

His Master's Voice
Was
Eldridge R. Johnson

A Biography

By

E. R. FENIMORE JOHNSON

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His Master's Voice.

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ACKNOWLEDGMENTS AND EXPLANATIONS

This book is an amplification of a book entitled "Eldridge R. Johnson Industrial Pioneer" which was written by my mother, Elsie R. Fenimore Johnson. To the material in that book I have added material based on my recollections of my father, on a biography written by Dale Kramer which I own, on the business records of Alfred C. Clark given to me by his widow, Ivy Saunders Clark, on information from Mrs. Arthur Gibbs, a daughter of the founder of the Gramophone Co. Ltd. of England, on my diaries and on my father's correspondence. I am the only person still living who met every man of importance in the talking machine business, including Emil Berliner but excepting Thomas A. Edison. When my father's statements differed from other sources, even sometimes from my mother's statements, I used my father's version.

Thanks are due to RCA for permission to illustrate their trade mark entitled "His Master's Voice."

My father, Eldridge Reeves Johnson, was one of the industrialists who played a substantial part in the building up of the prosperity of this country to the point where it has become the envy of the world. That in itself was a commonplace event in the late 19th and 20th centuries. In itself it is not a sufficiently outstanding performance to warrant remembering any one man beyond the many who participated in our national growth. My father was not the inventor of the talking machine. He was always quick to give the credit to Thomas A. Edison, to whom that honor solely belongs. My father was the inventor of many improvements of the basic device but there were many other talking machine inventors of equal importance, especially Emil Berliner. My reason for regarding my father as deserving to be remembered is that he is the one man who by personal greatness halted the petty quarrels which were retarding the progress of the newborn industry, and then by his inventive and business genius made it possible for the first time in the world's history for good music to be heard in even

the most_humble__home. In this day in which music is heard everywhere at any time we have no conception of how little music entered into the life of the average person only one hundred years ago.

Soon after he founded The Victor Talking Machine Company of Camden, New Jersey, talking machines made their way all over the world. Travellers encountered them from the Eskimos' arctic igloos to the thatched huts of the tropics. They became fixtures in all classes of homes. They were almost invariably a feature of the plush parlors of the rich and the great. Seventy-five percent of these pleasure-giving machines bore the "His Master's Voice" dog and talking machine trade mark which my father, in his wisdom, made famous by placing it on products of only the very finest quality. The secret of his success was a quality product sold always at a fair price. For this feat of putting "The Gift That Keeps on Giving" into the homes of the common man, I believe that Eldridge Reeves Johnson should not be forgotten.

The Author

CHAPTER I

THE END OF LIFE IS ALWAYS TRAGIC

The end of the lives of good men and good women is always tragic. There is no such thing as a pleasant death either for the dying or for those left behind. I am firmly of the opinion that biographies, like other books, should end pleasantly. Therefore, I am going to describe the misery and suffering of the Eldridge R. Johnson family as it died off in this first chapter. I am not going to dramatize it as I have no desire to bring tears to the eyes of those who love tragedy, nor have I any desire to preserve the sadness of the events for my father's great grandchildren who will be reading this book some day, I hope.

Caroline Fenimore MacEwan (big sister Carrie) was the first to go. She died in 1913. She was only forty-five years old. Captain George W. Fenimore (father-in-law) lost his fortune of about \$30,000 by putting all of it into bonds of the Asbury Park Fishing Club. Then he lost his half sister, Eva Collings, and the other half sister, Mary Collings, did not choose to run his house for long. He sold his house in Asbury Park and moved over to Harvey Cedar's place in the small neck of land in New Jersey which bears that name. There he began to drink too much. When about seventy years of age he took a swing at a man and hit him so hard that he made a carom shot and knocked down two men. My father and mother decided that it was time that he had a home and brought him to their home.

About a year before that event he had begun to write poems which were published in the Asbury Park News. While living with my parents he was able to employ a chauffeur and make frequent visits to Philadelphia, where he had a lot of cronies. Much to the rage and disgust of my teetotaler mother, he frequently came home somewhat tight. When this happened she would refuse to let him in the house so he would go over to my house, where my wife Janet took care of him until he sobered up. The expeditions to Philadelphia ended when he developed prostate trouble and was confined to the third floor, where he had a suite of rooms. One

day in 1926 he managed to call my mother. Captain Fenimore said, "Daughter, I do not want to die." Daughter said, "Papa, you are not going to die." Papa died. That happened in 1926 when he was eighty-six years of age. He had been a teetotaler most of his life but a chain smoker of cigars, which, if it shortened his life, hardly mattered.

On the 7th of June, 1931, Captain Isaac R. Fenimore (Uncle Ide) died. He was perhaps a year or two younger than Captain George. On the 26th of June, 1933, Belford G. Royal died. He was the best friend that my father ever had, a truly loyal man, and my father's righthand man in business.

→ On the 7th of August, 1933, my father, Eldridge R. Johnson, arrived home from Europe very ill. His trouble was prostate trouble, too. He was only sixty-six. On the 27th of August that year he gave me a Power of Attorney over all of his affairs and his only order was "Do not invest my cash." On the 9th of January, 1934, he was operated on and successfully came through the operation. Unfortunately, the melancholia which began to afflict him about age fifty returned and became his permanent condition.

→ Melancholia is not understood by persons who have not had it. Psychiatrists have described it in detail and most of their description is wrong. Basically the sensation of melancholia is a feeling as though somebody has just died even though nobody has, but the person so afflicted retains his or her intellectual power and while he is disinclined to adventure, he is by no means unable to make up his mind as is a person who is in a state of depression and I am not talking about a condition of dejection, which is something that everyone is afflicted with from time to time in life when events go against them. The big mistake which is made by psychiatrists and all who have never been afflicted with melancholia is that a person can be cured of melancholia if only their attention is diverted and their interest is aroused. My three cousins and I did all we could to keep my father company. We sat and talked to him and we went out automobiling with him and that was all to the good.

What was not all to the good was my and everybody else's efforts to coax my father back to his business office. Our pressure

became so great that in January, 1938, and thereafter several times at intervals of about a week, he actually did return to his private office and perform some work. Unhappily, the word spread around that he was back in his office and a section of the hall before which a long bench put there for seating people who were after money became once again filled up. I escorted my father into the office, stayed with him while he was there, and escorted him out through a secret door down the hall. One man, presumably a do-gooder, spotted my father's car as it pulled up to the entrance of the office building and he stationed himself in the lobby. When my father stepped off the elevator, this man ran up and grabbed him by both lapels of his coat. He said, "Mr. Johnson, you must listen to what I have to say." I body checked the man half way across the lobby. My father, who was naturally of a florid complexion, turned white as a sheet and began trembling like the powerbial aspen leaf. None of us ever again raised the subject of going back to the office.

On March 22, 1941, Eldridge Johnson MacEwan (Little El – nephew El) died indirectly as the result of dengue fever which he had contracted while serving as a marine in Santo Domingo during the occupation soon after the end of World War I. Nephew El was only forty-one. During World War II nephew George and I rejoined the service, he in the army, I a lieutenant in the navy. My father was seldom able to venture out of the house because of the danger of being pestered by seekers after money, unless of course he went out in his car. His doctor was able to obtain a gasoline ration so that he was able to take a short ride almost daily. Nephew George and I got out of the service promptly after VJ Day, which was fortunate because I was scarcely home when a phone call came from my mother. She informed me that my father's blood pressure had become dangerously high. On the 10th of November she asked me to come to Moorestown and stay. My father had a swollen leg and foot. His chest was bothering him and the doctor said there were heart symptoms. When I went in to see him, he said, "You know, I think that when you die you are just dead." I said, "Pop, I don't know. I just don't know." About 9:30 P.M. he said, "I think I have got to hand in my chips." I said, "Whatcha

mean, pop?" He said, "I mean I am going to die." I inquired what was the matter and he said he had a bad pain in his right arm and in his stomach. From what I knew about heart trouble, the pain in the right arm did not fit. Nevertheless, I called my mother. She called the doctor and a heart specialist, who came quickly. They told my mother that he had less than an even chance to live. The general practitioner took me aside and said bluntly, "If he lives through the night he may live three months." Like most heart patients, he was propped up in bed. He remained quite calm and was able to sleep without further doses of morphine after the first shot. On the 13th he inquired about the condition of his business affairs. I was able to inform him that his disputes with the Internal Revenue Service had all been settled and practically all of them in his favor and that his investments were in excellent order. He said that he expected that he would have a good night's sleep and bid my mother and me good night. At midnight the nurse called me. He was still breathing but his mouth was open and his eyes shut. At 22 minutes past midnight he died, age seventy-eight. His desk was empty excepting for a loaded revolver and a sketch that indicated that he, not the man who took out the patent, was the inventor of a device that sold well for a while.

As soon as she possibly could, my mother fled from the gloomy old greystone castle-like dwelling in Moorestown, New Jersey, and took up residence in Gladwyne, Pennsylvania, about a mile from my residence. She took all her pretty things with her and arranged them tastefully in her new home. She was fortunate in being supported by a staff of servants who had been employed many years before, in the days when servants took pride in serving well. She played her piano, did a good deal of reading and tried hard to keep up an interest in life but her life had been built around my father. Without him it became empty and forlorn. Her few friends died off, as most friends do when one enters the eighties. At about eighty-seven she showed signs of second childhood. She suffered horribly and needlessly from Xray burns which were administered to control cancer of the breast. This burn was caused by double dosage of Xrays which in turn was caused by a careless doctor who did not trouble to check on the amount

of Xray that had been administered by the preceding doctor. In her 88th year she sank into a coma, from which she could be aroused for only a few moments at a time. Just before her 91st birthday a nurse carelessly spooned some food into her mouth before she was ready for it. She inhaled some of it and the resulting pneumonia was the direct cause of her death. ←

CHAPTER II

A TRADITION OF GENTILITY

Captain George Washington Fenimore, Jr. ordered his dinghy lowered. His two-masted schooner, the FLY, was anchored off the mouth of Charleston Harbor. Under cover of darkness his crew was unloading supplies for Union vessels. The first tentative blockade of the southern coast had commenced. At a suitable moment when the dinghy was at the top of a wave the captain dropped into it. Casting off, he commenced rowing toward the shore. He had blue eyes, golden blond hair, and whiskers. The whiskers were fairly long on the sides but around the mouth he was clean shaven. His lips were thin and compressed so that the line was a slit. His shoulders were broad. His total spread from the tip of the fingers of one hand to the tip of the fingers of the other was 6 feet 4. The dinghy fairly hissed through the water, propelled by the strokes of the powerful captain. After rowing for some time through the warm darkness, a vague outline of shore appeared. The captain was well known and well liked in Charleston. He was going ashore to visit his girl friend. Suddenly he heard the unmistakable whistle of a ball as it passed his head. This was followed by the report of a musket. The captain spun his dinghy and rowed away from shore at a far faster rate than he had approached it. Until that night the sentries had obligingly looked the other way once they recognized the captain's figure in the darkness. Probably the shot was not intended to hit but it had come too close for comfort. It was unmistakable notice that damn-yankies were no longer welcome to call on Confederate girls. There was no romance after the war. The captain married somebody else. Running his dinghy alongside his small vessel, the captain seized her rail in both hands and vaulted onto the deck, a true Viking with his hair and beard blowing in the wind, but when he stood upon the deck he was only 5 feet 2 inches tall, a Viking with stumpy legs and the build of a gorilla. His hands actually hung below his knees when standing up straight. Regardless of his small stature, the captain was held in great respect by the crew. He

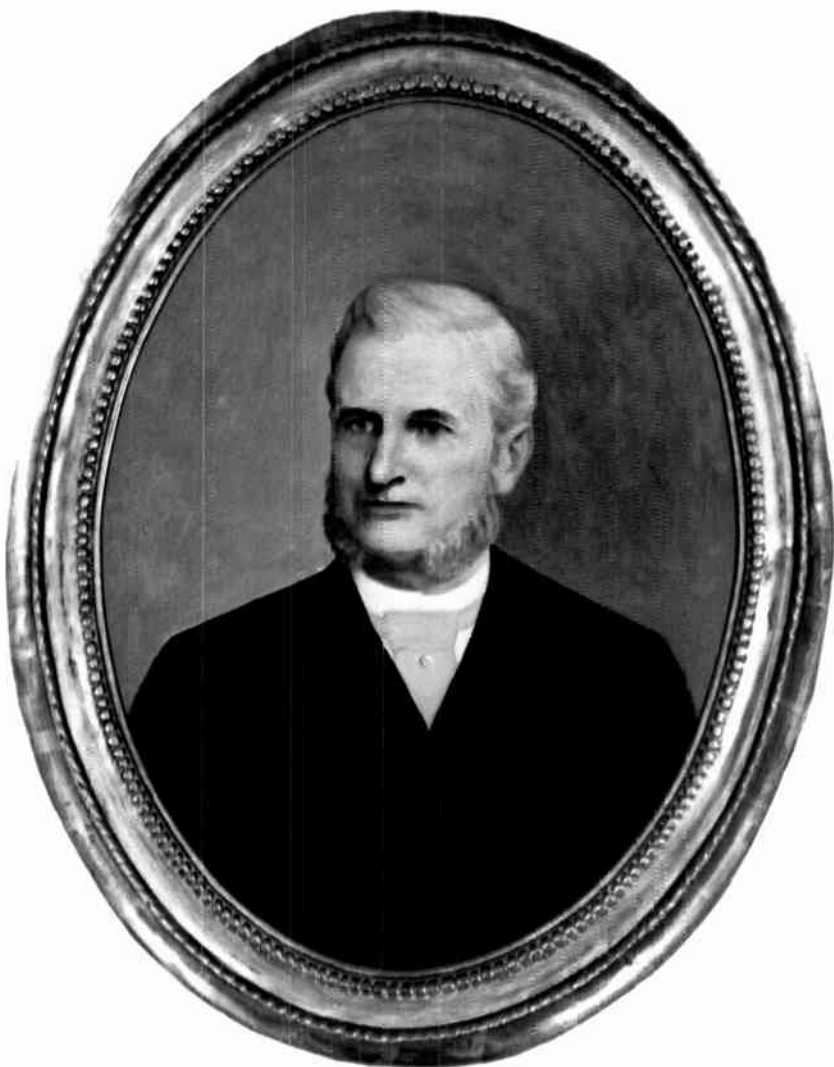
had a punch like a battering ram and he did not hesitate to use it at the least sign of insubordination.

Private Asa Stockley Johnson, wearing a blue uniform and a visored cap with a round top which was smashed down in front to give it a rakish look, leaned on his musket and stared boredly across the mouth of the Chesapeake from the top of the yankee earth works at Cape Charles, Virginia. Sentry duty has bored soldiers ever since there were soldiers. He was 5 feet 10 inches tall, with black hair and blue eyes. A beard and mustache covered his face so that you could see little of it. He was a carpenter by trade. He had volunteered early in the war. He was promoted to corporal. When his time was served out he thankfully took the train to Dover, Delaware, with his honorable discharge in his pocket. He spent the rest of the war working at his trade. Captain Fenimore and ex-Corporal Johnson had one thing in common. They were the first eldest sons in a long line of eldest sons in their respective families who inherited nothing. Later they were to have something else in common. Asa was to father a genius who would marry the captain's youngest daughter, but before getting to that let us go back a little in the history of both families.

The tradition in the Johnson family was that a Johnson had come over from England and settled in Virginia in very early times and that he was a gentleman. But, despite the best efforts of a genealogist, nothing can be found back of a Samuel Johnson who came up from Virginia with a king's land grant in his pocket and settled on the Indian River. It must have been a pretty large tract of land. It seems to have extended from about the middle of Chincoteague Bay on the south to a neck in Assowoman Bay on the north, which is now Worcester County, Maryland. There are records of this man in Annapolis and Somerset County, so he must have been of some importance. I, son Fen, used to dream of Samuel Johnson striding up out of Virginia carrying a Kentucky long rifle and wearing a deerskin with fringes at the shoulders and bottom of his jacket, fringes down each trouser leg and moccasins on his feet. My mother used to prattle about his coming up in his coach followed by wagons bearing his slaves and household goods, but my father, though he never mentioned the fact, knew better.

He knew that Sam Johnson put his family, his household goods and his slaves on a coasting schooner, or maybe two coasting schooners. In favorable weather the master slipped across the mouth of Chesapeake Bay and ran into one of the deep inlets to anchor for the night. Carefully watching the weather, the voyage continued up the coast until the vessel entered a deep inlet leading to the Indian River. The vessel or vessels proceeded to the Johnson land, where he off-loaded and built a house.

The other family, the Fenimores, stayed safely in England for a little longer than did the Johnsons. Probably they had a lot more money. The family site was a rather grand mansion called "Finmere", which has been preserved in England by the national trust and a picture of it was published during the 1960s in the London Illustrated News. There are records of the village of Finmere in Oxfordshire as far back as the year of 1154. Nevertheless, the Fenimores managed to arrive before the Revolution. They were Quakers. But the leading member of the family, Richard Fenimore, at the beginning of the Revolutionary War was a fighting Quaker. He got himself kicked out of Quaker meeting because he organized a troop of cavalry. His sword with a silver hilt and silver scabbard is in the possession of a descendant who lives somewhere in the State of Delaware. A big family Bible is also in existence. In middle life my mother spent much time trying to locate these family heirlooms without success, or if she did find them her relatives refused to part with them. Some Fenimores settled along the Ranococas Creek and in Delanco, Burlington County, New Jersey, where George Washington Fenimore, Senior, had large land holdings. Other Fenimores settled along the Main Line of the Pennsylvania Railroad before there was a Main Line. There is land and a lake bearing the Fenimore name in the vicinity of Radnor, Pennsylvania. George Washington Fenimore, gentleman farmer, became too interested in riding to the hounds and entertaining people instead of running his farm. Perceiving that he was about to fail if he did not give up his bad habits, he too loaded his family, his furniture and his servants on a schooner, sailed down the Delaware River, up the Leipzig River, and made a new start as a somewhat less genteel farmer in



Capt. George W. Fenimore, Jr.

the state of Delaware. He was born in 1805. He married Mary Reeves. They had two sons, George W. Fenimore, Jr., Ide R. Fenimore, and a daughter, Sara Caroline Fenimore. Senior died in 1845.

