

## Attachment A

Nathanael G. Herreshoff's biographical response, as prepared in 1930-1931 to Henry Ford's request to "place on record the early life of the American people."; and Mr. Humberstone's request "to learn more about the nine years you were with the Corliss Steam Engine Co.". Compiled from Nat's handwritten draft writings in Mystic Seaport L. Francis Herreshoff Collection 138 Box 16 Folder 13; items 15, 17, 19, 21 & 23.

Note: Editorial Comments and Corrections in brackets []. The names of his MIT professors were cross-checked with the *MIT 1865 Catalogue* to get the correct spelling.

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July 31, '31

Ford Questions completed Nov. 4, 1930

Nathanael Greene Herreshoff. Age 83 on Feb. 18, 1931. Born at Point Pleasant Farm, Bristol, RI

My early home was in a very old house on the above farm that was constructed by an early settler in about [blank no date] and at the time of the Revolutionary War belonged to Mr. Vassall, a Tory, and was confiscated and occupied by troops for a while. The farm was bought by my great grandfather John Brown, merchant of Providence in about 1795 from the U.S. Government. The fine old house, that had been unoccupied for some years was burned 192[?] with indications that bootleggers had a still set up in the cellar. The house it was said was framed of English oak brought over ready to set up, and the bricks for chimney were also brought from England. My father and his family occupied part of the house and ran the farm and remainder of the house was occupied summers by my uncle & two maiden aunts who live in Providence the rest of the year. In the part we lived in was a great kitchen with its brick oven of very ample proportions which was fired up every Saturday to do the week's baking of pies and cakes. In my younger days there was a stove with a rotary top, a big affair in which there were 6 or 8 holes for kettles, and by rotating the top any one the kettles could be brought over the fire, the hot gases passing under the others. This stove was replaced in about 1835 by one quite similar to the hard coal stoves of later days. Next to the kitchen and the other side of the great chimney was the dining room, which was also our living room. This room had a very large fireplace in which, in the early winter and spring a wood fire was kept burning, and I remember very well the baking of Johnny cakes in the hearth. The indian meal and water dough was plastered on a board and propped very close in front of a hot wood fire, in quite the manner the Indians did their cooking. The old Rhode Island Johnny cakes were made in this manner. White or Indian corn meal is used. Take the quantity required, which is not much as it swells in scalding, and put in a mixing pan, then dry warm it thoroughly either in an oven or before an open fire. After dried, pour on to it boiling hot water and mix thoroughly. Use boiling water enough to mix to a fairly thick dough. Add a pinch of salt, and bake either on a board before and open fire or in a pan, greased only enough to prevent sticking, or in a hot oven. The former method has to be turned to bake both sides and is more bother than if an oven is available.

Our dining room had a long black walnut table which was necessary, as there were more children of us, and generally 7 at table beside our parents and an aunt. The room also had my

mother's Chickering piano, her work table, book shelves and a beautiful French clock that was on a shelf in the corner. Of course there were many chairs and part of them very fine old mahogany with leather seats. In winter- after Christmas, a fire board was placed in the location of the fireplace ["with a hole for a stove pipe" is crossed out] and a coal stove was set up just outside the hearth. The stove was a sheet iron vertical cylindrical one with firebrick lining, with the usual fire door and ash pit door in front. The cast iron top had a hole & cover. Just back of the stove was a sheet iron drum of about same size as stove into which the flue ran. This had a baffle plate inside to compel the hot gases to heat it all over, A pipe from the drum went up into the chamber above, and into another drum, then to the chimney flue. With these drum heaters, which my father devised, the heating of living room and chamber was most efficient. In those days my sleeping quarters was with my next younger brother in a trundle-bed, that when not in use was rolled in under the parents' bed. It was mounted on wooden wheels, 4" or 5" in diameter set in slots in the short legs of the bed. I well remember the fun we had after awaking mornings putting the bed under as fast as our little bent up legs would allow, then giving a great push and try to bump the other side of the room.

I can very well remember the first mowing machine my father had, and the trial of it, and I think it was in 1855. Before that all mowing was done by scythes and extra men were hired for it. Hay rakes were in use before that time and also cultivators and harrows, and I can remember my father building great wooden rollers for smoothing the ground after sowing seeds. Also some very nice swinging gates to be put in driveways about the farm, for he was very fond of carpenter work and doing it well. He had also built several very nice boats just for the love of it.

