They lived at Fishkill where my father was born, and the Coopers had always lived there.

I began in business for myself just before the war of 1812 in machines for shearing cloth. I made something in every business that I undertook and we, myself and wife, always lived economically and were both very industrious and had made a good deal of money before I was a member of the Common Council, when I believe I had twelve houses on Third Avenue and on the Bowery; and as fast as I obtained money I purchased houses that would bring me in some revenue, with which I tried to make the best use of that it was possible.

It is now between twenty-seven and twenty-eight years ago since I signed the contract to build Cooper Union, which I had determined on doing some twenty-two (years) before that, when I had the conversation with Dr. Rogers. That had been my great ambition.

March 29.

The account Dr. Rogers gave me of the institution gotten up by the first Bonaparte, which he described in glowing terms the consummate ability of the teachers and the wonderful appliances they had to illustrate all branches of science. The thing that interested me, of all he said, most deeply was that he found hundreds of young men from all parts of France attending those lectures and living on a bare crust a day to obtain the knowledge that was there had. This account that he gave brought to my recollection that when I was an apprentice in New York that there was no night schools nor laboratories or any means by which an apprentice boy could get information, except in the ordinary schools and with money and time sufficient to pay for it, neither of which fell to my lot. So that I formed a very resolute determination that if I could ever get the means I would build an institution and throw its doors open at night so that the boys and girls of this city, who had had no better opportunity than I had to enjoy means of information, would be enabled to improve and better their condition, fitting them for all the various and useful purposes of life. With this resolution, I persevered with all the efforts which I was capable of in the course of my business to make the best of the profits of it, constantly aiming to carry out my intention as soon as I had obtained sufficient to warrant my undertaking to put up a building, and provide the means for its continuance to give free instruction at night to young men and in daytime to such young ladies as could avail themselves of its benefit.

After long years of perseverance I obtained the means by carrying on a very extended business which I thought would enable me to complete such a building. I ascertained from an architect what the cost would be to put up a building covering the block of ground where the building now stands, on a plan that I showed him, which I believed to be the best calculated to accomplish the objects that I had in view. The amount he said it would cost for the building alone, without the ground, would be three hundred and fifty thousand dollars. When I had begun at it and carried it to completion I found I had expended over six hundred and thirty four thousand dollars instead of three hundred and fifty thousand dollars, as he represented in the first place would be the cost.

Some years before I commenced the building I had loaned some money to a man who owned the principal corner lot on Seventh Street and Third Avenue, which it was not convenient for him to pay me and he gave me that lot for the price that we agreed on, and that was the commencement of the purchase of the ground on that block, as I saw that if I could get the whole of it it would be one of the best spots for such a building for such a purpose that could be found on the island. As fast as opportunity offered, I bought one piece after another and then I obtained the whole block of ground. When I had accomplished that, I commenced the building which has since been erected and has been kept in operation, giving free instruction to many thousands of young people in this city for and during the last twenty-three years, and it will be twenty-four years next May since its completion.

It fortunately so happened that, although the building cost double of what I expected it would cost, the profits of my business increased so rapidly that it enabled me to meet payments far beyond anything that I had before felt myself able to accomplish. Although if it had not been for the great increase of profits of my business I should have expended nearly the whole that I had obtained in all my business up to that time of the completion of my work; but, as it has turned out, the business became so profitable that I think my family will be left as well off as though I had never built it, and I still feel sometimes as though I am somewhat in debt to the world and still desire to pay it off in a way that will lend the most lasting benefit to those who shall live after me.

For the last twenty years, living under this impression, when the war commenced, which was for the life of the nation, I became so anxious to do all that it was possible to save the inheritance of free government bequeathed to us by the virtue, the toil, the sufferings and death of thousands of our patriot fathers--so anxious was I that this work should not fail that I sent such substitutes, as my own age would not allow me to go into the army, to defend the life of the nation. In reviewing the whole course of my life, the money that I expended in building the institute and in aiding many others I look back upon as one of the best treasures that I have been able to lay up for old age, and which I hope to reflect on with pleasure when I pass into a brighter and better world.

In relation to the building of the Cooper Union, I desired to carry it out as soon as I thought I had the means to accomplish it, if I was compelled to live on bread and water for the remainder of my life.

March 30, 1882.