In Great Britain, and to a lesser extent on the continent, the nobility who were large land holders, and even those lesser lights, the gentry, usually followed the practice of leaving all of their land and wealth to the eldest sons. Younger sons were given the finest education the family could afford but once they had graduated from Oxford or Cambridge they had to "scratch gravel" for themselves. These younger sons, not the eldest sons, were the true builders of the British Empire. The British and the Europeans, when they came to America, did not follow the custom of leaving their land and wealth to the eldest sons. They adopted the radical custom of dividing their land and wealth equally among all their children. For four generations the Johnson land was divided. The plots of land became too small to be profitable as farms. The result of this was that Azael Jackson Johnson, the grandfather of Eldridge and father of Asa, assigned his land to a Noah Johnson in return for board and keep for the rest of his life. Noah Johnson was able to farm profitably. That is why Azael left no estate and Asa had to learn his trade of carpenter.

By September of 1865 Asa S. Johnson had learned something of architecture, was designing houses and contracting to build them. He was able to marry a lady, Sara Caroline Reeves. One more shadow must pass in review. Captain Sutton married the widow Mary Reeves Fenimore. He was described by his granddaughter, Elsie Reeves Fenimore, as an unstable character. He fathered at least one son and one daughter. The son had two daughters, known to me, son Fen, as the Sutton girls. They were not unstable. They were good business women. They operated the Victoria Hotel in Asbury Park, New Jersey, and later managed one of the early department stores – quite successfully, too! Upon the outbreak of the Civil War Captain Sutton walked out of his home in a huff, joined the Union Navy and was killed. On the 27th of February, 1867, Captain George W. Fenimore, Jr., of Philadelphia, married Captain Sutton's daughter, Amanda I. Sutton of

Newcastle, Delaware. The Captain and Amanda had four children. The eldest, Caroline Sutton Fenimore, was born in 1868 and the next daughter, Elsie Reeves Fenimore, arrived in the open air on the 20th of May, 1870. Amanda bore two more children, a girl and a boy. Both died in babyhood. By then Captain Fenimore was master and shareholder in the three-masted schooner FLORENCE KNOWELES. In 1872 he sailed from Philadelphia with his wife and two daughters aboard. He traded along the New England coast every summer for the next six years. In the winter he took his purchases to the Caribbean, where he sold them and returned, we presume, with the customary cargoes of sugar and rum. His wife, Amanda, like her father, was none too steady a person. When she got excited she would let it out by singing to the sea. She seems to have died suddenly circa 1883, she of the glossy raven hair and jet black eyes.

The captain then married Eliza Jane McManemy, the daughter of his banker. His new wife did not get along with his daughters, which was the reason why Captain Fenimore took his two little girls on a voyage to South America early in 1884. His wife stayed at home on Captain's Row in Philadelphia because she got sea-sick and stayed that way. Most people recover after a few days at sea.

In the years of 1878 and '79 the barkentine ELIZA J. McMANEMY was built at Milton, Delaware under the supervision of her master to be, George W. Fenimore, Jr. In addition to being her master, he was also the principal shareholder. Her L.O.A. was 152 feet, her beam 34½ and her depth of hold 18½. Her net tonnage was 745.12. In addition to the master, she required a crew of ten, two mates, one combination cook and steward and seven hands before the mast. Her hull form was that of a clipper and she could run as good as the best, which was fifty days from the Chesapeake Capes to Rio de Janeiro. She voyaged from Lisbon, Portugal, to Philadelphia in thirty-seven days, carrying salt and cork wood. She made a run from Pasages, Spain, to Philadelphia in thirty-six days loaded with iron ore. There is no record of her voyage to France and part way up the Seine toward Paris. Elsie remembered the vessel well enough to draw her plan for son Fen. It showed the customary forecabin forward plus a galley and a

carpenter shop. The foredeck was low, well below the bulwarks. Amidship there was a raised deck which ran all the way aft to the quarter deck. The bulwarks were breast high around the quarter deck which protected the man at the wheel.

In 1884 Captain Fenimore obtained a charter from the Baldwin Locomotive Company of Philadelphia. Clearance and bill of health in pocket, Captain Fenimore, wearing a tall silk hat, a boiled shirt, a high collar, a silk necktie and a Prince Albert coat with presumably striped trousers, walked in a dignified manner up the gangplank, preceded by his daughters, their hearts aflutter. They ran aboard ship and went immediately to the main cabin, where they inspected the glossy white paint and gold trim with admiration, and then saw, with surprise and great pleasure, the piano which had been especially installed to keep them happy during the long voyage ahead.

On February 14th the vessel proceeded down the river in tow of tug JUNO and came to anchor two miles below Ship John lighthouse. Unhappily, Mr. Nash, the mate, was quite ill so the voyage was delayed, hoping that it would not be necessary to send him ashore and procure a substitute. On the 18th anchor was weighed. The vessel drifted down to the buoy of the Middle Ground and dropped the anchor again because of the light and variable winds. Mr. Nash was able to be on duty. On the 20th the wind set in from the northwest and quite suddenly became a strong gale. The captain signalled the tug SAMUEL CRAWFORD to hold the vessel into the wind while he got the anchors up. The tug cast off and her Captain Kane and crew wished Captain Fenimore a pleasant voyage and fired a salute of three guns. At 12 midnight the barkentine passed out of the Delaware Capes with a fresh northwest wind. The voyage was fairly under way at last. On the 27th day out they crossed the equator.

Carrie was of normal height but Elsie just did not seem to grow. There was not a chair or a bench on board which was low enough for her feet to reach the deck so her papa, the Captain, made her a little stool, a very neat little stool with inlays of colored wood. Elsie treasured it and kept it by her all her life because she never grew to be more than 5 feet 1 inch tall. The two



The ELIZA J. McMANEMY



Caroline Fenimore



Elsie Reeves Fanimore

girls were quite different. Carrie was independent and often defiant. Elsie could be defiant but seldom was and she demonstrated her affection for papa more often than did Carrie. Strangely, Carrie showed fear in storms and Elsie laughed at her, which caused Carrie to say that Elsie had no feelings. When the ship sailed there was a barrel of oysters on board but these were soon consumed. They supplemented their diet by fishing. On April 19th they sighted seals and sea lions. Some of the latter were laying lazily on the surface and the sea gulls actually perched on their backs. The little girls wanted one captured and were quite disappointed when they were told that it was impractical because they were not equipped to battle with the great creatures. On that day, the 19th of April, 1884, the ship's position by dead reckoning was latitude 35.10 south, longitude 53.40 west.

On the 21st, sixty days out, they sighted the coast of Uruguay and passed into the Rio de la Plata. That night they received a Buenos Aires pilot on board. The next day there were difficulties with a rat. The Captain's journal says: "The rat that frequented the bathroom left it. Shortly after I threatened its life for spoiling some of our shoes and we did not see or hear anymore of it until late last evening, when on entering the bathroom I found it in possession again. As soon as I appeared it decamped on the double-quick – so did I – both of us adjourning to the after saloon. After closing the doors and being reinforced by the steward, who arrived armed with a rock, and I with a stick, we proceeded to cultivate the rat's acquaintance in a most lively manner. After a warm skirmish of about fifteen minutes, all three being pretty well winded, I made a strike that decided the battle and gave us, the steward and me, the victory. The girls were very much elated at our success."

On the 25th they anchored in the outer roadstead off the city of Buenos Aires. The captain and his daughters went ashore but were prevented from seeing much of the city by heavy storms with thunder and lightning. On the 29th of April they were under way again. The captain set the girls to loading shells for his shotgun. The girls became quite expert at this. On May 17th, seventeen days out of Buenos Aires, the vessel was anchored off Rosario, her

ultimate destination. The next day the vessel was laid alongside her berth. Stevedores were engaged and the long hard job of hoisting cargo commenced. The cargo was twelve locomotives for the government's Trans Andean Railroad. The lifting of the huge pieces of machinery and the chanting of the negro sailors as they heaved at the windlass were great novelties for many of the natives. A tall powerful North American negro sat on the top of the windlass and did nothing more than intone the singing, giving the first few lines, which invariably terminated with a desperate chorus about a darling yellow girl. Captain Fenimore said that but for the singing he would not get half as much work out of these men.

The Captain called Caroline "Carrie" but he called Elsie "Jap Eyes" because the jet black iris of her eyes exactly matched the jet black of the pupils. "Jap Eyes" could not face pain very well, but above all else she desired to look pretty, very very pretty. Regardless of her fear, she decided to have her ears pierced. A cork was placed under the lobe of her right ear – Jam! The needle pierced. "Jap Eyes" almost laughed with relief. There had been no pain, just a prickle, almost nothing. The other ear was done. Silver pins were inserted. She was happy. Soon she would be wearing earrings like the big girls and the big ladies. In the shops their father bought them sprays of sumptuous feather flowers. There were glass flowers, too, exquisite and breathlessly frail. Each little girl was allowed to choose a feathered fan. The background of Elsie's was white. On one side there was a flat bouquet of red and white feather flowers framed in a circle of swan's down and on the other a wreath of feather leaves, also circled with swan's down. The stick was of carved ivory. Caroline's fan was pink and had blue and white flowers. The girls were both enraptured with the humming bird jewelry. The heads of these miniature birds had been delicately mounted, their eyes of jewels, their beaks of gold. They swung from threadlike chains as pendants for the ears. Others were set as brooches, their lovely breast feathers preserved.

Under the watchful eyes of papa the two girls joined the counter clockwise parade of girls in a Rosario square. Inside the circling girls were boys parading clockwise. Regardless of her

finery and flashing black eyes, Elsie won no attention from the boys. She was just too little, too much like a child. Caroline, taller and busty, drew many an admiring stare. One youth was so impressed that he, after the custom of his country, went to his parents and the parents came aboard the ELIZA J. with a proposal of marriage. The Captain diplomatically explained that regardless of her appearance his eldest daughter was just sixteen years old and that sixteen was too young for an American girl to be given in marriage. The Argentinian couple expressed their disappointment, but holding customs in high regard, they politely withdrew their offer.

Sometimes the Captain and his daughters left the vessel and took a row boat to one of the river islands. There in the shelter of the great vines they found flowers. Elsie, knowing that her father would be pleased, would fasten some in her hair. One day on the muddy shore of an island they saw enormous round footprints. "Elephants", the sisters exclaimed wildly as they all bent down to examine the tracks. Their identification of the tracks did not speak well for their knowledge of wildlife. The captain declared as he rose to his feet, "That is the track of a peccary, a wild hog." As he spoke, Elsie and Caroline were following the prints into an opening in the thicket. "Stop", called the Captain, "This kind of wild hog is very fierce and I have no gun." The next morning he brought his gun to the island and followed the trail. Deep in the thicket he came upon a great nest and in it were snuggled seven baby wild hogs the size of rabbits. To frighten back the parents he fired once in the air. The babies shivered and hunched closer together. He bent down and lifted three gently into his arms. Then he hastened away through the thicket to the boat. The girls in glee immediately adopted the pets. Caroline, motherly as always, declared that they must be fed at once. They had not yet learned to drink so she took it upon herself to educate them. Dipping her finger first in warm milk, she gently placed it into their mouths. This procedure was entirely satisfactory to the hoglets. They sucked greedily. They proved to be the large sized peccary with a white collar. Two were delivered to the Philadelphia Zoo in excellent health.

A rhea, the South American ostrich, who was allowed the freedom of the ship, abused it. He ate everything that interested him. He chased the girls about the decks to nip the shiny buttons from their frocks. He stalked into the carpenter shop and swallowed amazing quantities of nails and screws. He uncaulked the oakum from the deck and swallowed it, but the proverbial ostrich stomach finally rebelled and he died of well merited indigestion. An armadillo named "Peck" survived to reach the zoo, as did some birds and a pair of marmosets. The tiny monkeys adapted themselves so graciously to their new environment that they proceeded to raise a family. The mother was barely 8 inches long and her baby was a mite of 3 inches. During nursing sessions the father assumed the post of a family guard and chattered threateningly if anyone approached too near.

One day Elsie observed the sailors aboard a nearby ship buying huge bananas from bumboats. They proceeded to eat the bananas raw. They became very ill and some of them died. This gave Elsie the lifelong and quite wrong impression that green bananas are poisonous. What the sailors actually ate were plantans. They are a large coarse variety of banana that cannot be digested by human beings until they have been cooked.

The locomotives having been unloaded, the vessel was loaded with hay. This was completed on the 21st of June. The last callers were received aboard and a last goodbye said, but supplies were slow in coming aboard. Also, the Captain had further business to transact on shore. Then, too, the ship was dependent on a fair wind. This did not come until the 19th of July. The ship was got under way but could not get clear of the fleet. There were some twenty vessels off Rosario. On the 20th they made it. The down river voyage was full of exasperating delays. An incompetent pilot put the ship aground. The Captain got her off and fired the pilot. On the 21st of August, one month and one day after leaving Rosario, the ship got clear of the Rio La Plata and was at sea bound north.

After so much interest and excitement on shore, the girls found it hard to settle into the routine of being at sea. There was of course the small chore of seeing and looking after some of the

animals. Then, when there was time, papa would instruct his girls in mathematics. Aft of the main saloon and below the quarter deck there was a tiller flat. Once a day the girls would enter the tiller flat, skip over the tiller lines and run swiftly through the door of what would have been a great cabin had it ever been finished. Crossing this to the stern windows they would look out and watch the sharks gobble up the garbage. Those sharks were not just any sharks. They were the Great Blue sharks, which are also called the Blue Pointers. They are an indigo blue on the back and a gleaming white underneath, slim bodied with a long pointed snout. Mainly they live in the open ocean. A length of 12 feet 7 inches has been reported by the Bureau of Commercial Fisheries and it well may be that they grow larger. They swim faster than any other shark. Easily keeping up with sailing ships, they sometimes would follow the same ship for a thousand miles.

In fine weather, with a fine easterly breeze, the vessel sailed into the harbor of Rio de Janiero on the 17th of September and at six bells in the forenoon watch she came to anchor at quarantine. The next day a tow boat took her to a dock. The cargo of hay from Rosario was discharged. Probably the Captain was much relieved because this type of cargo is inclined to catch fire from spontaneous combustion if it gets a little damp in a warm enclosed space. The Captain secured a charter to carry coffee to Savannah, Georgia. The Captain and the girls attended a lecture which was also attended by the Emperor of Brazil. His Majesty passed about bowing and shaking hands right and left, which shows that kings, princes and politicians are of the same mold. He was Dom Pedro the Second, and was the last crowned head of Brazil.

On the 4th, the coffee having been loaded, the Captain granted liberty to his crew. They, of course, got ingloriously drunk, came back on board and had a free for all fight. Two got cuts on the head, another one a black eye, and a fourth had his hand cut. The girls were on board but the Captain was ashore. Carrie got the Captain's revolver and held it close to her side until the fight was over. Then she walked right in among the crew and dressed the hand of the man whose hand was cut. On the 7th the First Mate got drunk and fell overboard at the landing. At the end of the first

watch, on the 8th, the tug came and the vessel was soon under way, passing out by the Sugar Loaf with a light wind from the southwest but such a tremendous sea rolling into the harbor that the Captain wished that he had not left his anchorage. As soon as they were clear of the land the wind freshened and though the vessel plunged frightfully, they soon obtained a safe offing and in the deeper water the sea became more regular. The First Mate being still under the influence, the Captain ordered him to his room, he certainly not being in condition to perform his duty. On the 28th, at nighttime, they saw a meteorite about 45° above the horizon, which moments later exploded into hundreds of fiery pieces. On the 30th of October Bahia was bearing west and they rounded the hump of South America. They were already over seven months from their home port of Philadelphia. The Caribbean was crossed. Cape Antonio on the western tip of Cuba was rounded. The ship entered the Gulf Stream and sped northward.

While still below Hatteras they experienced one of those nights which all mariners fear – fog, wind and a black night. Running on the starboard tack, another ship on the opposite tack and opposite course suddenly appeared. A collision was avoided by inches. Then there was a gale which shrieked and yelled. The captain roared his orders but few of the crew could hear. Caroline had gotten over her fear of storms. She grabbed the Captain's brass speaking trumpet, and, going out on deck, fought her way to windward, where the Captain clung to the rail of the quarter deck and handed the trumpet to him. Papa said, "Why, thank you, daughter, but you shouldn't be here." He helped her to the main cabin door. She went below. And, well, who knows, maybe that simple act saved the ship. The coffee was duly unloaded at Savannah. Hatteras was rounded with no trouble.