In 1856 Point Pleasant Farm was given over to my father's elder brother and my father and his family move into the Town of Bristol, just over the harbor. I was then 8 years old. Here I attended the public school of the Town, and out of school hours devoted almost my entire time in guiding almost and assisting my brother John who had lost his sight. He was 7 years older and was gifted with remarkable energy and ability in mechanical matters. Even before he was 15 and before totally losing his sight he had fitted up a small machine shop and also had a small sail boat nearly built and thus got a rather early training in machine work and in boat building and sailing. Even when 10 or 11 I became quite expert at tempering small tools and when 11 I had the job of taking sections from a model and scaling for enlargement to full size for the sailboat *Sprite*, 20' long which my brother and father built in 1859-60 and is now in Mr. Ford's museum at Dearborn. After attending high school in Bristol I entered the Mass. Inst. Tech. in the fall of 1866 for a 3 year course in Mechanical Engineering. Here I was tutored by Pres. Wm B. Rogers, the founder of M.I.T. Profs Runkle & Osborne in Mathematics, Prof. Edward Pickering in Physics, Prof. Chas Eliot in chemistry, & Prof. Watson in mechanics. An incident occurred while at Tech, that put me quite in the limelight at the Institution. One day in the analytical geometry class I told the professor of a curve I had used in constructing a rotary engine I had designed and built when I was 16. He became very much interested and spoke of it to President Rogers, and I was asked to exhibit it before the Society [?] that held a meeting fortnightly in the M.I.T. building. So I had it sent from home and had it connected to run by steam at the next meeting of the Society and got great applause from the audience and a very complementary talk from Prof. Rogers. [Note Nat spells it "Rodgers" every time] After leaving Tech I obtained a

situation in the drafting room of the Corliss Steam Engine Co. At that time the Corliss works were at the head of steam engine building, and I think the largest in the country in that business. But compared with present day industries it was small indeed! For the machine shop proper was only 400 ft. by 50 ft. and this probably had nearly one half the floor area of all other buildings which included the Drafting room, pattern shop & pattern storage in one building. The foundry. The smith shop. The Boiler shop and Erecting shop. Mr. George H. Corliss was President. His brother William Corliss, Treasurer, and Mr. Edwin Reynolds superintendent at the time I went there, and a few years later William C. left and went into other business, and also Mr. Reynolds left to a call from the E. P. Allis Works in Milwaukee to become General Manager & Chief Engineer. After this Mr. Geo H. Corliss ran the works single handed, one might say. For he was President, Treasurer, General manager and designer. He was a man of great energy and ability in designing and was always busy. He had a very efficient corps of foremen, 11 in all who had charge of their departments which he visited every day and had consultations with the foremen. Mr. Corliss was very positive [?] I'm here in that everything about the works and grounds were kept in order which gave the plant a much better appearance than others of that day. He was a man of strong will power, but back of it a kind heart. I remember a incident regarding the trucking of a large boiler to a mill. The works had for trucking the boiler a very large truck for this purpose and when needed for hauling the boiler it was discovered a robin had built his nest between the spokes of one of the wheels and was sitting on the eggs. When told of it he gave orders that the truck was not to be moved until the young were ready to leave the nest. Thus by [holding] up the delivery of the boiler some two weeks. In the interval he visited the nest daily in his rounds of the shops to see that hatching process was going on all right. Very soon after my connection with the Corliss works, Mr. Reynolds took me out to a mill to assist in applying the steam engine indicators to determine the power used. This work I took quite a liking to and soon attended to all that work, and became known about the shops as the Engine doctor. It was a fine schooling for me in Steam Engineering matters and I was able to be of great in assistance in improving for Corliss his entire gear and particularly the vacuum dash pot, which became standard after 1876. I also took an active part in the development of pumping engines that Mr. Corliss became interested in in 1873 to 79. In 1876 I was given the duty of starting up the large engine in the Centennial Exposition building Philadelphia. These engines where for a great many years driving machinery in the Pullman Car Works.

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For a more concise account of Mr. Corliss and his work I refer to a very interesting paper written by George G. Phelps[?] and read before the Engine Builders Association of the U.S. at New York Dec. 1, 1902. At the end the year 1877 I left the employ of Mr. Corliss to join my Brother John in building steam vessels. This was quite to my liking for I was as much interested in boats as in steam engines. My Brother began the business in 1863, and from then to 1878 built a great many boats and among them several sailing yachts of reputation. In 1870 he built his first steam driven vessel and it was soon followed by others. As they all proved successful his business, which had been lagging, increased and began to have importance at the time I decided to join him and leave the Corliss Steam Engine Co.

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