A long and laborious life has compelled me to believe that Christianity presents to the world a true science for the guide of good national government and good individual lives; Christianity as taught by its author, where he declares that in all things whatever we would that others should do unto us that we should do even so unto them, as that is the law and the prophets, and it is a law of more value than whole burnt offerings and sacrifices. "All things" leaves nothing outside, as it comprehends an application to all acts of national government and individual lives so fully and so completely that it is one of those things like the declaration of our fathers, where they say that certain truths are self-evident, and then add that all men have an unalienable right to their lives, their liberty and their pursuit of happiness, and that the sole object of all good government is and must always be to give protection and security to the lives and property of all. In doing this, those that are called and selected by the people to carry on this government of their choice are intended solely, as declared in the Constitution, to provide for the common defence and

to promote the general welfare. To do this, to perform this duty faithfully, every member of the government should remember that those very fathers who provided for our Declaration of Independence, with its code of laws, declared their object that the intended to accomplish by a government which they declared should be summed up once in a preamble, where it makes the establishment of justice the only means by which it is possible to secure domestic tranquillity, to provide for the common defence and to promote the general welfare and secure the blessings of liberty to ourselves and our posterity.

Such a government was simple, beautiful and important, as it bound every member of the government, under the solemnity of their oath of office, to make their every act an honest effort to establish justice in order to promote the general welfare of a great nation. To do this, a Constitution was framed founded, as it is, upon the eternal principles of truth and justice. They designed that the Constitution which they had framed should stand out as the embodiment in the forms of laws so plain and positive that there should be no valid reason for misunderstanding them or disobeying them; such laws as they have made it the duty of Congress to frame for the benefit of the people, declaring that they shall make all necessary and proper laws. Nothing could be more necessary and proper in the form of law than to make the very organization and execution of constitutional law the only true and reliable means that exists by which justice could be actually established and the general welfare of the nation effectually promoted.

Bashiet, the French political economist, declares that when a government fails to organize its laws and to execute them in a manner that will actually establish justice among men, he says, and if the government fails either to make and execute such laws, that failure will prove an open door for the introduction of all forms of corruption and plunder and, he says, plunder will go on and prosper just so long as we allow plunder to become a profitable business. It must be apparent that our government must make such necessary and proper laws and execute them as will make plunder an unprofitable business, if we ever hope to obtain the liberties and independence of our country, as nothing short of the making and execution of such laws can save the corruption growing up among us from undermining the fair fabric of our independent government, a government that will always be just would we, the people, make it. When we are willing to adopt means for removing the causes of the evils that have crept in among us we may then hope to improve and better the condition of our country, and not before; for, as Thomas Jefferson says, men must be secured for all public places upon making honesty and integrity their passport to office and their only means to continue to maintain their places in a government where its whole powers is of the people and intended to promote the welfare of the nation. A government that intends to accomplish that great and glorious purpose for which our government was formed would very naturally adopt the means calculated to accomplish the object.

They would say that we must have a civil service by which the qualifications of all men that are to be placed in office shall be called upon to pass an examination to show that they know and understand the duties that they are called upon to perform, and when they perform those duties wisely and well it shall be a sure means of assuring them a continuance in place and, when worn out in the public service, to be provided for with some compensation as a reward for faithful services performed.

To accomplish the great object of good government the people must cultivate the idea founded on the fact that all men, by an involuntary law of our being, are compelled to desire pleasure and prosperity in preference to pain and misery. happiness must always be the remaining desire of all intelligent life, and when we attempt as a nation to give pleasure and happiness by depriving a large part of the community of their just and equal rights we lay the foundation of a terrible recompense of evil, as it is decreed by the reigning and universal and beneficent laws that mankind can only promote his highest welfare by surrounding himself with friends and all the means calculated to produce the comforts he desires.