The two girls glowed with happiness at their homecoming when the ELIZA J. McMANEMY dropped anchor off the artificial ice guard island at Newcastle, Delaware. It had been an interesting trip. It had matured them. They felt like young ladies. But then there had been those long weeks at sea with so little to do. Now they were nearly home. The troubles they had had at home with

mama and their bad memories had grown dim. The good memories had grown bright. Then, too, their travels would give them a standing, make them glamorous to the boys. They were envied by girls who thought that a trip to Hatboro, Pennsylvania, was quite a journey and who could boast only of summers at Atlantic City, New Jersey, with dances and a conquest or so as their most exciting events. Unhappily, the exact date of the ship's arrival at Newcastle is lost.

Whether or not Samuel Johnson was a genius is a matter for speculation but it is quite certain there were no geniuses in the line of descendents until Caroline Reeves Johnson, wife of Asa S. Johnson, went to Wilmington, Delaware, and bore on the 18th of February, 1867, a son named Eldridge Reeves Johnson. Just how a black haired, blue eyed, black bearded father and a brown haired brown eyed mother managed to produce a son with blue eyes and hair the pale color of tow is one of those mysterious tricks that nature sometimes plays. In 1869 Caroline died. Her two year old son was sent to live with his mother's sister, his Aunt Elizabeth Reeves Johnson and her husband, Daniel Johnson. They lived in Kent County, Delaware, near Smyrna. Elizabeth was a sister of Mary Reeves Fenimore, the grandmother of Caroline and Elsie.

For the most part the child enjoyed excellent health but Elsie recalled and mentioned that he suffered attacks of malaria. The darkies' cabins were located along the edge of the swamps on the outer edges of the cultivated fields. The boy El would slip away from the main house and visit the darkies in their cabins. They would point to the scratches on his legs which were oozing yellow pus and say: "De witches done been riding you, boy, on their broomsticks." After dark they would point to the jack-o-lanterns in the swamps and say: "Yonder goes de debil and he is arter yuh." El was not impressed by this. He knew perfectly well where he got the scratches and that the lanterns were just swamp gas. He was oppressed and downcast at having to attend church twice on each Sunday and listen to his uncle, a lay preacher, preach hell fire as a penalty for sins. A vivid recollection was the sight of a great white owl over 1,000 miles from its arctic habitat. At seven or eight he began to have farm chores to do. These gave him a strong



E. R. Johnson, Age 5

body but a deep dislike for farming. On Sundays, after the long church services were over, he was free to remove his collar, his shoes and socks and go wandering barefoot in the fields. If the fields had been ploughed, disced and harrowed and a spring rain had been sufficiently heavy, he would walk about looking carefully at the ground. Small stones lay on top of little mud columns and occasionally one of these small stones was an Indian arrowhead or a scraper. The boy made a good collection. He even found a stone pipe. When he was ten years old he went on a voyage in a three-masted schooner with Captain Ide Fenimore. To Captain Ide he later wrote: "I have travelled on some of the finest steamers in the world but never in my life have I enjoyed a trip so thoroughly as the time we went to . . ." Unfortunately, the writing which showed the destination faded to the point of illegibility. Probably the boy was sent on the voyage to get him out of the way during the marriage of his father to a Miss Fannie Smith. At the age of ten the boy returned to Dover to live with his father and his stepmother.

Just when and how the Johnsons and the Fenimores became acquainted is not known but in accordance with the custom of the South, cousins, no matter how remote, were regarded as family and young El was welcomed to visit on a farm near Dover when the Fenimore girls were also sometimes visitors. Like all boys and girls on a farm, they sometimes roamed around on berry picking expeditions and when the peaches were ripe would walk up to a tree and touch a peach on the far side to see if it was ripe enough to drop into their hands. Caroline was tall for a girl and El was tall for a boy of his age while Elsie was a midget. Returning across an open field, little Elsie was unable to keep up, so Carrie and El grabbed her by the wrists. She drew her knees almost up to her chin and they swung her between them as they walked toward the house. Elsie's panties fell down. Carrie and El matter-of-factly stooped down, lifted up her skirt and refastened them. Elsie's black eyes stared at first one and then the other in fury.

El was sent to the Delaware Academy to commence his education. He was liked well enough by the other boys but not by the teachers. His grades were always poor, which of course

displeases teachers. He was often beaten with a stick. What displeased them even more was that he insisted on asking the reasons for this and that and the other thing and the teachers generally did not know. They just taught by the book. Son Fen, talking to him many years later, received this explanation. He said that when in school his eyes felt drawn and he felt as though a finger was being pressed into the center of his forehead. His years on the farm had given him strength greater than the average town boy. As a new boy he was of course picked on for awhile but he did not hesitate to use his fists and the picking stage swiftly passed when even older boys got more bruises than they gave.

Dover did not boast of brick or stone sidewalks in those days. Such sidewalks as they had were made of wooden planking. This planking was ideal for spinning tops. The tops were very plain pear shaped pieces of wood with a steel pin set into the small end. A boy would hold a piece of whipcord to the large end, lead it up to the pin and start winding the cord onto the top, then taking a turn around the middle finger and gripping the top by the large end, he would throw it as hard as he could down to the sidewalk. The moment the top had left his hand he would pull strongly upward. The top would turn in mid air, strike the board point first and spin. When a man would pass by the boys would beg him to throw down a penny. If he did the boys threw their tops and the one who put a dent in the penny got to keep it. One day a man searched his pockets and not finding a penny threw down a silver dollar. A half dozen tops punched dents into the silver dollar. The man picked it up, looked at it and put it back in his pockets and walked off. The boys did not think that was exactly fair but then they did not really expect to get a whole silver dollar either. In addition to wanting tops, all the boys in Dover had a deep yearning for a Barlow knife. These pocket knives were very strongly built. One-third of the handle was metal and the other two-thirds was a brownish colored wood. There were two blades, one for rough work. That one was $2\frac{1}{4}$ inches long and had no point. The back of the blade was quite thick and this thickness curved around at the tip, making the blade quite strong. It could cut thick shavings. The other blade was $1\frac{1}{2}$ inches in length and

had a sharp point. Young El never got his Barlow knife until as a young man he bought one for himself and he carried it for many years. Late in life he told son Fen of his yearning for a Barlow knife.

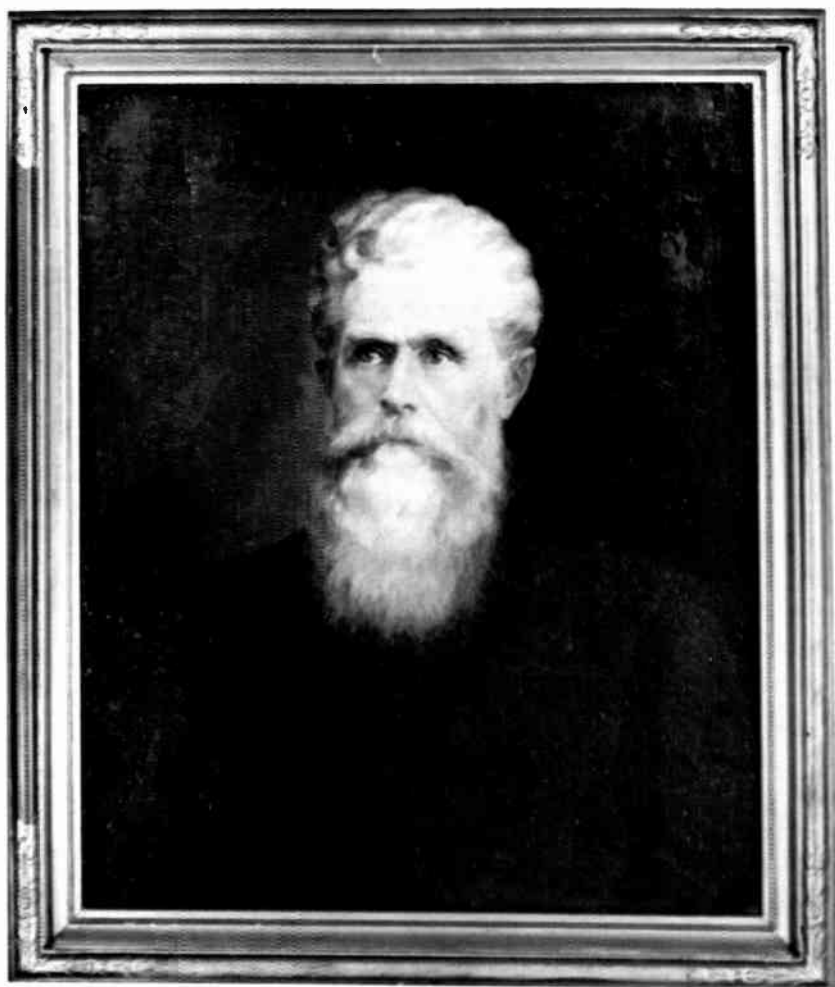
In the summertime, after the boy's return to Dover, Asa Johnson used to take his son El on the train to Lewes, Delaware. Sometimes they just went fishing. At other times when it looked as though the weather would hold fair for a day or so, Asa and the boy would take passage on one of the fast cutters that acted as ferries to Cape May. In Cape May they would visit a Mr. Eldridge, who was Asa Johnson's best friend and after whom he named his son. There is confusion among the Eldridges to this day in Cape May. Most of them think that they are related to the famous founder of the Victor Company.

→ In 1877 there was an event of which the boy El was totally unaware. Thomas Alva Edison invented the talking machine. By the following year it was doing well as a side show attraction. Edison tried to make a disc record with tinfoil. He failed because the waves were too crowded toward center. He attempted to make a spring motor but failed at that, too. Then he followed his natural bent and used an electric motor driven by batteries. It might well be that the success of Berliner with a flat record was simply due to the increase of the record diameter so that the waves toward the center of the record were not jammed up together. Who knows and who cares? Well, I, son Fen, both know and care because if Edison had gotten a patent on a spring motor and a flat record the family business would have been the manufacturing of wire stitching machines. That would have been small potatoes compared to the talking machine and record business.

In 1882 El Johnson, age fifteen, managed to graduate from the Dover Academy. He did a little better than Edison, who quit school at the age of nine, and a little better than that latter day managerial genius David Sarnoff, who did not graduate from high school. Young El had his heart set upon going to college because that is where gentlemen went, and above all things he wished to be a gentleman. His father could well afford to send him to college but then, unlike now, getting into college with poor school marks

was a problem. Asa Johnson and his son went to see the director of the Dover Academy. The interview was short and blunt. Eldridge explained his desire to go to college, and the director turning aside from the father said directly to him: "You are too God damned dumb to go to college. Go and learn a trade." Those words are a direct quotation which son Fen clearly recalls his father repeating to him. Eldridge Johnson was broken hearted. The youth who wanted to be a gentleman was condemned to labor with his hands.

In the following year of '83 he was accompanied to Philadelphia by his stepmother. On the train he cried all the way to the city. She left him with her sister's household. The family's name was Wendell. There was a grandfather Isaac, a Mr. and Mrs. Harold S. Wendell, two daughters and a son of the same age as El. The reason for the move was because El had been apprenticed to the firm of J. Lodge & Son, 103 South Hudson Street, between 3rd and 4th Streets, near Independence Hall. South Hudson Street is now called Orianna Street. The firm repaired printing machines and did general machine repairing, manufactured steel bank note rolls and wire machines for making bustles. El's first work as an apprentice was to shag off castings, that is to say, he used a very coarse file called a shag to remove the flashes which were thin fins of cast iron formed by the molten metal when it flowed between the parting lines of the sand moulds. He thoroughly, completely, and utterly detested his work regardless of the obvious skill which he soon showed in working with his hands. For example: He could sort ball bearings to within the thickness of a sheet of paper by picking them up and rolling them between his fingers. Like any other machine shop apprentice, he was obliged to make many of his own tools. He made inside and outside calipers of flat sheets of steel. Then after coating the hinge points with beeswax and positioning two washers, he inserted a steel pin and peened over the heads of the pins to exactly the right tightness. These calipers can be seen in the Eldridge R. Johnson Memorial in Dover, Delaware, and son Fen has one pair which today, almost one hundred years later, he still uses, the tension not having changed in the slightest degree. Young El's apprenticeship was a period of



Asa S. Johnson

relative affluence in his life. Perhaps by way of consolation his father granted him an allowance of \$12.00 per week. The average wage of non-farm workers had not yet reached \$10 per week and the starting wage of Mr. Walter Page, a graduate of the Massachusetts Institute of Technology, with a degree in engineering in 1897, was only \$12 per week.

In 1886 Captain Andrew Scull bought a very small building, only 20 x 40 feet, at 108 N. Front Street, in Camden, New Jersey, and financed his son John, a mechanical engineer and a graduate of Lehigh University. Of him, many years later, Eldridge Johnson wrote: "Had he lived the business started by his father for him undoubtedly would have prospered under his management, in which case my career would have been different. Certainly there would have been no Victor Talking Machine Company. Of this I am quite sure for no other combination of circumstances could have caused the Victor Talking Machine Company to have formed." In 1888 young El finished his apprenticeship and his father immediately stopped his allowance. He went to Mr. Lodge and asked for journeyman's wages. Lodge refused to pay him that much. Angry over the refusal, young El went over to Camden and obtained employment in the Scull Machine Shop. Young Scull died very suddenly that year. Johnson wrote: "I took charge of the Scull Machine Shop as foreman and manager. Andrew Scull, who was a sea captain by profession, had no particular liking for the repair business. It was his impractical scheme to pay a certain portion of the expenses through the repair work and in the meantime develop the factory along the regular lines of manufacturing."

"Young Scull had left a partially completed invention of an automatic bookbinder which his father wished me to perfect and he instructed me to make this my main purpose. I soon discovered the principles of young Scull's invention and was able to construct a practical machine from the records and experiments which he had left. Feeling that my task was finished and that there might be broader fields for me in some other location, I resigned the position as foreman and went on a sort of general scouting expedition through the West. I visited the state of Washington and

lived there about a year, during which time I found plenty of employment at liberal salaries but I never felt exactly at home or satisfied in the West and my experience convinced me that the East held far greater opportunities for a young mechanic.”

Actually the employment which young Eldridge Johnson found in the West was not that of a mechanic. He had had experience in running steam launches on the Schuylkill River and had observed a class of men known as stationary steam engineers. He said: “They were grave, silent men and I thought their profession was one which merited respect.” In those days there was not much margin for error between operating a boiler at maximum efficiency and reaching pressures that would cause it to blow up regardless of the safety valve which was supposed to pop but in too many instances did not. In addition to acting as a stationary steam engineer, he usually was obliged to act as fireman. This involved picking up and hurling into the furnace the slabs of wood which were cut from the sides of logs when the logs were squared up in preparation to being cut into balks of timber and planks. Eldridge Johnson’s muscular development became markedly larger than that which was usual in other men.

All along, from job to job, he had been careful to save a portion of his wages. When at last he was offered really big wages he found that the job was working in ice cold water up to his waist. That did it! He had had enough of the West. Once having made the decision to return to the East, he calculated the cost and concluded that he could make it without further employment. He started back, travelling of course in day coaches, as pullman travel was far beyond the price that he could afford. Travelling by day he sometimes stopped to obtain a solid meal and a solid night’s rest in a boarding house along the way. On one such occasion one of the boarders asked him to take a walk in the evening after supper. Eldridge noticed a bulge which he interpreted to mean a gun under the man’s coat. He consented to go for the walk but strode so closely alongside the man that had the man intended to hold him up, which is what Eldridge thought, he would have controlled the man by a bear hug grip with one arm while pounding him with the other fist.

By rail he made two successful crossings of the outlaw trail which was being ridden in those days by George Leroy Parker, better known as Butch Cassidy, a train robber by profession who had been born in the same year as Eldridge. Another hazard which existed but was not encountered was hostile Indians at Pine Ridge, South Dakota, in the year of 1891. There were sporadic outbreaks of Indian hostility in the West until 1911, when Shoshone Mike led an attack near Getchells mine and killed several people. That was in Humble County, Nevada. And there were sporadic Indian raids along the Mexican border into the United States clear up until 1926. Eldridge must have known something of these dangers from reading the newspapers but he never expressed any concern for the risks of his travels. He did tell son Fen that at Altoona, Pennsylvania, he spent his last nickel for a sandwich and had nothing whatsoever to eat until he arrived in Philadelphia and contacted relatives. Being desperate for work, he accepted employment at a coal mine and, boarding a train, went back up into the hills of Pennsylvania. Upon detraining he discovered that he was with a group of strike breakers who were met by a large gathering of union men. The leader of the union offered to pay the return fare to Philadelphia of anyone who would get back aboard the train. Eldridge, deeming it discreet to do so, was among those who accepted.

CHAPTER III

FROM LABORER TO BUSINESSMAN

Again quoting from the writings of Eldridge Johnson: “In 1891 I drifted back to Philadelphia. Mr. Scull sent for me soon after my arrival. He had been unable to market the bookbinding machine on account of the excessive cost of manufacture. He was greatly disappointed in this as he had staked a large portion of his capital in the enterprise and he found himself in a bad financial position, which is the usual luck of those who undertake to finance mechanical experiments. He stated his financial condition to me frankly and said: ‘If you will again take charge of the machine shop you may have half of whatever profits you can make it yield.’ The position appealed to me strongly. It was the ambition of my life to be the proprietor of a machine shop but I did not know what I was up against when I accepted Mr. Scull’s apparently liberal proposition. The work was hard, very hard, the profits small, but we divided and I managed to live on my share even if I could not dress according to the latest fashion. My wardrobe did not contain a dress suit and there was plenty of room for somebody else’s clothes in my trunk.”

It was the period of partnership with Scull during which Eldridge suffered the hardship of true poverty. When there was enough money in the till Eldridge took out \$10 per week and Scull a little more, but when there was not enough money in the till it was Eldridge, not Scull, who went without. His standard of living fell so far that he shared a room that had only one bed with a mechanic by the name of James Gannon. Gannon worked at night. Eldridge slept in the bed at night and Gannon slept in it during the day.

Resuming the quotation of Eldridge’s own words, which are more pungent than those of anyone else who has written about him, he wrote: “I could have easily made over three times as much money by working for someone else but the dignity of proprietorship held me to the purpose. The sacrifices that I made in the early stages of my career for the purpose of being my own



E. R. Johnson - Circa 1890

ELDRIDGE

boss were more than I could be forced to repeat. We had hard times and plenty of them. Captain Scull retired and lost confidence. It became apparent to both of us that the little machine shop could not be made to yield sufficient profit to support two and eventually it became a question of which one of us should leave, so Mr. Scull sold his interest to me, and I, on account of being a practical machinist, had the better chance to succeed. It was a close race with failure even for me, neck and neck for a long time. I did not win by superior speed; it was a question of endurance. The cares and anxieties of those early days were hard to bear and even time has not softened the memory of them. Previous to the dissolution of the partnership I had designed a new bookbinding machine. This was my first invention. It was a good commercial proposition and we formed a corporation called the New Jersey Wire Stitching Company to market it. The result of the new company's first effort to sell the book binder or wire stitcher was very discouraging. The firm of Scull & Johnson had contracted with the new corporation to build a quantity of the stitchers. We made a miscalculation in our estimate and lost money on the contract, which was the largest proposition we had ever undertaken. This was hard luck and the firm never recovered from the loss until after the dissolution of the partnership."

The financial hardship which Eldridge underwent must have been extremely severe because the partnership at the time of its dissolution owed him \$350. Resuming quotation from his writing: "The single ownership had the effect of somewhat checking the financial drain on the business so that after a few years of hard work the business reached a paying basis. The demand for wire stitchers began to increase and the New Jersey Wire Stitching Company paid a dividend." The year in which Eldridge parted from Scull was 1894. He at once changed the name of the business to "Eldridge R. Johnson Manufacturing Company." He obtained the services of Belford G. Royal, who had been his foreman when he first worked for Scull. Eldridge took a contract for the manufacture of ballot boxes, which was a profitable contract excepting for one thing. The city failed to get around to paying for the ballot boxes. Belford was an impressive

looking man, about 6 feet 4 inches tall, with a breadth of shoulders to match. He went to City Hall with the bill and collected by sheer force of personality. From that moment on, we presume, he became the strong right hand of Eldridge Johnson.

Eldridge continued to take a great interest in steam. Among the inventors in the Camden area was Bentley Reinhart, an engineer, who was determined to make a success of a steam driven bicycle. Eldridge did his best to help the man but the bicycle failed for the same reason that steam driven road vehicles fail today, namely, a boiler of adequate thickness was too slow to heat up and a flash boiler which would produce steam in less than a minute invariably burned out after a short period of use. Reinhart's contraption had a small wheel in front and a steam engine was mounted on the frame which held the big wheel behind. One can imagine that a fair rate of speed was necessary to cool the behind of the rider as smoke and heat have no way to go but up. Another steam enthusiast was a Dr. Markley, who was promoting a steam driven launch with two four horsepower engines and a boiler with vertical brass water tubes. Eldridge acted as engineer on a demonstration on the Schuylkill above the lock about where Boat House Row is now situated. The brass did not stand much heat but the tubings remained intact until they started back. Then the tubings began to burn out. We presume that Eldridge worked on the basis of payment in advance. Inventors were always almost broke.

Late in Eldridge Johnson's life, when father and son talked a good deal, son Fen wrote down a few notes. Eldridge enjoyed visits to the William Stein Company store. Stein was a gunsmith who also sold fishing tackle and sporting goods at 309 Federal Street, Camden. The business was established in 1852 and was still in existence in 1929. After the purchase of a bicycle, which was as much a necessity as a pleasure vehicle, Eldridge's second purchase was a shotgun. He would cross the Delaware River, which crossing in those days was impeded by the presence of an island between Philadelphia and Camden. Then he would take the trolley and ride two hours or more down into the Tinicum marshes, where he gunned for everything from reed birds to ducks.

Another place that Eldridge hung out was the local drug store. One day a man came into the drug store, bought some chloroform, wet a handkerchief with it, went to a bench, lay down and put the wet cloth over his face. Eldridge said to the druggist: "Give me some. I'll try it." The druggist said: "No, don't you do that. That man is a drug addict and he won't live very long." The druggist proved to be right and the event made a great impression on young Eldridge. An experiment which Eldridge tried was not stopped by any good advisor. He saw a man at a bar drinking a very spectacular drink. It was in a tall thin glass and the drink was in colored layers of red, yellow, green and crystal clear. Eldridge ordered one. It was called a Pusse Cafe. The drink made him exceedingly sick. It was a long time before he experimented with drinking alcoholic liquors again. An event which was outstanding in Eldridge's recollection occurred on a very hot day in summer. He was sitting at his desk by the window in "The Old Shop" and folding a letter to put into a small envelope. He was much startled when a passerby reached in and took the letter out of his hand. It proved to be a friend and the friend said: "Why you ignorant cuss, don't you even know how to fold a letter?" The man showed him how to fold an 8 x 11 sheet, first in half and then into three folds so that it would fit smoothly into a small envelope.

Eldridge Johnson was far from being an ignorant cuss. While at Lodge's he attended the Spring Garden Institute at night and learned some engineering and mechanical drawing. At the Institute he met a young man named Charles K. Haddon, who was learning to be a bookkeeper. They became friends. Somehow the business managed to survive the depression of 1893, in which there was a panic and six hundred banks closed their doors. Seventy-four railroads went into receivership and fifteen thousand commercial houses failed.

In the early 1890s the talking machine business was already under way. There were three Berliner brothers engaged in the business which was based on the invention of a flat or disc record by Emil Berliner. Emil kept the rights for the United States while Joseph and Jacob, living in Hanover, retained the rights for Germany. A way back in 1881 Bell and Tainter invented a flat

record made of wax on which they recorded the sound in a zig zag line which later became known as the “lateral cut” recording. They devised a method of electroplating on the wax master to form a male matrix, that is to say, a metal plate on which the spiral sound line stuck out instead of being in a groove. This male matrix was used to stamp, press or mould a grooved record which could have been wax on a metal plate or rubber, or any of a dozen materials, which would later harden; then instead of pursuing the matter to a practical device, they wrote down their ideas and placed them together with all of their models in a box which they sealed up and gave to the Smithsonian. The box was not opened until 1937. If it had been opened in the nineties there might never have been any Berliner Gramophone Company or Victor Talking Machine Company.

In 1886 or 1887 Emil Berliner, not knowing of the Bell and Tainter prior invention, invented a practical process which Alfred Corning Clark described as follows: “Berliner cut a disc out of a sheet of pure zinc, covered it with a fatty substance and on this traced his sound waves by the usual method of a stylus attached to a diaphragm. Unlike the system employed with the Phonograph and the Graphophone, the waves were traced laterally, or zig zag, because it was not possible with a stylus to cut hill and dale waves into the zinc. Acid was then poured over the disc and the waves were etched into the metal. Galvano plastic copies were then taken from this positive zinc record and negative matrices obtained from which records could be pressed into a vulcanite-like material in practically unlimited quantities.” Probably this was a shellac molding composition since Emil Berliner took out such a patent in 1895, per C.A. Breskin in the May 1945 Scientific American magazine.

Eldridge was visiting his Great Aunt Mary. When he came down to breakfast he re-met the Fenimore girls. This was in May 1886, after the girls had been on the voyage to South America. That experience had matured them into young ladies a little earlier than usual for girls of the late nineteenth century. Eldridge was eighteen and Elsie only fifteen. Whether he was particularly attracted by Elsie at that time we do not know. A small matter of

interest to mention in passing is that Captain George W. Fenimore quit the sea and joined the ship brokerage firm of Hamil & Co. He still wore his high silk hat, carried a gold top walking cane and chain smoked cigars. He took his family to Savannah, Georgia, where they spent a year or two. Elsie told son Fen that at a very early age she knew who she wanted to marry. Presumably it was after the Fenimores returned to Philadelphia that Eldridge began paying attention to her. It is known from old family letters that in 1894 Eldridge had been calling on Elsie and writing to her for some time. He had changed completely. His hands were no longer calloused and disfigured by oil and carbon black in the seams and under his fingernails. This enabled him to discard his habit of hiding his hands below the level of the table as much as possible when dining with ladies and gentlemen. He parted his hair precisely in the center, wore high stiff collars and dressed with meticulous care in a manner befitting a man who owned his own business. Meanwhile other events had occurred and were occurring which were to channel his genius and permit him to succeed far beyond the success that he would have enjoyed in the wire stitcher business.

On the 12th of November 1897 Emil Berliner was granted a patent on a flat record and a hand driven machine on which to play it. Apparently Emil made his invention several years before the patent was issued because on the 8th of October 1895 the Berliner Gramophone Co. was incorporated by Thomas S. Parvin, Max H. Bierbaum, Joseph Goldsmith, William J. Armstrong and Thomas H. Latta. A factory was set up at 1032 Filbert Street, Philadelphia, Pa. Probably the business was established in Philadelphia because that was the only place that Berliner had succeeded in obtaining financial backing. The group put up \$25,000, which was a substantial amount of capital in those days.

Back in 1881, Chichester A. Bell, a cousin of Alexander Graham Bell, and Charles Somner Tainter greatly improved the Edison phonograph. They wound up in a court battle with Edison. Neither Edison nor Bell and Tainter had a process which was good enough to start a business. A. C. Clark wrote, "It was clear that something drastic should be done to end the impasse into which

both concerns had drifted through their unwillingness to license each other under their respective patents. Obviously the solution lay in some sort of merger of interests, but rival inventors are notoriously difficult in matters of this kind. Mr. Edison, however, being the senior and inventor of the phonograph and owner of the basic patent, was able to take the initiative and interest a Pittsburgh industrialist, Mr. H. Lippincott, who then formed the North American Phonograph Co., of which he became president. This company obtained the sole selling rights for the United States of the phonograph. Then by contract with the American Graphophone Co. he personally became its exclusive licensee for the sale in the United States of graphophones which were to be manufactured by the American Graphophone Co. at Bridgeport, Connecticut. It was into this organization that I entered in September 1889 and from that day there has been no interruption in my connection with either Mr. Edison, Mr. Berliner, or the Gramophone Co.” (Clark was only sixteen years old in '89).

Talking machine businesses sprang up here and there under the brand names of Graphophone, Phonograph and Gramophone. Edison placed machines on the market which were driven by electric motors and retailed in the range of \$150 to \$200 but the Berliner Co. made and sold what was substantially a toy. The turntable was driven by a hand crank and the price was only \$12. The Berliner Gramophone Co., relatively speaking, began doing a big business but the other companies did poorly. The Gramophone Co. was fortunate enough to have associated with it a young Boston lawyer named Barry Owen, who was an aggressive business builder.

In addition to the hard driving Owen, there were other men in Philadelphia who were destined to play a big part in the new industry. A. C. Clark was managing a talking machine store. He was a short man with very black hair, a round face and a slender build. He was more than just a salesman. He had acquired some mechanical education at Cooper's Union Institute in New York. On 12th Street, in Philadelphia, Fred W. Geisberg had opened a gramophone recording studio. Probably it was Geisberg who brought Calvin Goddard Child into the Berliner Gramophone Co.

It was none of these men who first contacted Eldridge Johnson. Belford G. Royal was engaged in hunting up business for Johnson and he contacted a Mr. Whitaker – or the name might have been Whitcomb. Whether Whitaker was connected with the Gramophone Co. or not is uncertain. He was a pattern maker by trade. Henry Whitaker brought a Berliner Gramophone and some records to Eldridge Johnson and asked Eldridge to design a spring driven motor. Eldridge did but Whitaker was not satisfied with the design and rejected it. Whitaker took his talking machine away. Quoting from the writing of Eldridge Johnson: “During the model making days of the business, one of the very early types of talking machines was brought to the shop for alterations. The little instrument was badly designed. It sounded much like a partially educated parrot with a sore throat and a cold in the head. But the little wheezy instrument caught my attention and held it fast and hard. I became interested in it as I had never been interested before in anything. It was exactly what I was looking for. It was a great opportunity and it came to me as it can never come to any other man in the talking machine business again. Other opportunities may come to other people but that was the great opportunity and I was ready for it, thanks to a chain of favorable circumstances, one link of which if missing would have changed this account totally.”

The stitcher was a good paying proposition but its possibilities were limited. Book binding was an old and well developed industry while the talking machine was a new art with a boundless future, waiting only to be developed. Contacts with so many inventors had inoculated me with their disease and the talking machine fever broke out all over me. (The strange thing is that when Whitaker took the Berliner toy away Johnson did nothing about it.)

“Mr. Berliner had given the world the greatest basic improvements in the talking machine since the day of Edison’s original discovery and I happened to be there at the right time to give this great discovery the needed improvements and refinements and to manufacture it in such form and design as to become the most popular with the buying public. My years of hard experience

in model making and repair work had well qualified me to cope with the intricate designs and processes. I immediately undertook a course of experimenting with talking machines and made discovery after discovery until the talking machine of the disc gramophone type capable of reproducing sound in its own mechanical fashion and in a tone of its own but of reproducing the tone true to the original sound stood in my laboratory.”

In 1895, according to Barbara Williams Gibbs, Barry Owen arrived in England to exploit the cheap toy called a gramophone. This event took place in July. Mrs. Gibbs is as good an authority as can be since it was her father, Trevor Williams, who acquired the British rights to the Berliner inventions. Mr. Williams, a barrister, was coming to the United States on other business. Owen got on the same steamer and harrassed him all the way to the United States until Mr. Williams consented to do something about getting the talking machine business started in Great Britain.

Owen took Williams to the Berliner Gramophone Co. in Philadelphia. There Williams met A. C. Clark. F. W. Geisberg had been in touch with an elderly designer who failed to design a motor but recommended Eldridge Johnson in Camden as the right man to both design and manufacture the cheap spring motors the Berliner people then realized they had to have because the other talking machine firms already had spring driven motors and their prices were being lowered. Clark’s writings explain that the adoption of a spring motor to machines using the cylinder records was not difficult but the adoption to a disc record machine was very difficult indeed! The technical problem in the Berliner gramophone was not only the load upon the motor which was caused by the heavy sound box (and part of the weight of the horn) but also the resistance to be overcome when playing the first notes. The needle began in a sound track almost seven inches from the center spindle. This drag diminished as the needle moved toward the center. Still the drag load upon the driving motor was so great that the few attempts to design a spring motor for the gramophone had failed. Again quoting from the Clark account: “In this way the Berliner Co. was put in touch with Eldridge Reeves Johnson, the owner of this little shop, and to whom

another hand driven model gramophone with records was sent for consideration, after which an appointment was made the following week to enable Mr. Johnson to study the problem in the meantime.

On that summer day in '95, accompanied by Mr. Williams and Barry Owen, then head of the National Gramophone Co. of New York, the principal buyer of gramophones from the Berliner Co., I crossed the ferry to Camden and called at the Johnson work shop. It was a very small place in a one-story building. Only a few mechanics were employed. The business office was a platform partitioned off from the rest of the work shop by glass and occupying a space of something like 10 feet by 6 feet. The only desk was a high drawing desk and on a high stool with compass and pencil in his hand sat Mr. Johnson, a tall youthful appearing man. He was keenly interested in the model of the hand-worked gramophone and said that he had no doubt that he could design and build a spring motor capable of running it satisfactorily and at a price which would be reasonable, but he was very concerned as to the seriousness of the whole affair, anxious to know not only how many we could order as a first lot, but whether we considered there would be further demand for them, and if so, why?

I well remember Mr. Owen and myself returning after this first interview with a feeling of great confidence. We had both of us felt for a long time that there was no reason why such a spring motor should not be designed and here was a man of convincing personality assuring us that it was possible of achievement.

We had told Mr. Johnson that we were prepared, upon seeing a first working model, to place an initial order for five hundred motors provided the price was right. When Mr. Owen said that should the deliveries of these be satisfactory he would place a further order for three thousand, I thought I detected a twinkle in Johnson's eye which indicated some slight doubt of the soundness of Mr. Owen's optimism.

The situation from the day of that visit developed rapidly. Johnson and I became fast friends and he moved from Camden to Philadelphia, where he took living rooms with me. All that winter we spent our evenings together discussing the possibility of

improving the instrument.” It is here that son Fen must disagree with the Clark account. Clark says that Johnson’s solution was merely to allow the key to unwind as the force of the spring was allowed to drive the turntable. It may well be that that was an important part of the Johnson motor design but Patent No. 601,198 dated March 22, 1898, entitled “Gramophone and Actuating Device Therefor” granted to E. R. Johnson clearly shows a spring motor with a constant speed by reason of a governor. Son Fen was brought up with the idea that the governor was the most important part of the Johnson invention.

Eldridge Johnson drew on his experience with steam engines. Those engines maintained a constant speed by means of a fly ball governor. A fly ball governor was composed of three balls mounted on the ends of three shafts having hinges at the upper ends. These three shafts in turn mounted on the upper end of a shaft which was driven by the steam engine. There were connecting rods to a sleeve which was around the main shaft. When the engine speeded up, the fly balls flew out by centrifugal action and raised the sleeve which was attached to a throttle, which in turn reduced the flow of steam to the engine. When the engine slowed down the three balls fell by gravity, lowered the sleeve and fed more steam to the engine. Johnson mounted three balls on three springs, attached the three springs to the top of the shaft with the balls in the center of the springs and then attached the lower end of the springs to a sleeve which in turn was attached to a disc with a hole in the center. Above the disc he mounted an arm holding a pad of leather. When the spring motor speeded up the disc was raised until it contacted the leather pad. The leather pad was adjustable up and down. By means of this adjustment he could set the rotation of the talking machine turntable to 78 revolutions per minute. The device was so sensitive that no ear could detect any change in speed of the turntable even through a long sustained note of a violin or of the human voice.