To obtain and maintain good government it must have its foundation on the best known means of providing for the common wants, and nothing would be so important for a great nation like ours as to have all our governing powers originate and constantly flow out from the people, bringing into operation the best means to provide for the many wants of a great community. Those wants can best be provided for by

the application of knowledge and virtue. We need knowledge to know and to select the men with the qualifications needed to perform the duties required to carry on this government of our choice. A simple and natural mode of providing for that object would be for the general government of our country to call on all the states to select for each and every state one of the wisest and best known men to form a commission of a civil service whose business and duty it should be to select, appoint and watch over all the hundred and one thousand appointees which are now found necessary to carry on this government of our choice. It needs but little reflection to see that every governor of every state, when called upon to make such an appointment, would see to his reputation as a statesman, a man of honor, and a friend of his common humanity when he would look for such a man to represent his state in that commission. He would also carry the best knowledge that could be obtained from the men of his state to connect his state with all the rest of the states, by a performance of the duties required to promote the best interests of his state. He would bring from his state the knowledge of the people of his state and would certainly be more likely to understand the wants of his people and how to provide for them than persons who had not the opportunity of getting general knowledge from his particular state.

March 31.

* *We shall then see that all the movements and (* * *See pg. 83 of transcript, supra.) unfoldings of His power are one continued demonstration that His ways are equal and that his works are good, we shall then see our God working out the great and glorious purpose by which the world of conscious, free, intelligent minds will come to know Him as a rather, who to know aright is life eternal. He may be seen glowing in stars; He may be seen blossoming in the trees; He may be seen living in all life, flowing through all extent, spreading undivided and pure and unspent. This is my God. He is over all and in all, the alpha and the omega, without beginning or end of days or end of time. This will always be reasonable to a rational soul who believes that Paul declared the truth when he said,

"That which may be known of God is manifest in them; * * for the invisible things of him from the creation of the world are clearly seen, being understood by the things that are made, even his eternal power and Godhead; so that they are without excuse: because that, when they knew God, they glorified him not as God, neither were thankful; but became vain in their imaginations, and their Foolish heart was darkened. Professing themselves to be wise, they became fools, and changed the glory of the incorruptible God into an image made like to corruptible man, and to birds, and fourfooted beasts, and creeping things."

I have often thought one of the best proofs of immortality that I can think of grows out of my own thought that if I had power to move matter in all the forms in which it ever has moved or ever could move I asked myself What would I do? The answer is at once: I would use all the powers I have and could muster to know what would bring about the greatest and best possible result for all the human family for time and for eternity. I can readily see, weak and imperfect and erring as I know I am, that I can conceive of our being woke up in such an ethereal form as to carry with us an organization that shall have written upon its heart the whole actions of our lives, where we shall see our own faults and the cause that led us to commit them, and we shall see enough in ourselves to inspire us with charity for all the faults and failings of those around us. We shall see, more than that, that it is not to him that lived or to him that remainest that we shall have heaven in another life, but it is because the infinitely wise and good power that formed us foamed us on the principle that, as we read, our trod will have all men to be saved and come to the knowledge of this truth: that there is no power that can resist the good pleasure of an Almighty Lord. I can readily see that if I had the power I would forgive all evil with kindness, as we are taught to do, believing that there is more pleasure to be found in forgiving than there would be in taking vengeance on a man as an enemy; particularly when we know that if we had been born at the same instant and under similar circumstances with the enemy we look at we should have been he, and if he had been born in my circumstances he should have been I.

My hope is that our departed friends are met. I see my wife in my dreams sometimes once a week, sometimes once in two weeks and sometimes at long intervals. It is one of the greatest pleasures of my life that I can believe that my wife has been and is now my criterion entirely and it is one of my fondest hopes that I shall see her in the natural world.

April 1.

(See pg. 148 of this transcript, supra.) In the course of my efforts to show the entire unconstitutionality of the course of financial laws that has been passed by our government, in looking for evidence of that fact, I found that in the days of Washington, in his first term, the question was raised whether it would be right and proper to allow bankers to have a seat in congress, and the question was argued and decided by a unanimous vote, with the exception of two votes, that no bankers should have a seat in congress.

When I learned from Moses W. Field, a member of Congress, that he had ascertained the number of bankers and solicitors of banks that were then members of the House and Senate I was perfectly astonished as to how it was possible that such a thing could be so overruled by the power and influence of money as to get so many laws in open violation of the positive declaration of the Constitution that declares in so many words that no banker should have a seat in Congress. There are now in number about x x x. It seems as singular as it was of old that the influence of money had crept into the very doors of the temple in the tables of money changers, so that that greatest of all minds that the world has produced saw the importance of making an examination on the spot. That seems in all His history the only evidence of any sign of apparent temper, but which was called forth, being angry without sin; so that it makes good the declaration of Paul where he says we must be angry without sin. Christ is induced by the great importance of the occasion to make a risk of a similar course and drive out the money changers.

The demonetization of silver was a great breach in the levee to keep out the overflowing influence of the power and influence of money, to envelope itself in such a mist that, like a cuttlefish, they produce such darkness by clouding the minds of the people.

In the course of my efforts to enlarge the use fulness of Cooper Union I concluded one of the best means of doing it was to build two partial stories on the top of the building, and a dome, in which there is a clock with a six foot face which lights itself at night and puts itself out in the morning at the proper time, which can be seen as far as the eye can reach down the Bowery. This clock has a glass face six feet in diameter, which has proved to be an admirable accomodation for seven or eight hundred additional pupils of both girls and boys. That addition embraces the class in typography, the class in plaster and clay mouldings, with a class in freehand drawing, and drawing from cast and life. Putting these stories above enlarged greatly the accommodations of the ladies in the lower story, where there is a class in art in its various forms, and in the same story is a class in engraving on wood. These changes have been made by the additions on the top of the building.

In order to get the scholars conveniently up and down the great height of the building I expended some ten thousand dollars for an elevator which did not work to my satisfaction, and after having a great deal of difficulty with it I concluded to take it out and put in another one, which I have done, which the builder says is as good as others in the country, if not as good as could be found anywheres, which will carry from thirty to forty persons at one time. It enables us to pass the scholars up and down with great facility and convenience. It may be worth while to mention that the tower in which that elevator works was a part of the original plan of the building. When it was built in the first place, I expected to have either a garden or a museum of the arts on the upper story and I knew that that could not be successful unless I could put machinery in there to carry people and, therefore, I provided a tower going from the bottom to the top of the building, circular in form, and ten feet

six inches in diameter, which is now over a hundred and twenty feet high. The cause of this was, in order to make the building more secure than I could otherwise do, after having provided a three inch pipe in connection with a three foot water main on Third Avenue, which supplied the city, I connected with this arrangement a passage pipe which extends from the top of the building, which is constantly kept in order and made to work every day so as to be sure and have it in order to keep the tanks full in the upper part of the building. This is so arranged that the whole power of the fiftyhorse engine can be made to press water and send it to any part of the building, with which expectation the janitor has made many experiments and finds that when he rings the bell, he says, he has never failed to have the water in any part of the building, when called for, in less than a minute.

In order to have still greater security for the building I obtained the privilege from the city authorities to undermine and arch over the whole of Seventh Street from Fourth to Third Avenue. This gives a splendid room, well lighted, for certain purposes in connection with the institution which are not yet positively determined but which will be used to the best advantage. In addition to this, I had a further excavation under Fourth Avenue of size sufficient to receive some two hundred tons of coal. In that room I have had a tank made that will hold some twenty or thirty barrels of petroleum, instead of burning coal for that purpose. This large room under Seventh Street enabled me to remove the steam boilers which were partially under the building before, and are now situated near the corner of the little park just south of the building. No possible accident can now occur to the building from the bursting of the boiler or the burning of a large quantity of fuel, which are now surrounded by iron and brick which will not burn.

I regard the improvements that I have made as forming a very important item in the adaptation of the building for all the purposes for which it was intended. In addition to that, as a further means of security, I have two fire extinguishers of the most approved kind, so placed on a frame that is conveniently arranged for a man to put his hands in the straps and put the extinguisher on his back and run with it to any room in the building where a fire may be discovered. Also, each extinguisher has with it two pails of water always ready, made of zinc, and so covered so that they will not evaporate, and if the ladies' clothes should take fire these pails of water are always at hand. I think pails of water should be placed in every building and kept always in a convenient spot so that a pail of water can stop a fire at the instant of an alarm. The benefit of such a provision was wonderfully verified on one occasion when the Bank Note Company had made some change in their gas arrangements and the man who had done it had left off the cap on one of the traps of the ceiling in one of the halls leading directly into the United States Bank Note Company's rooms, and when the gas was lighted at night on one of the other burners the man went down the steps and, before he got down, he saw a light and he ran right back and he saw the flame was running right against the wall; when he took this pail of water and held it over his head and stood on a chair to make himself high enough to hold this water so that this gas jet was in the water, and his cry for help brought others who came and turned off the gas. This escape from fire was all from the having a pail of water near.