He not only devised and built the spring motor drive for the turntable but also improved the sound box. Thus it was that in 1896 Eldridge Johnson had perfected a model which was so good it was to make the business boom right from the start. He was

granted a contract for two hundred motors by the Berliner Gramophone Co.

In the fall of 1896 the Gramophone directors took a step which had the immediate effect of advancing the company but eventually was to prove a longer step toward disaster. There was demand for the company product but the company management knew little about marketing. Casting about for a selling outlet, the directors came to terms with a New York advertising man by the name of Frank Seaman. Seaman was a worldly man, dark complexioned, nattily dressed, self-assured. Almost at once he began to assert control. He set up the National Gramophone Co. The Berliner directors had a few qualms but because they held the right to the trade name "Gramophone" they decided not to object. Eldridge Johnson and Alfred Clark were among the youngest men in the industry. It was evident that the gramophone needed more improvement than just a smooth running spring motor. Johnson and Clark working together devised a new sound box, applied for a patent on it and agreed that if they sold any of the boxes they were to share profits equally and neither was to sell his rights without the consent of the other. From that which was written by Clark it is interesting to quote as follows: "The management of the Berliner Co. was so backward that we despaired of any progress coming from that quarter."

The production of records for the Edison cylinder machines was a slow inefficient and expensive process. At first they merely had the singers and musicians repeat their performances. Then they hit upon the idea of setting up multiple recording machines with the horns all pointed toward the performers. It has been written by some that as many as twenty cylinder records were made by this process at one time. Following that a single cylinder was made and it was reproduced, thus recording on other cylinders until it wore out. The Berliner recording and record manufacturing process was an enormous improvement insofar as manufacturing efficiency and cost reduction was concerned. Unfortunately, it was of somewhat less quality and had more extraneous noises. Clark wrote: "The difficulty with the Berliner process was that the etching acid ate away much of the detail of the sound waves so

that the sound was not at first clear and distinct. It was, however, louder and could be used for a reproduction through a horn to better effect than the phonograph. The wax cylinders were softer than the flat records.”

Mr. Johnson was inspired to attempt the improvement on the Berliner recording and record manufacturing method quite by accident. He wrote: “During January, 1897, I visited Berliner in Washington relative to one of developments in sound boxes, namely, the Clark-Johnson sound box. While in Washington Mr. Berliner gave me several demonstrations of recording in zinc. The process was very beautiful and very interesting. The cause of the failures was of microscopic proportions. At my request Mr. Berliner made several zinc plates and etched spiral lines on them. These lines contained no sound. They were very faint and my purpose in asking him to manufacture them for me was that I had an idea I could cover the space between the spirals with a waxy substance and make a record in the wax, using the etched lines on the record as a feed screw. In my experiments my difficulties were greatly increased by a lack of a satisfactory recording instrument. I found later that my plan of combining the wax and metal plates was entirely impractical. The space was too small and wax does not adhere readily to metal on account of the different ratio of contraction and expansion, even under the influence of ordinary changes in temperature such as occur between noon and night. When I brought the plates from Washington the etched lines had not been cleaned out. In order to clean the etched lines in a zinc plate, it is necessary to run a forming tool through the line. I saw Mr. Berliner clean a number of his plates in this manner, using an ordinary gramophone needle for this purpose. I took one of the etched plates and put it on a gramophone with a sound box for the purpose of cleaning out the line. I ran it over several times. I noticed that the sound of the scraping of the needle over the zinc seemed to indicate a very sensitive condition. The thought, while listening to this peculiar hissing tone, struck me that there would be a trace of a loud sound directed into the horn. The next moment I substituted my mouth for my ear and gave a loud “Hello!” several times. I then put back the reproducing needle so

that it would re-traverse the lines, and to my great surprise and delight the machine reproduced the several Hellos very plainly and very distinctly, although, of course, many times reduced in volume.

I repeated this experiment several times and I remember calling Mr. Rinehart to the office and spending quite a little time with him in making records of our voices in this way. We could only reproduce the very loudest tones when shouted. Mr. Stackhouse, who was operating a milling machine within a few feet of the office store, I think, came and looked in the door to see what the trouble was and I have no doubt that he remembers the incident today. This experiment was in January, 1897. It had nothing whatever to do with the matter of engraving excepting that it opened my eyes as to the power of sound to vibrate diaphragms. I said to Mr. Rinehart at that time, 'This demonstration convinces me that it is possible to make gramophone records by an engraving process loud enough for commercial purposes' and I also said, "If that blunt pointed needle will form sound waves in metal plates, I can certainly engrave the sound in softer material, such as wax, large enough so that the records will be louder and better than the records made in any other way.' Mr. Rinehart agreed with me perfectly and he remembers the incident fully.

That incident overcame all my previous hesitation and I decided immediately to prepare myself to make gramophone records of a commercial quality and I devoted all my spare time to designing all the necessary laboratory equipment. I had a very clear idea of just exactly how to go about the matter. I found that spring motors such as I was manufacturing were perfectly satisfactory for reproducing sound, but were not at all suitable for recording. I also found that the regular electrical motors such as we purchased on the market could not be depended on for the regulation which was so necessary. I therefore designed a recording machine in which the Edison phonograph that I had previously used in my gramophone experiments was a part of the construction. I also developed a more sensitive recording box and decided on the form of engraving tool that was necessary.

The Edison combination recording and reproducing machines

propelled the sound box across the surface of the wax cylinder by means of a horizontal screw parallel to the cylinder. In the sound box there was a diaphragm on the under surface of which there was a small button which might also be described as a blunt needle. When sound vibrated the diaphragm, this needle indented the rotating wax cylinder and the spiral screw kept the needle moving along so that the indentations covered the surface of the cylinder in spiral form. The process was known as "hill and dale" recording in order to distinguish it from the Berliner zig zag which was known as the 'lateral cut' recording method."

Mr. Johnson melted a number of Edison wax cylinders and poured the wax into pie plates. The resulting wax pie was quite smooth on the under surface. He turned it over and laid it on a turntable mounted on a spindle which was driven by a weight. A wire ran over a pulley which was mounted on a rather tall tripod and down to a drum from which it unwound, thus rotating the drum. The speed of rotation was governed by the same type of governor as was used in the talking machines. In order to get his recording box to move across the surface of the rotating wax disc, Mr. Johnson simply dismantled an Edison machine and utilized the spiral drive screw to propel the recording box along a rod mounted parallel to the drive screw. The recording diaphragm was vertical and mounted at right angles to the radius line from the center spindle to the outer edge of the wax disc. A rubber hose ran from the recording box to the horn that was used to pick up the sound. Instead of scratching a line with a needle, Mr. Johnson carefully fashioned a miniature cutting tool such as was in use for cutting steel and other materials on lathes. He began at the outside of the waxed disc and cut a spiral line of ever decreasing diameter as the cutter moved toward the center. This produced a master record in wax. Berliner's master record being zinc, Berliner had no difficulty in electroplating over the zinc and creating a matrix, which was a male reproduction of the master record.

Mr. Johnson did not know how to electroplate on his wax master record. For some reason best known to himself, he broke a pie shaped section out of one of his master records. Probably his motive was to keep outsiders from knowing that the object was a

sound record. His friend, C. K. Haddon, with whom he had worked at Lodge & Sons, was then working for Wirtz Manufacturing Co., which had an electroplating department. He got Haddon to intercede for him with the Wirtz Co. and they were able to electroplate one surface of the piece of wax. There is no record of how the electroplating on wax was originally accomplished but son Fen saw the recording process when he was a subteenager and remembers that after the recording was finished metal dust was put on the wax platter, then with a fine camel hair brush the dust was swept from the center out over the edges. The brushing was continued until there was no loose dust in the grooves. Probably this method of electroplating over was well known to companies engaged in electroplating. Mr. Johnson then had a completely new and far better method of recording and manufacturing male matrices or stampers with which saleable records could be manufactured and the records he produced were louder and more perfect in sound reproduction than the Berliner method of producing records. By April of 1896 he was able to describe his recording process to his patent lawyer, Horace Pettit, but by advice of the lawyer he kept his exact process a secret.

Even before his contact with the talking machine, Mr. Eldridge Reeves Johnson had formed a desire to marry Miss Elsie Reeves Fenimore. It was the Reeves name that made them cousins, but not first cousins. Being a prudent man, he paid court but did not propose because he felt that he could not afford to get married until he could take \$60 per week out of the business. He achieved his goal probably just after rather than just before his first manufacturing order from the Berliner Gramophone Co. Son Fen presumes that it was in the spring or early summer of 1896 that he invited Miss Fenimore to take a trolley ride from Atlantic City to Longport, New Jersey. Mr. Johnson and Miss Fenimore duly arrived at Longport, and, while sitting on the bench in the trolley station, he proposed. They were married on October 5, 1897 in Philadelphia in a Presbyterian church. The reception at the Fenimore home was restricted to the family and a few friends because of a death in the family. The newlyweds stopped first in New York City, where Mr. Alfred Clark visited them at their hotel

to offer congratulations. The honeymooners then took an afternoon boat to Albany. The last stop was Schenectady, where Mr. Johnson combined his honeymoon with some work. Back in Philadelphia, they lived briefly in a hotel, then rented a small house. The plant in Camden had outgrown the small machine shop, expanded into rented space in the Collins Carriage Works and a fine new building with steel beam construction, three stories high, was being built. Presumably the couple did not take up residence in Camden because Mr. Johnson's office was in the Girard Building in Philadelphia.

During the period in which he experimented with recording, Mr. Johnson was painfully short of cash. He had invested in a secondhand violin, hoping that he would be able to play it while Miss Elsie Fenimore played the piano. This was back in the courting days of course. Unfortunately, Mr. Johnson had no talent. The only tune he learned to play was "My Girl from Boston Town." After his marriage he enlisted the aid of his brother-in-law, Ed MacEwan, who had a powerful tenor voice. In the fall of '98 Mr. Johnson re-recorded the active records in the Berliner catalog by his new process. Referring to the new process, and presumably the re-recording work, Mr. Johnson wrote: "It cost me \$50,000 and two and one-half years of desperately hard work."

1898 was an eventful year. Captain Ide R. Fenimore carried troops under General Hymana aboard his ship, thinking he was bound for Cuba to help Gomez. The General made him go to Santo Domingo, where the troops were used to start a revolution. The captain wrote: "You can't trust those half breeds. There was a hot time for a while. I got the ship safely away. Lucky I did or your uncle would not be writing."

Mr. Johnson, Mr. Royal and Geisberg went to London. Mr. Johnson signed a contract under which he granted rights under his British patents and contracted to supply talking machine parts to a British company. A capital of £ 15,000 (sterling) had been raised. Mr. Edmund Trevor Lloyd Williams, the founder of the British company, was a rather short, very stocky, red headed Welshman. Like Mr. Johnson, he had become enthusiastic about the Berliner

Gramophone in its new form with a spring driven motor. His daughter Barbara wrote: "After dinner, one warm summer evening, toward the end of the London season, when people were strolling along the pavements and only their footsteps and quiet voices and occasionally the wheels of a cab and its horses hooves on the cobbled streets were to be heard, Trevor Williams wound up the new machine and took it out on the balcony of the first floor drawing-room window of his house in Park Street. The strange unnatural song began. Passersby, amazed, stopped and stared up, above their heads, trying to see in the half dark where the noise was coming from. But all they could see was a laughing, smiling gentleman, in a stiff gleaming white shirt, standing by a table with a box which had a trumpet shaped horn on it. The people in the street had heard the first public performance in Great Britain of the Gramophone." In April of '98 the British Gramophone Co. was formed. The members of the first board were Edgar Storey, Ernest de la Rue, Romer Williams, Joseph Berlinger, Theodore Bierbaum and Trevor Williams. The latter was elected Chairman of the Board and Barry Owen was appointed Managing Director.

In America Frank Seaman had begun to make trouble by manufacturing a talking machine which infringed both the Berliner and the Johnson patents. He named it the "Zon-O-Phone." It was poorly made. The reproduction was of lower quality than the Berliner gramophone and it was doomed to failure. But it triggered a legal battle. The American Graphophone Co., operating under Bell and Tainter patents, sued Seaman's National Gramophone Co. for infringement. On December 12, 1898 the American Graphophone Co. brought a similar suit against the Berliner Gramophone Co. The legal battle went on for two years.

Either late in '97 or early in '98 the newlyweds rented one-half of a double house at 1907 North 32nd Street in Philadelphia because, said Elsie: "He thought that was the most healthy locality in the city because it was the highest point." They employed the services of a colored maid right from the start for the reason that is made clear by an inquiry from a friend, who said: "Elsie is pretty but can she cook?" Mr. Johnson replied: "I

married a lady, not a cook." Elsie was pretty but petite. In her stocking feet she stood only 5 feet 1 inch. She weighed just barely more than 100 pounds. Being acutely conscious of her short stature, she wore shoes with exceedingly high heels. These caused her to suffer embarrassment on several occasions when in the summertime the sun softened the asphalt which was the material from which most of the sidewalks around her home were made and her heels got stuck in it.

The safety bicycles which had two wheels of equal size having been invented, Mr. Johnson invested in two and the couple would go riding in Fairmount Park. Knowing that his wife would often have to be alone, he bought her a cute little revolver, choosing one with ivory grips and nickel frame and barrel so that it would not show through her shirtwaist. He chose a hammerless one so that it would not catch when she drew. It was a cal. 22 long and fired seven rounds. He also provided a spring clip holster made of rubberized canvas so that the gun would not get rusty from perspiration. The word sweat was not used in polite society in those days.

Mrs. Johnson had resented the marriage of her elder sister because she was a dependent type and depended on "big sister." This situation was remedied when she married and she began to depend on her husband. At first she remained at home unless her husband took her out. Then came the day when they went down town on some errand and Mr. Johnson turned to her and said: "I must go to the office so you get on the trolley and go home." Mrs. Johnson's heart began a wild pounding. She literally never in her life had ever gone anywhere alone before. Obediently she boarded the trolley. Being alone, she was accosted by a young man but stared straight ahead and turned her nose slightly up in the air, a form of sign language at which she was rather good. The trip successfully completed, Elsie involuntarily had taken a step toward "Women's Lib." In a few years she became a strong advocate for votes for women. Her favorite story to son Fen as to how she got that way was that a relative had sat on the courthouse steps all night to get himself appointed executor of her Aunt Mary's estate. Then he had stolen most of Aunt Mary's money.

She wanted not only votes for women but equal status before the law, particularly as to property ownership.

On January 5, 1899 son Fen was born. In March Mr. Johnson went fishing with his father-in-law in Florida. Years later Alfred Clark remarked to son Fen that his father was a true genius at building the business: "He did it all and never took less than a month off per year." In '99 there was another great event which at first was not recognized as important. Francis Barraud, a bearded middleaged Englishman of French descent, who was nicknamed "Bumblebee" because he was a chronic bumbler in everything he did, was working as a commercial artist and portrait painter. He made most of his money from advertising posters. He had inherited a cylinder type phonograph and a fox terrier named "Nipper" from his brother. One day Barraud put a cylinder on his machine and started it playing. A moment later he noticed Nipper sitting before the horn with his ears cocked and a puzzled expression on his face. Barraud thought that the scene would make a good poster for the British Edison Phonograph Company and he painted it. Probably the only flash of genius in his life had occurred. Underneath this picture, which was to become the most beloved of the world's trade marks, he painted the words "His Master's Voice."

The picture was not particularly attractive. The scene was dark and the horn was black. The highest offer he could get was five pounds. He knew why the picture was unattractive. The small black horn of the machine he had painted dissatisfied him. The horn of the British Gramophone Company machine was longer, larger, and made of polished brass. A friend suggested that he call at the Gramophone office and try to borrow one for a model. Armed with a small photograph of the painting, Barraud arrived at the Maiden Lane office of the Gramophone Co. He was greeted by a sub clerk. This unknown was the first to realize the value of the picture. He took the artist to see Barry Owen.

The trade mark in use by the Gramophone Co. was a drawing of a naked child with wings on its head, making grooves in a disc record with a quill. Owen was not particularly enthusiastic about the Barraud idea but he told the man that if he would paint out



Francis Barraud - Artist

the cylinder machine and paint in their machine the company would buy it. Barraud agreed but he was rather lazy. Instead of scraping off the old paint, he painted out the cylinder machine and rather carelessly, too, because when he painted in the disc record machine the cylinder machine was still faintly visible underneath the Gramophone Company's machine. Owen paid Barraud £25 (sterling). Several years after the end of World War II the original picture was still hanging in the board room of the successor company called the Electrical and Musical Industries Ltd. Barraud painted perhaps as many as a dozen copies, all of which are probably in the United States. It was Eldridge Johnson and not Owen who was the next to recognize the value of the "His Master's Voice" picture. He acquired rights to it from the English company and featured it in his American advertising. At that time A. C. Clark was not with the Gramophone Co. because he had gone to Paris, France, to found a talking machine business which was to introduce both the Berliner gramophone and the Edison phonograph.