While on the subject of the danger of fire from gas, I will relate another narrow escape that the institution had. On one occasion, going down to the large hall underground I thought I smelled the escape of gas. I called the engineer to get a light, when we went to look for it. We followed the smell until we found that it came out of a lead pipe and I smelled the orifice, when it was most noticeable, it being not much larger than a pinhole. When we went with a candle we set it on fire. The engineer thought this was so small a thing that he went on another errand, and while he was gone this small flame continued to burn and soon melted the lead pipe so that it bursted and soon there was a large hole from which the gas escaped. had not the room all around this been brick stone, and iron the building would have taken fire and nothing could have saved it. A wet coat was thrown over this hole in the pipe as the only means at hand to stop this fire. And now this shows the danger of leaving the least spark of fire burning in a lead pipe as a warning to any others.

I wish here to suggest what may become a very great advantage to our city. In order to demonstrate this, I have had Seventh Street, bounded from Third to Fourth Avenue, paved with a new method of making what I hope will prove one of the best methods of paving that will meet all the wants of a good pavement, both in the comfort of riding and the security of the horses that travel upon it, as it will be there in evidence and all may see, and will see, that wherever it was done right it has demonstrated that it has been good and lasting, in proper proportion with the cement and gravel, mixed with the proper time so as to give the cement its best opportunity/form a perfect stone. In connection with this gravel and this perfect stone with the gravel body, I regard (it) to afford the best form of paving for the streets of our city, and it will be found it will be done in the following manner to the best advantage:

This article may be prepared in blocks from two feet square to any other size and, say, six inches thickness, and may be made on the banks of Long Island where gravel is formed just in the size requisite for this purpose, where it will only require to be so mixed with the gravel as to get the best possible connection between gravel and cement. When this is done it will be found to harden in a very short time so that it can be moved to any place in exact blocks in exact squares, which may be put down in such a way by what is called "herringbone" square, so that the lines of division between the blocks will always run at right angles to the road and will never cut into ruts like we find being constantly cut into the stone crosswalks wherever they are put down with the line running straight across. The herringbone form of putting it down will prevent that. These gravel blocks, so formed, will be of one uniform hardness and thickness, and will only require a good smooth hard bed of earth or gravel to receive them to form a perfect road pavement, which may be almost on a dead level, causing no sliding of the carriages as they pass, and avoiding the disposition of horses to slide by being put on an angulation, which this dead level will avoid. The foundation for this pavement may be according to circumstances. Where gravel is found in perfect form it will want no better foundation than the gravel itself; but, if not, it should be macadamized by broken stone to receive the stone cement that is made.

In order to make a more perfect test I intend to have one side of the street adjoining Cooper Union from Seventh to Eighth street on Third Avenue put down in the best form that I know how so as to stand as a sample of what may be done on a larger scale.

* * * (* * * See page 148 of transcript, supra.) I cannot refrain giving my heartfelt thanks to Honorable Richard Warner, M.C., for his speech so full of valuable information on the national banks and their manipulation.

I recollect my mother giving me an account of one of her relatives who owned at that time one of the finest houses in Newburgh and was particularly occupied by Washington while he was in Newburgh during the War. This relative was a very ardent advocate of the independence of our country, and like many others involved himself in debt during the struggle for independence, so that after the war ended the mortgage was foreclosed, on him and one of the finest places in Newburgh was lost to his family. He soon after died and his sons, having grown up, saw their only opportunity was to do anything for themselves was to take the ox-cart and load with such farming utensils as they could carry with them and go in pursuit of a home. When they found a place not far distant from where Utica now is they thought they were far enough in the woods so that there would be no owner. They there began clearing the spot, building log houses, and put such seeds in the ground as was indispensable for the preservation of their lives. When they had so far succeeded as to see it possible to maintain their mother and to raise the children, they went down to take them to their new home. After they had been farming there, for a number of years a man came along and laid a claim to the ground upon which they had made this home so that they had to make the best compromise they could with this pretended owner. Since, I have now knowledge of what became of them.

While my own father lived in Newburgh many years after, when I was a boy of some twelve or thirteen years old, I recollect carting the stone that built the foundation of my father's brewery for more than a mile. I picked up such stones as I could lift up in a stony field where there happened to be very good stone turned up for that purpose, and my father's neighbor gave him the privilege of picking up and using such stone as he needed from these premises.