Seaman tried to get Mr. Johnson to cut his prices and cheapen his product. Johnson refused. Seaman formed a company called the Universal Talking Machine Co. for the purpose of manufacturing Berliner instruments for coin in the slot operation, i.e., the first "juke boxes." In this he apparently was unsuccessful but he did have a factory. Early in 1900 he tried to knock Johnson out of business by demanding that the Berliner Gramophone Co. transfer its entire business to his company. The B. G. Co. refused. Then the lightning struck.

On May 5, 1900 Seaman accepted a consent decree admitting the validity of the Bell and Tainter patents without consulting the Berliner Gramophone Co. In June of that year the B. G. Co. notified Seaman that because of his repeated violations of his contract with them, the contract was breached and no longer in effect. Seaman got an injunction against the B. G. Co. which prevented that company from selling their products to anyone but himself. The effect of this was to lock Mr. Johnson out of the American business. Johnson had invested his entire profits — \$50,000 to \$60,000 — in an enlarged plant and matrices in

anticipation of an increased volume of business. The trouble between Seaman and Berliner became generally known in the talking machine trade. It was suspected that Seaman and Easton of the American Graphophone Co., with the aid of a lawyer named Philip Mauro, had conspired to drive both Johnson and Berliner out of business. Neither man had the slightest intention of being driven out of business.

In August Mr. Johnson decided to go it alone. He formed the Consolidated Talking Machine Co. Inc. Seaman at once attacked him in the courts, claiming that he was in conspiracy with Berliner. Mr. Johnson immediately changed the name of his new company to Eldridge Johnson Manufacturing Machinist but did not incorporate. Without the protection of a corporation he was gambling everything he owned and he had to support not only a wife but a son. The legal "rumble" which had started in '98 continued right through '99. The only thing that kept Johnson going was his sales to the British Gramophone Company and their payment to him of \$15,000 for his recording process. Seaman tried a slightly different method of attack. He had failed to tie Johnson to the Berliner Co. injunction so he applied for an injunction against Johnson individually to prevent him from making or trading Gramophone Co. products or using the trade name Gramophone.

Mr. Johnson was so desperate that he actually loaded his matrices on a wagon and was about to depart into the wilds of New Jersey and hide them. This occurred late in January, 1901. On March 1st Judge Gray refused to restrain Mr. Johnson from making and trading Gramophone Co. products but he did restrain him from using the Gramophone Co. name. This was appealed and finally reversed by Judge Dallas of the Court of Appeals in June of 1901. In addition to attacks in the courts, there was a lot of dirty advertising in which one company would frankly name the product of another company and then state that their product was superior. Then, too, the patent laws were different in those days. It was possible to sue an individual who bought a talking machine of one make and played records of another make on it. All of Johnson's competitors began to make dark threats in their

advertising about suing customers who played other people's records on their machines or their records on someone else's machines. Mr. Johnson refrained. He was satisfied with a warning to the customers to be careful of various unscrupulous dealers that had attempted to imitate his and counterfeit his records.

Gramophones of the hand cranked type sold for \$3. A very simple spring driven type sold for \$10 and fancier looking machines with the same mechanism for \$18 and \$25. Records sold at 50c each. Johnson, not free to use any of the numerous combinations of the word "phone," gave up the word and reverted to the original words "talking machine." Then either late in 1900 or early in 1901 he began to use the word "Victor" on the name plates of his machines and on his records. There are several stories about how he chose the word "Victor." All of them are false. Son Fen asked him why he chose it. He specifically denied the truth of the other stories and said he chose the word "Victor" because it meant winner.

By the summer of 1901 Johnson, thirty-four years of age, was by the standards of that day a wealthy man. His plant, the wholesale business, the patents, the good will, the contract with the British, were probably worth half a million dollars. He was saddened by the death of his father, who at the age of sixty-nine still worked with his men on house building jobs. The elder Johnson was stricken with a heart attack and died right on the job. The son's sadness was relieved by his happiness with his home life, his wife and his baby.

Mr. Johnson could meet people freely because he was not yet so prominent that people had begun to harass him for money, as they did later in his life. He was always farsighted beyond other men. He knew that if the quarreling did not stop he and the Berliner crowd would get into law suits, not only over his and their patents but also over other contractual matters. Having acquired some wealth, he strongly desired not to lose it. He had none of the ruthless drive of some men for great fortune and the power that goes with it. He took high risks but did not enjoy it. He had shown himself a dangerous and staying fighter but he had no love of fighting.

The raising of the Seaman injunction against the Berliner Co. left that company free to do business again. This created complications. Johnson and Berliner's Gramophone Co. Inc. could hardly proceed in business without the assets and patents of both. Johnson had strong patents but the Berliner Co. was the owner of the famous Berliner Latters Patent #534, 543. While it had not been fully tested in the courts, the general feeling in the trade was that the important part – that covering the self-propelling stylus – would hold. That feature was basic to the machine Johnson was making. The Berliner Co. claimed that the patent also covered any records suitable for use on the gramophone type machine since the record was part of the self-propelling apparatus. The Berliner crowd was not feeling friendly to Johnson. Their conduct had been anything but businesslike and they were quarreling so violently among themselves they could not reach decisions about anything. No one of them was in a position to dominate.

Johnson invited the Berliner crowd to his home. There was a fairly large table in the front hall. We can only guess at those who came. Thomas S. Parvin and Emil Berliner were certainly there. Max H. Bierbaum, partner of Parvin; Joseph Goldsmith, the clothing manufacturer; and Thomas L. Latta, a building contractor were almost certainly there. Charles Adamson, occupation unknown, and William J. Armstrong, a contractor, may have been in the group. Mr. Johnson deliberately waited upstairs until his guests had all arrived. As he fully expected they would, they fell to quarreling. When this occurred Mr. Johnson walked down the stairs but stopped two or three steps above the floor level. In a calm clear strong voice he said: "Gentlemen." He continued: "There is enough money in this business for all of us." Then he descended to the ground floor level, took his place at the table, and proceeded to completely dominate the gathering. He proposed that everything be put into a corporation to be called the Victor Talking Machine Co. We do not know exactly when this happened. We can only assume that it was early in 1901.

Eldridge R. Johnson was acknowledged everywhere to be the sole founder of the Victor Talking Machine Co. Not one of the

incorporators personally claimed to be a founder of the business but their descendents and friends have sometimes made the claim of being a founder for them. Many years ago when the son of one of the leading men made such a claim in San Francisco, California, the papers got in touch with son Fen about it. When son Fen confirmed that his father was the sole founder they refused to publish the spurious claim. The credit belongs to Johnson and to him alone. "His Master's Voice" was Eldridge R. Johnson.

CHAPTER IV

THE INCORPORATION OF VICTOR

Calvin Goddard Child, a short stocky man who was possessed of a good deal of personal charm, was employed full time by Mr. Johnson to find artists and select the repertoire of music and song which they recorded. William Naphy operated the recording machine. As best we can find out, the first hit record was "I'm Gonna Telegraph My Baby." It was sung by a professional entertainer, John O. Terrell, who required a lot of persuasion by Mr. Child before he would risk his reputation by singing for a mechanical device that was still far short of producing the human voice in the sweetness and range of tone of a tenor, did even less well with a baritone and as yet dared not attempt to record a basso profundo or a bass drum. The record was put on the market in 1900. About that time really powerful competition to the gramophone type machine existed. Edward D. Easton and Paul Cromlin had organized the Columbia Phonograph Co. in 1889 to sell the products of the North American Phonograph Co. By 1900 there was an efficient manufacturing plant at Bridgeport, Connecticut. The Columbia machines which it produced were nearly identical to the Victor machines made by Johnson. A Columbia model sold for \$25, almost as low as the Victor's spring driven machine. Furthermore, it both recorded and reproduced which was something the Victor machine would not do. Fortunately for Johnson, the quality was not quite as good. The Columbia records were lateral cut and the N.A.P. Co.'s patent position was very strong. The company had acquired not only the Bell and Tainter patents but also a fundamental recording patent by Joseph W. Jones which was almost identical to E.R. Johnson's recording method. The patent fight was over who had the earliest conception date.

Columbia's Eagle model, which reproduced only, sold for as low as \$10. Easton, not content with competing commercially, struck hard and strategically by suing not only the Berliner Gramophone Co. but Frank Seaman's National Gramophone Co.

and Seaman individually. Johnson became desperate and determined not to be stopped by anybody. At that crucial moment another strong man joined Johnson's team. He was Leon Forrest Douglass. Douglass was tall, slender, dark, very good looking and very high strung. Douglass, like Johnson, was a son of a carpenter and had gone to work as a young lad. Johnson was a plodder but Douglass was a racer. He had not yet reached twenty when he saw Edison's "perfected" phonograph of 1888. He secured the phonograph agency for part of Nebraska. He invented a slot mechanism for the machines and sold his invention to a Chicago talking machine company. Soon after that he went to work for the company. He made several other inventions, including an odd looking talking machine with two horns which he called the Poliphone, but his outstanding talent was that of a promoter and showman.

Thomas Parvin, the President of the Berliner Gramophone Co., brought Douglass from Chicago but he had only been in Philadelphia a short time when Seaman got the injunction which shut down the Berliner Co. and destroyed Douglass' job. Johnson took Douglass to lunch. He was thoroughly aware of the latter's ability. Johnson offered him a salary of \$5,000 and promised to raise him to \$15,000 as soon as he could. Johnson admitted that his cash account was down to a mere \$5,000. Douglass accepted and commenced working in September of 1900. He at once persuaded Johnson to gamble half of his cash on advertising. Johnson specified that the dog and horn picture, "His Master's Voice," be featured. Douglass agreed and moved fast. He ran the ad in McClure's, Munsey's and other magazines. As a sales leader, the ads offered to send a record free to any owner of a Gramophone who would write for it. Johnson had plenty of machines and records in stock. Sales boomed again.

Johnson registered the trade mark "Victor" in his own name, not in that of any company. On the 12th of March, 1901, the registration was granted. There is an old magazine in existence which shows that the "His Master's Voice" trade mark, more commonly called the "Dog and Horn," was being used in January, 1901, above the name of Eldridge R. Johnson. The address given

was Stephen Girard Building, Philadelphia, Pa. There is no reference in the ad to either the Berliner or the Consolidated Talking Machine Co. On the first of May the Pan American exposition opened in Buffalo, New York. Douglass arranged a display of Eldridge R. Johnson products. Johnson won a gold plated medal for their excellence. The medal is now on display in the Eldridge R. Johnson Memorial, Dover, Delaware.

Of course a battle royal in a squared circle, with Eldridge R. Johnson and Edward D. Easton as the main contenders, and Thomas A. Edison hanging on the ropes by means of his bushy eyebrows, had commenced as soon as Johnson began selling directly to the public. The public had a strong sentimental attachment for the "Wizard of Menlo Park" and continued to buy Edison's cylinder machines until 1913. In the U.S.A. their respective corporations were Victor, Columbia and Edison. All of the others were to merge with one of these three or simply fail and be liquidated. Naturally it was not purely sentiment that caused the public to continue to buy cylinder machines. Victor records always had an undersound which was known as "scratch." It was really a hiss. It was caused by the needle tracking over the bottom of the groove and the hardness of Victor record materials. The Columbia records had the same scratch, excepting for a period when they put out a hard rubber record. The rubber record being not so hard as the material used by Victor, there was less scratch. Unfortunately for Columbia, there was also a lot less sound volume. The Edison cylinder records had no scratch sound at all because they were made of wax. Edison's records could be played as many times as Victor's and Columbia's because his machines had free floating diaphragms no heavier than an eagle's tail feather. Edison's misfortune was a very low volume of sound reproduction.

The incorporation of the Victor Talking Machine Co. occurred on October 3, 1901. Johnson was able to retain 60% of the stock of the new corporation. He was not a fast talker but when he spoke he was very convincing, indeed. The rest of the stock went to the Berliner crowd, probably more of it to Berliner himself than to any of the others. Of the Berliner crowd only Parvin became active in the new company. For some reason Johnson distrusted



SOUSA,

The March King, says:

"Your 'VICTOR' and 'MONARCH' Records are all right."

John Philip Sousa

A Talking Machine so perfect as often to be mistaken for the original band, orchestra or singer is what we claim for the "VICTOR." Consider for one moment what this means. If you believe it to be true, you should at once

take steps to reap the personal benefit from this wonderful instrument. If you doubt it, we will take pleasure in forwarding you a "Victor" on approval. You will find the

VICTOR Talking Machine

in the homes of many music lovers, who have previously scorned the talking machine on account of its mechanical imperfections.

Send for New Catalogue.



The "Victor" and "Monarch" Gold Label Records are acknowledged by all to be the best talking machine records made.

Manufactured by **ELDRIDGE R. JOHNSON,**
19 South 12th Street, Philadelphia, Pa.

THE TALKING MACHINE CO., 107 Madison Street, Chicago.
EASTERN TALKING MACHINE CO., 177 Tremont Street, Boston, Mass.
WESTERN ELECTRIC CO., 933 Market Street, Philadelphia, Pa.
F. E. CONROY, 1115 Olive Street, St. Louis, Mo.
MAGUIRE & EVANS, 44 Pine Street, New York.
THE ELDRIDGE WERTZELER CO., Cincinnati, O.
H. R. EISENBERG & SONS, Baltimore, Md.
NATIONAL AUTOMATED TALKING MACHINE CO., New Orleans, La.
GRINSELL BROS., Detroit, Mich.
J. F. SCHMIDLER & SONS, AKAS CO., Kansas City, Mo.

Parvin. There is a letter written by Johnson in existence which states that he was not going to allow Parvin to run things.

The Victor Talking Machine Co. officers were Eldridge R. Johnson, President, age thirty-four; Leon F. Douglass, Vice President and General Manager, age about thirty-three; Thomas S. Parvin, Treasurer, age unknown but certainly much older; Albert C. Middleton, Secretary and Assistant Treasurer, age thirty; Horace Pettit, General Counsel. The original board of directors was composed of Johnson, Douglass, Middleton, Atkinson and Haddon, all of whom were company employees. Johnson sold \$25,000 of Victor Co.'s stock on a deferred payment plan to Douglass, Atkinson, Haddon and Middleton. The purchase was to make every one of them into multimillionaires. Albert Atkinson was daytime plant foreman and Haddon, his assistant, was foreman at night. The plant operated on a twenty-four hour basis. It was rather unfortunate for Belford G. Royal that he was in England and under a contract, with the Gramophone Co., which was to run until 1906. He did acquire some stock, but not as much as the others. There is no record of the actual quantities of machines and records which were sold prior to the incorporation but record sales were recorded from the moment that the corporation began to do business. At the end of the year 256,908 records had been sold in a period of only three months. Multiplying this by four, it is obvious that more than a million records were sold in the year of 1901.

While Johnson's policy was to use the company employees as directors, Williams' policy in England was totally different. He did not allow employees on the board of the Gramophone & Typewriter Co. Ltd. All of his directors were professionals who served on a number of boards and received substantial fees for their services. There were other broad differences. The British company had no president and no vice president. The chairman of the board functioned as the president and directly under him there was the general manager, Barry Owen. Royal called himself an engineer. In December of 1901 he wrote, "We have about completed the factory." We presume that the factory itself was at Hayes. All we have is the address of the office, which was 31

Maiden Lane, London, England. The next big difference was that Victor was concentrated in one country whereas Gramophone of England had subsidiaries in Berlin, Hanover, Paris, Vienna, St. Petersburg, Amsterdams, Milan, Sydney, Calcutta and Barcelona. Most of them were sales companies but there was some manufacturing in Germany and Russia and perhaps in other countries.

Now that we have compared the two separate but equal and independent firms on each side of the Atlantic, it is interesting to compare the two founders. Johnson was tall, very strong, broad shoulders but not chesty. He had great physical endurance but mentally he tired rather quickly when under business stress. His education was good in the areas where it counted, which was, broadly speaking, the engineering field, but it was downright deficient in the English language. He recognized the deficiency and he remedied it by extensive reading of the classical English authors. Williams, who was Welsh, not English, was a short and stocky man, raised in the genteel manner, could be gracious when he chose or very direct and blunt when displeased. His daughter said that she had never known him to be tired. His education was of the finest and his grammar perfect. Johnson was a constant visitor to all departments of the Victor plant. It seemed to son Fen that Williams deliberately avoided contact with the lower echelons of the parent company in England and the subsidiary companies on the continent. Johnson was as poor as a church mouse when he started. Williams probably did not inherit any money but began earning substantial amounts, we may presume, at an early age. Therefore, instead of going into business personally, he was careful to limit his liability right from the start. He did not gamble all of his money on shares of the business and he raised substantial amounts of capital by selling shares to other people. The result was that while he was in a much safer position than Johnson, he never became as wealthy.