While I was living in Newburgh I was in the habit of playing with another small boy about my own size that lived with a man by the name of Foster. On one occasion when passing up the Chesapeake Bay on a steamboat a man came up to me and asked me if my name was Cooper. I told him Yes. He said, "Don't you know me?" "No," I said, "I cannot recollect you." Then he said, "Don't you remember a boy named Harris you used to play with at Mr. Fosters?" I told him I had an indistinct recollection of such a boy. "Well," he said, "I am that boy." I had not seen him for some forty years. He then invited me, when I got to Baltimore, to come to his house to see him. I went there and found him the owner of one of the handsomest stores there is in Baltimore. He gave me an account of his history. He said when he came to Baltimore he had seventy-five cents and a jackknife and what to do to get a living was a question which he had to settle. Not seeing any better opportunity, he determined to go into the woods and with his jackknife he cut such limbs and little trees as would make nice canes and finished them up as well as he could and took them under his arm and went from house to house selling canes. He said he, in that way, accumulated a small sum that enabled him to hire a small shop in which he made canes, and such other things as he could get to do, and went from one thing to another enlarging his business until he had got the store as his profitable business. His jackknife was his first start in this.

When last in Baltimore in 1880, at its 150th Anniversary, the wife and children of this man were still living and invited me to come and see them. I went, not having seen them in something like fifty years.

I received from his Honor, the Mayor of Baltimore, a request to know if I would come on to Baltimore to unite with them in the celebration of the 150th Anniversary of the founding of the City of Baltimore. They desired me especially to come, as they said that they believed that the small engine that I had put upon the Baltimore and Ohio Railroad, it being the first locomotive built in this country that would carry passengers, had been of great service in dispelling the prejudice that had almost stopped the progress of their building the railroad by the fact that they had been compelled to make so many short turns in going around the different points of rocks; that the information had become general that the thirteen miles that they had made had demonstrated that their road was impracticable to use for locomotive purposes. I then requested the principal stockholders, who were so discouraged with their prospect (*See pg. 77, supra.)

When Mr. Peabody, the London banker, was at my (*See pg. 114, supra.) house I gave him such information as I could in reference to my objects and purposes that I intended to accomplish by the building of Cooper Union. I recollect I rode down with him to his hotel and that I visited him there on several occasions, and while there was taken sick when I visited him several times and heard the doctor prescribe for him, he having a complaint of the kidneys.

April 11.

A long life has compelled me to believe that science is the rule or law of God by which the movements of the material creation are rendered intelligible to man; that science itself is nothing more than the knowledge of this law or rule, actually demonstrated by the experience of mankind.

Believing this, I have given the labors of a long life to the advancement and diffusion of scientific knowledge, feeling assured that when Christianity itself is felt in all its purity, power and force, when it is relieved of all its creeds and systems of human device, it will be found to be a simple system, science, or rule of life to guide and regulate the actions of mankind.

April 17.

* * * When Mr. Cobden was in this country he honored us many times at dinner so that I had many opportunities of hearing and seeing him, and as my recollection serves me the burden of his conversation was on the repeal of the current laws and the wonderful effects that would be produced by it in England and the benefit that would accrue to our own country in giving the people the provisions that we raise here in such abundance in exchange for the many things that they produce, more particularly at that time, as our own country has since that time made great progress in getting a great variety of use in its application to the things necessary for the convenience and comfort and abundance of those in our country.

The lesson we may learn from Mr. Cobden's earnest efforts for England may have had something to do with calling and fixing my own attention on such a course of efforts that, I hope, may be productive of similar benefit to my own country, and to accomplish that I may have been something like an enthusiast, as was Mr. Cobden.

My father used to say, when I was a little boy, that he had found a prophecy that predicted the scenes that afterwards were being verified in the French Revolution and Napoleonic Wars, which are represented in the following manner: "That yet in four ten years an empire shall divide, no foreign power shall stem the opening tide; a column bereaved in silence drooped her frame, and left her charge to freedom and to fame." As I remember, this prediction was said to have been found in the fly leaf of a book that had been fastened to the cover which, when wet, became loose and was made clear. This my father related, and often made it a subject of conversation.