Mrs. Johnson firmly implanted the idea in son Fen that his father was the great inventor of the industry. To some extent that is true, but in 1902, 1903 and 1904 there were substantial contributions by other people and one major improvement from abroad which cured a very serious fault. All of the early talking

machines that played the disc records were record rippers. The sharp point of the needle bearing on the bottom of the groove bore the weight of not only the sound box but also of the horn. This may be seen clearly in the ERJ patent No. 601198 of March 22, 1898, entitled "Gramophone and Actuating Device." Johnson recognized this condition and in his patent of 1899 issued on October 17th, No. 634944, entitled "Sound Recording and Reproducing Machine," he had decreased the weight on the needle by providing a bracket mounted close to the pivot from which a wooden arm extended to the sound box. He lengthened the horn so that the big end of it overhung the bracket to a considerable extent and functioned as a counter balance. This feature must have been very important indeed but there was no attempt to cover it by means of a patent. The excessive weight problem was solved very neatly by someone named Gibson who invented a hollow arm and sold his invention to the British. The talking machine horn was then mounted on the other end. Being a straight tube, it marred the sound to some extent so that both Johnson and Williams were dissatisfied. Johnson seems to have solved this in 1903 by tapering the hollow arm, and on the 9th of March, 1904, Royal wrote to Johnson stating that: "Williams liked the tone of your hollow arm better." The device was later known as the "Tone-Arm." Another refinement that came out of England and was quite important was an improvement in appearance of talking machines by the addition of gilded Greek columns to the corners of the box which housed the motor and held the turntable; a switch to polished mahogany as the wood and the creation of a stand to hold the gramophone. The stand was well decorated and provided space on the inside for the storage of records. There is a letter written in May, 1902, that speaks of a shipment of two hundred treble spring motors to England. Someone other than Johnson conceived the idea of mounting three springs on separate sleeves which were slid upon a single shaft. They could be wound up in sequence and exerted their driving power in sequence. This device permitted the playing of several records following each wind-up of the machine. Of course if one spring as long as all three springs was mounted on a single shaft it would turn the turntable

for just as long a time as the three springs, but when fully wound up it exerted far too much power for the governor to control it. The use of three springs cut the initial exertion of power to one-third, thus making the pounds of spring pressure quite controllable by the governor.

Fred W. Gaisberg entered the talking machine business by becoming the employee of Calvin Child, who ran a recording studio in Philadelphia probably as early as the late 1880's. Gaisberg went to England and became the recorder for the British company. He was rather careless with his facts; for instance, in his book "The Music Goes Round and Round" he stated that the record business in America in 1901 and 1902 was dead, whereas the actual fact is that in 1901 it was by deduction over a million and in 1902 Victor sold 1,696,000 records. Gaisberg claimed the invention of the weight drive for the recording machine. There is no proof of this, one way or another, but son Fen is strongly of the opinion that his father invented the weight drive and Gaisberg learned about it from Royal. These factors in no way detract from the great contribution to the industry that Gaisberg made when he defied the Gramophone Company orders in late 1902 and contracted with Enrico Caruso for ten recorded songs at the very high price of £500. This left the Gramophone Co. with no choice and the records were issued in May of 1903. Caruso was already one of the most famous of the opera singers. The appearance of his records on the market attracted the attention of music lovers who had disdainfully rejected mechanical sound. Caruso became the first individual to record a record which sold over a million copies. The name of it was "Vesti la Giubba." Gaisberg, perhaps wisely, took off on a recording expedition which extended from Russia to India. We may presume that by the time he returned to England the anger of the British board had subsided and changed to pleasure at the material increase in the record business.

Johnson was a man who had few close friends. To those friends he was intensely loyal even after they, like Charles Gannon, began to visit him only when they wanted money. He set Gannon up in the hardware store business, and from that time on Gannon came to call once or twice a year, told a tale of woe about his hardware

store losing money, and was given a hand-out. There were people with whom Johnson was congenial, such as Douglass. He, of course, never asked for money, having plenty of his own, but failed to win deep affection from Johnson. The one man who won deep affection and never took advantage of it was Royal. The numerous letters between Royal and Johnson during Royal's sojourn in England freely mixed personal "chit chat" with business.

There is one personal exchange of news and opinions which is worth recounting. The British are very class conscious in their social contacts and have no trouble distinguishing classes because people in Great Britain are genteel born or noble born or they are not. When son Fen inquired of Barbara Williams about the family of the general superintendent of the Heyes plant, Barbara replied, "We have no social contact with Mr. Buckle." Americans arriving in England put the British "up a tree" when it came to drawing class lines and they were forced to exercise their own judgement as to whether or not an American and his family were genteel. Mr. Royal and his family evidently passed muster. Royal got invited to a shoot on a large estate. A game shoot on a British estate is not related in any way to going gunning in America, but the owner of the estate was not aware of the fact that Mr. Royal was completely ignorant of going to an English "shoot." Royal did not know that two identical shotguns were required; that a man took a station on a stand and went through a regular drill with a loader so that the man's shooting was practically continuous during the period in which the beaters drove the birds over the line of stands. Royal arrived at his first shoot with just one gun. This giant of a man, still possessing the rugged strength of his youth, solved his problem. He fired his shotgun while holding it to his shoulder with one hand; then he picked up fresh shells with the other hand. This enabled him to kill two hundred birds on his first shoot. He recounted the experience to Johnson in a letter. Johnson was scandalized. He replied that if, when in England, he got invited to a shoot he would take one box of fifty shells and when he had killed fifty birds that would be it. In the correspondence Royal never did explain that the host on a shoot would be exceedingly

upset if the shooter did not kill all the birds that he could possibly kill because the birds did not go to the shooter; they belonged to the host and were sold on the market. Basically a game shoot in England used to be no different than harvesting a crop of rye, excepting of course there was an element of fun in it so the upper classes were agreeable to helping the crofters who acted as loaders and beaters to harvest the crop and the crofters were usually quite willing to do their part because if the game was too plentiful it would harvest more of the crofter's crop than the crofter could. Crofters were similar to our American tenant farmers. Things have changed in Great Britain. Game is no longer a crop. Americans who pay to shoot are the crop.

There was an incident in the 1903 correspondence which showed that Johnson could hold a grudge. Records appeared on the European market under the name of Nicole Co. in which their recording was equal to that of Victor and Gramophone. This aroused the interest and suspicion of Royal, who bribed one of their mechanics to give him a description of their recording machine. Nowadays we would call it industrial espionage. The description fitted exactly the recording equipment invented by Johnson and the leak was traced to an ex-Victor mechanic who had been employed in the recording department. The mechanic had returned to America, had not found a job to his liking and reapplied for employment at Victor. Johnson, who was still doing the hiring for the sensitive spots in the company, bluntly accused the man of selling out his recording secrets and refused him a job. The Nicole Co. made the mistake of selling cheap and nasty records with a cardboard base and a celluloid coating. They warped badly and quickly wore out and so the problem solved itself.

Early in 1902 Johnson moved from his rather modest double house in North Philadelphia to the Flanders Hotel, where he rented almost a whole floor. All this was ample luxury for someone who had newly joined the ranks of the millionaires. It was still city life and the couple were basically small town and country people. There were two areas in the suburbs of Philadelphia which in those days were almost completely occupied

by large estates. One was Chestnut Hill, now a part of the county of Philadelphia. The other is what is known as the Main Line. When someone asks a Main Liner where he lives, he does not name the town, he just says he is a Main Liner. He expects everybody in the world to know he means that he lives near the Pennsylvania R. R. Co. main line tracks between the Merion station and the Paoli station. It does not set very well with a Main Liner if the person asks: "Where is that?"

Main Liners are an exclusive lot. It has been said that they even have their own accent which is distinct from the accent of a Philadelphian. Son Fen's ear has never been keen enough to pick up this difference. Johnson, having become a Main Liner, it is now proper to call him Mister. Much to the displeasure of Mrs. Johnson, Mr. Johnson considered that buying a residence was strictly a man's business. Mrs. Johnson would have preferred to have been farther out the Main Line, but Mr. Johnson was adamant. He said that fifteen minutes travel time was all he was going to spend in a commuter train. The station just before Merion was Overbrook and City Line Avenue passed over the Overbrook Bridge. To the westward of City Line Avenue the big estates had been broken up into as small parcels as three acres, two acres, and in a few instances into measly one acre lots. The western part of Merion was in better condition. The big estates from one hundred to several hundred acres had been broken down into ten acre divisions. Three hundred yards from Merion Station, on the south side, on Hazelhurst Avenue, Mr. Johnson found what he wanted. It was the main house of the Baird estate. It was flanked on one side by a house almost as large which had been built for Baird's daughter and on the other side by a more modern mansion surrounded by nine or ten acres. In January or February, 1903, the Johnson family moved to Merion.

Despite being slightly miffed by not being consulted, Mrs. Johnson was delighted with her new mansion and her large staff of servants under the control of the housekeeper, Mrs. Thompson, who was a strong minded woman, as all housekeepers must be. The main hall was most impressive. It was two stories high, well over twenty-four feet from floor to ceiling. As one entered one

saw a great stone fireplace on the opposite side of the hall. On the right was a staircase which ran to a balcony extending around two sides of the main hall. Four doors led from the balcony into the quarters of the master and mistress of the house. The main stair was of oak and the balconies and everything on the balconies were also of oak.

The feature of the house in which Mrs. Johnson took the most pride was the formal parlor called the gold room because the Merni Martin style furniture was covered with gold leaf. The clock on the mantelpiece and the candlesticks to each side of it were antiques of Napoleon I vintage. They were green cloisonne, heavily encrusted with gold in the form of vines, leaves, flowers, etc. The clock face bore gold numerals. The hands were gold. The face was encircled by a gold ring, as were the oval miniature portraits of Napoleon and his empress. The Merni Martin style furniture belonged to the era of Louis XV. The floor had a golden look. It was parquet, the most expensive type of floor short of mosaic. The wood, yellow pine, had been waxed until it glistened like a sheet of ice. Near a gilded grand piano the golden yellow and black striped skin of a tiger covered part of the floor. Another feature of the estate — it was an estate although a small one — was the carriage equipment. Mrs. Johnson took special delight in going to the elite shops on Chestnut Street, Philadelphia, in her coach. The coach was a near duplicate of the coaches in TV westerns but differed markedly in the finish. The exterior was of highly polished wood painted a dark blue. The interior was padded and the pads were covered with grey whipcord cloth. In addition to the seats, pillows were provided for the comfort of the passengers. There was no outside seat in the rear, that being more the characteristic of a tallyho than of a coach. On the high seat outside, up front, there was a coachman wearing a high hat with a cockade in the hat band and instead of a guard on the lefthand side carrying shotgun there was a man in a livery somewhat less elegant than that of the coachman. He was known as the footman and doubled as the stable boy. Shortly after the house was purchased another feature was added — a dark room on the third floor, where Mr. Johnson engaged in his hobby of photography.

In 1903 Mr. Johnson went to Russia alone and visited the talking machine headquarters there. He took absolutely perfect pictures of the Russians and having completely mastered the process of photographing and developing and printing, he dropped the hobby cold. Berliner had tried to buy Mr. Johnson out. He had seriously considered selling but he wanted cash, not promises. In 1903 Mrs. Johnson entertained the entire Gramophone board at the old Marlborough Hotel in Longport, New Jersey, where they made the proposal to buy out Mr. Johnson. The deal fell through for the same reason. They wanted to give notes and pay later and he wanted cash on the barrelhead. Time rolled on. In March of 1904 Mr. Royal wrote Mr. Johnson of an invention by a man by the name of Parsons. Like a lot of other inventors, Parsons through he was the original inventor whereas he was nothing of the sort. Away back in 1878 Edison was granted a British patent for his invention of a compressed air talking machine. In 1902 the second inventor, Sir Charles Parsons, developed the idea to the point where the Gramophone Co., in 1904, put it on the market. It was called the Auxetophone. A machine was sent over to Victor in Camden. It was taken to the top of the Victor tower, a structure between two and three hundred feet in height and played toward Philadelphia, where an observer on the Philadelphia side of the Delaware River could hear it distinctly, the distance being about one mile. The musical quality of the machine was excellent for its day. The volume compared favorably with the loudest of the electronic reproducers of modern times. The machine looked like a sure-fire winner. Sadly, it had an incurable delayed action defect which showed up after a year or two of use. The oil in the compressor detonated after the manner of oil in a Diesel engine, but being in an exceedingly small quantity, the sound of the detonation was not audible. The fumes of the combusted oil travelled through the air system and deposited almost diamond hard crystals on the air valve and sound box. This deposit built up until the sound box failed. The end result was that the Auxetophone had to be withdrawn from the market.

After the incorporation the volume of patent litigation gradually built up until it became the most costly in the history of

patents anywhere in the world. Mr. Johnson estimated that the cost to the Victor Co. was over a million dollars and the threat was that in the end everybody's profits would be wiped out. The main reason that Mr. Johnson should be remembered beyond the time of other industrialists of his day is that it was his breadth of mind and tolerance which stopped quarreling and enabled the industry to get on with its business. His first successful effort was when he stopped the quarreling of the Berliner crowd and his second successful effort was on December 8, 1903, when he stopped the terrific patent fight by proposing a cross-licensing agreement which got Victor, Columbia and Edison off to a fresh start.

CHAPTER V

A GREAT INVENTION

In January, 1903, brother-in-law Ed and Mr. Johnson went to Van Sciver's furniture store in Camden, where he saw a cabinet that Mr. Johnson thought he might sometime be able to use. There were doors on the cabinet. He was very careful about opening and shutting those doors three or four times. Mr. Johnson made his first sketch of the Victrola or something similar to it in October, 1903, while he was staying at the Flanders Hotel. Brother-in-law Ed remembered the incident clearly in relation to the date because his uncle died in August, 1903. The uncle's name was Karcher. Brother-in-law Ed remembered being with Mr. Johnson and Mr. Williams in Atlantic City in September, 1903, when the new laboratory on Cooper Street was opened. Later in a legal battle over the conception date of the Victrola, Ed testified in such detail that the lawyer for the opposing side which was trying to knock out the Victrola patent said to Ed, "You remember everything that happened since Jesus Christ wore short pants, don't you?"

Mr. Johnson was keenly aware of the fact that neither his nor any other company's talking machines were bought by the rich for use in their parlors because no matter how carefully and artistically the record cabinets were designed and no matter how much the cabinet of the machine itself and its horn were decorated a turn-tabled tone-arm and sound box, like the works of a clock, were displeasing to the eye and the horn continued to be an affront to people of refined taste. Mr. Johnson's greatest invention was the Victrola. He applied for a patent on December 8, 1904, and on June 11, 1907, patent No. 856,704, entitled simply TALKING MACHINE was issued. The patent showed the tone-arm turned downward at the big end, where it was mounted like a pivot so that it was free to swing in the horizontal plane. Then the patent showed the horn which was carried downward and then forward under the motor to the front of the cabinet. Thus, the horn was completely concealed within the cabinet.



Edward K. MacEwan

Furthermore, the sides of the cabinet were carried upward so that the sound box, tone-arm and the turn-table were hidden. The whole was topped with a hinged lid which could be kept closed while the machine was playing, thus somewhat reducing the sound of the scratch. Horace Pettit was still his patent lawyer and for the weakness of his draft of that patent he should have been fired. Many years later, in a law court, it was held that the idea was no invention because anyone well versed in the art could have thought of it. The truth was that to uphold the patent would have put all of the competition out of business for the life of the patent; that Victor was doing 75% of the business, and all of the courts in which Victor brought its cases were determined to prevent Victor from becoming a 100% monopoly. Mr. Johnson had another inspiration which was almost as great as Francis Baraud's famous words, "His Master's Voice." Johnson named his new product "Victrola."

The new invention was not rushed onto the market. Without the Victrola the business had increased every year. In 1902 the Victor assets were \$2,724,016.07; 1903 – \$3,286,870.14; 1904 – \$3,561,401.63; 1905 – \$4,156,018.61. In the summer of 1905 the family was almost overwhelmed with trouble. Mrs. Johnson had her first cardiac infraction. Sister Carrie became very ill. Nephew George contracted rheumatic fever and niece Elsie had pneumonia. Son Fen was sent to stay with his grandfather, Ol' Cap Fenimore, in Ocean Grove. He stayed healthy and full of vigor. Captain Ide Fenimore, unlike his brother, could not afford to retire. He put to sea in his over age ship, encountered a storm – probably a hurricane. He brought the ship through the storm but shortly afterward the exhausted crew could not man the pumps continuously enough to keep up with the leaks. Slowly the ship foundered. The captain, with all hands, got away safely in the ship's long boat. They had enough provisions but as the days went by they ran completely out of water. One seaman drank sea water, went mad and jumped overboard. Other members of the crew died of thirst in the boat. Captain Ide sat in the stern barely able to hold the tiller. There is an old story which has been told about many people in Captain Ide's situation. Mrs. Johnson told son Fen

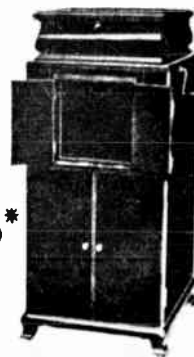
that his grandfather prayed very hard for the Lord to save him and his men and that a captain of another sailing vessel who was unable to figure out why he had to do it suddenly changed his course. The course led him directly to Captain Ide. Whether or not there is truth in that part of the tale, the captain with a few of his crew were still alive when picked up by another sailing vessel. The experience broke the Captain's nerve. He felt unable to command another ship. Mr. Johnson gave him a job at the Victor Co. as weighmaster in the coal yard. He was also given a police badge and his captain's uniforms came in handy because he doubled as watchman at the gate of the coal yard.

Regardless of the family troubles, Johnson worked personally with his cabinet designers and his inventors until he had a prototype of the Victrola. Outwardly the cabinet was full of curves known as O.G. curves. Many years later when son Fen saw a picture of the first Victrola, he said, "Oh Gee" because it reminded him of the shape of a tulip – ugly, not pretty. The design was suitable for its day because most of the homes of the rich were furnished with heavy Victorian furniture. The basic feature of the Victorian furniture, made of solid mahogany, was the same ugly O.G. Prior to the advent of the Victrola, invention after invention had fallen neatly into place to assure its success. The basic elements of the Victrola were to remain substantially unchanged for nineteen years. Its outward appearance was slowly refined but the general shape of a cabinet about four feet tall by two feet square persisted unchallenged until 1920. In 1920 the business became divided between what was known as the upright Victrola and the horizontal machines which were wider and lower.

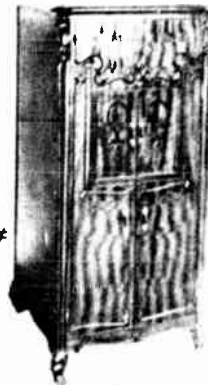
At this point it is worthwhile to review the elements of the Victrola. The sound was picked up from a flat record by a needle point which had been ground to fit the U-shape of the groove. The needle was mounted in a stylus bar which in turn was mounted on a trunnion so that the movement of the needle was transmitted to a mica diaphragm. Springs were used to dampen the free movement of the trunnion. The edges of the diaphragm were mounted in rubber. The whole sound box was mounted on a U-shaped tube, which was rotatably mounted at the front end of

Evolution of
Victor's Model XVI
Original
ENCLOSED HORN
TALKING MACHINE

1906*



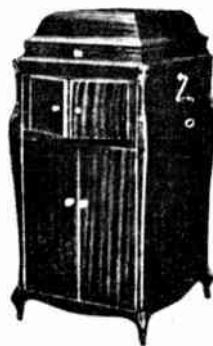
1907#



1912



1919



1924



Evolution of Victor's Machine

the tapered tone-arm. This U-shaped tube could be moved up and down, thus giving enough clearance from the record to remove the record and replace it with a fresh record. The weight of the sound box and the U-shaped tube was about four ounces. Unfortunately, the weight of the four ounces when pressing on the record via the sharp point of the needle multiplied out to 50,000 pounds per square inch. The result was that flat records had a short life which ranged between 75 and 125 playings.

Getting back to the machine itself, the U-shaped tube was the only section of the sound path which was not tapered, but it was very short so there was little harm to the sound. The U-shaped tube being mounted in the small end of the tapered tone-arm, the sound was able to follow its natural path of expansion through the tapered tone-arm into a tapered casting which led downward underneath the motor and expanded gradually into a wooden horn which was shaped like a truncated pyramid. This change from round to square was not good but it also was not seriously harmful to the development of the sound. In the motor itself there had been the adoption of multiple springs which was not one of Mr. Johnson's inventions. However, back in 1904, he had greatly improved the spring motor's governor and U.S. Patent No. 750858 was issued to him. The title of the patent was "Speed Governor for Motors." The object of the invention was to provide an improved governor-brake mechanism for increasing or diminishing the speed of the motor as may be desired, the construction being simplified without complicated parts to become disarranged. In the illustrations of this invention there is shown for the first time what is in the opinion of son Fen an important invention which was not realized by either Mr. Johnson or his attorney, Pettit. Instead of driving the governor by means of a series of gears starting with one on the shaft upon which springs are mounted, there is a spur gear driven by the springs which in turn drives the governor through a spiral groove gear. It was and is a recognized principle of mechanics that while you may use a spiral gear to drive a spur gear, you cannot reverse the process and drive the spiral gear with a spur gear. Nevertheless, Mr. Johnson invented that. It resulted in the smoothest governor action in the talking

machine industry. The first governor Mr. Johnson invented removed most of the quaver in the long sustained notes. The new governor removed all of the quaver. The elements for the success of the Victrola had fallen as neatly into place as the parts of a jigsaw puzzle.

Mr. Johnson had very proudly shown Mrs. Johnson the first double spread in the *Saturday Evening Post* magazine which the Victor Co. had been able to afford. It was a group picture showing all of the Victor artists. It appeared in the issue of November 19, 1904. From that time on the Victor Co. became one of the biggest advertisers in the country. Mr. Johnson quite frequently wrote the Victor advertising himself. By the end of 1905 he had everything ready for the launching of the Victrola so in January, 1906, he characteristically went to Florida and left the carrying out of the operation to his highly efficient organization. In February, 1906, he wrote Mr. Royal, "We are selling Victrolas." The price was \$200, a lot of money for a talking machine in those days. Despite the careful distribution of stocks of Victrolas to dealers in advance of the advertising campaign, and despite the Victor's advertising campaign plus the local newspaper ads put on by the dealers, the Victrola at first did not sell very rapidly. Then the most powerful advertising that this world has ever known began to come into play. It was word of mouth advertising from satisfied customers to satisfied customers.

In July the Johnson family went to England and resided at Wykeham Lodge at Walton-on-Thames near Hersham, which was not far from the Williams family residence, The Clock House, at Byfleet. Mr. Johnson was still devoting a great deal of time to assisting the Gramophone & Typewriter Co. Ltd. to select machine tools and organize production in the plant at Hayes and various plants in Europe. While in England that summer Mrs. Johnson had her first automobile ride. She recorded that they went at the terrific pace of forty miles per hour. She also met Lord Northcliffe, which she regarded as quite an event, being desirous always of moving in the highest social circles. She bought a pedigreed beast by the name of Peggy from the blenham spaniel kennels on the estate of the Duke of Marlboro. She did not meet



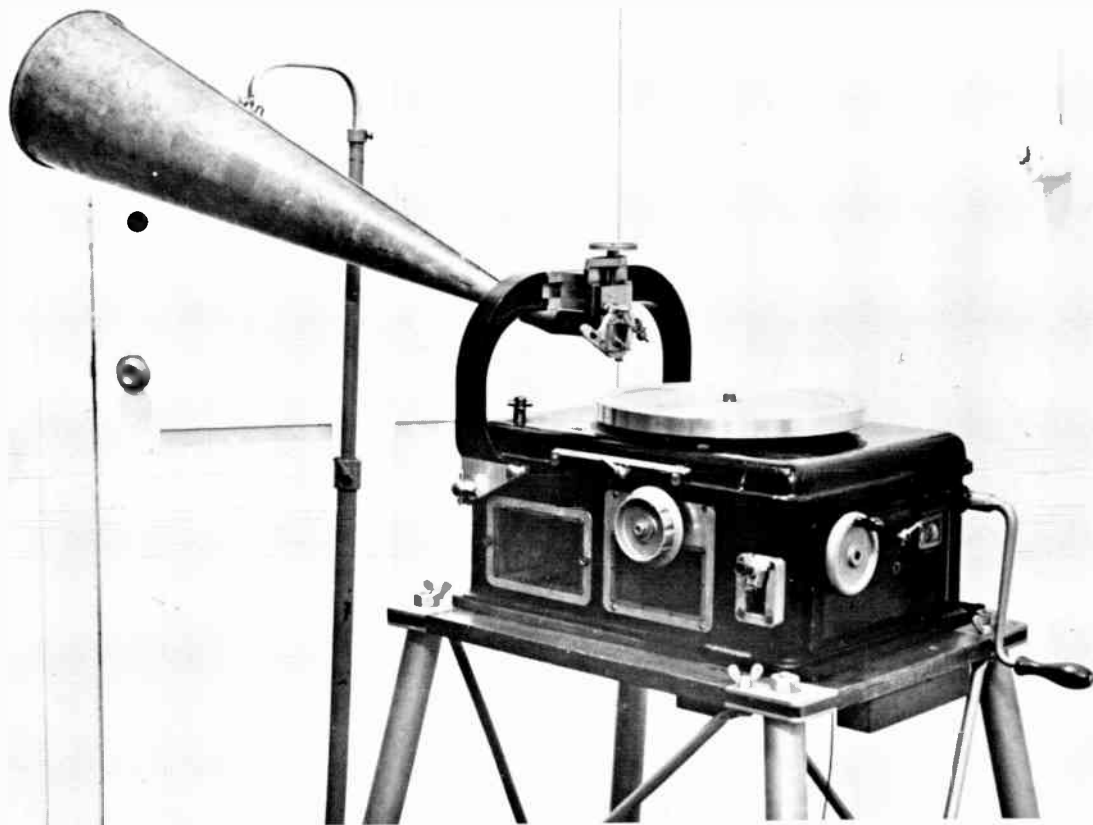
Mrs. Eldridge R. Johnson - Circa 1903

the Duke. No doubt that was a disappointment. The Duke was a great general and the palace of the Duke was the boyhood home of Sir Winston Churchill. When son Fen tried to pet this small and silky beast she bit him, which caused a perpetual strain between the dog and the son until after about twelve years Peggy went to dog heaven – or the other place son Fen hoped!

On October 4, 1906, Mr. Johnson being still in England, brother-in-law Ed MacEwan wrote, “The Victrola is a winner.” Then plaintively he went on to ask, “If in your travels you ever see an Irish MacEwan with money, kindly take his photograph. It would be a great curiosity to gaze upon.” While the talking machine in 1906 was at a point where further improvements became very difficult to achieve, there was plenty of opportunity for improvements in the recording. In the Wall Street Journal of November 13, 1941 there was an article which stated, “Caruso’s first records in 1906 lost all undertones and many overtones and were too weak to reproduce.” Caruso had a voice range of 2½ octaves, which was 100 to 700 cycles.

The Berliner method of recording was described in an earlier chapter. Berliner did produce a loud record but it would have gone down before the competition of the cylinder record when the loudness of the Edison product was increased to nearly as loud as Berliner’s. Various writers who wrote histories of the talking machine industry have given a lot of credit to the inventors Berliner, Bell, Taintor and Jones. The fact is, however, that none of these inventors invented a saleable talking machine and record. As far as Jones’ nearly identical recording invention is concerned, it was conclusively proved that Johnson had a prior conception date and was, therefore, the original inventor. It was Johnson who was the first to invent both a talking machine and a record that successfully competed with Edison’s. Other manufacturèrs won no business until they copied Johnson’s products. But historians have given Johnson almost no credit at all.

The next substantial Johnson improvement in recording was the method of brushing on the powdered metal which was the vital next step after recording on a waxed disc. Patent No.



Recording Machine - Gramophone and Typewriter Company Limited, Circa 1905

681,918, entitled "Machine for Leading Sound Records," mentions only graphite as the material for leading but correspondence of those early days indicates that lead itself was also used in a finely powdered form. The date of this method of mechanically brushing the lead was 1901 and in that year there was another invention which was a big improvement in recording although it had nothing whatsoever to do with a recording machine per se. In that year a Charles Stroh introduced his violin which he designed especially for recording. He replaced the wooden resonating box with a shallow cylindrical resonator of metal. To this he attached a metal horn about one foot long which directed the sound toward the recording machine and a short horn which directed the sound towards the player's ear. He used the same device to improve the loudness of the cello but apparently did not attempt to use it on a bass violin. Prior to that time recordings of orchestras did not sound much like orchestras because the relative loudness of the various instruments was all out of proportion to reality. Stroh placed his string instruments equipped with the horns up in front and the louder brass and percussion instruments in the rear. The recording machine had a single big horn which gathered up all of the sounds. After the introduction of the Stroh improvement a recording of a much diminished symphony orchestra sounded remotely like a symphony orchestra.

After Johnson invented his improved leading process he left the problem of improving the method of applying metallic coating to original wax masters to his Victor inventors. William Naphey and John C. English appeared to be the chief inventors. By the time son Fen first saw a recording machine, which was probably around 1907, the metallic coating was finely ground copper. Son Fen is a little hazy on this point but he thinks that the recording machine also had multiple horns pointed in various directions when several singers and several instruments were being recorded. From that time on there was little real improvement in the recording method until the adoption by the Victor Co. of the Western Electric electrical recording orthophonic method which had a re-entrant exponential horn and together with the sound

box constituted a logarithmic acoustical reproduction system.

Getting back to 1907, Mr. Royal, over in England, had gotten along very well with Mr. Williams and Barry Owens. Barry Owens sadly, did not put any part of his money in the talking machine enterprise either in America or England. He spent almost all of his income on living too well, to such an extent that Mr. Johnson wrote him a letter of warning and told him that he would some day be in trouble if he did not save something for his old age. Owen became, dissatisfied with the wages that the Gramophone Co. was paying him and made an exorbitant demand which the Gramophone Co. refused to meet. One of those unamusing situations occurred in which a man resigns and gets fired all at the same time. Owen returned to America and thereafter earned his living as a farmer on Long Island. The Gramophone Co. employed a tall bald headed German by the name of Bierbaum. Royal could not get along with Bierbaum at all. In a letter Johnson expressed the opinion that Bierbaum was afraid that Royal would get his job as general manager. Whatever it was that was troubling the man, it resulted in Royal resigning from Gramophone and coming back to the United States, where Johnson gave him the job of managing the Universal Talking Mfg. Co., which manufactured the Zon-O-Phone. Victor had purchased Universal in order to get rid of that cheap and nasty competition.

Mr. Royal soon liquidated the Universal Co. and came to work at the Victor Co. as General Superintendent. Soon he became Mr. Johnson's righthand man and later a vice president of the company. This was exceedingly fortunate for Johnson because otherwise the company would have gone completely to pieces during the sometimes long periods when Mr. Johnson was absent because of melancholia. Before starting to work at Victor Mr. Royal took a brief vacation at Ocean City. One of the Victor inventors by the name of Dennison gave him a lift to Camden in his automobile. They drove up the White Horse Pike. Apparently Dennison was a speed demon. The dust was so thick it was almost impossible to see yet Dennison drove very fast and almost frightened Mr. Royal to death, so Mr. Royal said. At that time the inhabitants along the pike were up in arms against speeders and

the town of Magnolia actually erected an iron gate across the pike in order to control the speed of cars going through the town. In those days if you went over fifteen miles per hour you were speeding, and how!

Theodore B. Bierbaum was the son-in-law of Lord Isaacs, Marquis of Reading, which gave him considerable social standing, but he was a natural born trouble maker. After he got rid of Royal, he began to make trouble for Alfred C. Clark, who at that time was the manager of the French Gramophone Co. Without any real prospects of a job, Mr. Clark quit. He knew that he had an excellent reputation throughout the trade and was known in many other industries so he was confident that he could easily find work and he was quite right about that. In fact, Mr. Williams of the Gramophone Co. regarded him as so valuable that he promptly offered Mr. Clark the position of Co-Managing Director of the British Gramophone Co. with powers equal to that of Bierbaum. Son Fen presumed there was a division of duties officially approved by the board. Nevertheless, the trouble between the two men continued. Mr. Johnson took the liberty of pointing out that the combination simply never would work. Mr. Williams replied, "You have a devilish ability to lay your finger on our troubles." He then proceeded to fire Bierbaum. Mr. Clark was made the sole managing director of the Gramophone Co. His mental calibre was on a par with that of Mr. Johnson and Mr. Williams. The affairs, and hence profits of the British Co., began to improve almost immediately.

The typewriter made by the British Company was a weird little machine with a circular keyboard. So much pressure was required to operate it that it hurt son Fen's fingers. Its sole virtue was portability. When the heavy and complicated machines, which had keyboards similar to late 20th century machines, were simplified and made portable, the Gramophone Co. went out of the typewriter business and dropped the "and Typewriter" from its name.

The patent litigation in the field of the talking machine in America became the most expensive patent litigation that the world had ever seen. It would be difficult to research the court



Belford G. Royal

records of the Victor's legal battles and an account of them would probably be a bore. There was one little incident worth mentioning. It occurred while Mr. Johnson was in one of his melancholy moods and not attending the office. The competition was attacking one of his patents. Suddenly one morning Mr. Johnson announced that he was going to the office. Without waiting to pack any of his clothes, the butler went out the back door, sprinted across the lawn and caught the Paoli Local into the city and warned the plaintiffs of Mr. Johnson's recovery. The competition in that instance withdrew its suit because they knew they could not win if Johnson testified.

It is interesting to just leaf through the file of Mr. Johnson's patents. The wire stitcher patents were so good that they were never contested and New Jersey Wire Stitcher Co. had a monopoly on stitchers suitable for putting magazines and books of substantial thickness together. His first patent, "Gramophone and Actuating Device Therefore," issued in 1898, has already been described. That one was followed by several more of the same title. Then comes #650843 of June 5, 1900, entitled "Sound Recording and Reproducing Machine." In that patent the yielding turn-table that would make up for slight irregularities in the wax disc during recording was described. It was a small but vital point because it was not possible to make wax master records that were absolutely parallel on both surfaces. At that time one completely flat surface was the best that they could do. Following that were five patents in which he constantly improved the sound box. Then came the patent on a machine for leading sound records which covered the mechanical brushing device previously mentioned. Then came three improvements in spring motors and a patent on a brake. Mr. Johnson's action in respect to this patent is difficult to understand. It is #700937, dated May 27, 1902, entitled "Gramophone Brake." It tied up the idea of a spiral groove brake so hard and fast that the competition never dared infringe the patent. Mr. Johnson completely ignored his own patent and adopted a brake which had to be set by hand for each record. When the patent expired the competition immediately began putting out machines and records which utilized the spiral groove

to actuate the braking mechanism. The dealers set up such a clamor that Victor was forced to abandon the hand set brake. A Victor inventor by the name of L. Y. Squibb came up with the idea of an eccentric groove brake which automatically stopped the turn-table when the music was finished. It was not even the least bit better than the spiral groove brake. Its only virtue was that it made it inconvenient for Victor customers to play competitive records on their Victrolas. Following two patents of no consequence, Mr. Johnson invented the paper label for talking machine records. That one was issued in September 22, 1903. Prior to that time Victor and everybody else just scratched the titles of the records, their company names and the artist's name in the center of the wax master.

Mr. Johnson continued to take out patents at a good clip, and as previously mentioned, Pettit continued to miss some of the important inventive features. In 1908 Mr. Johnson took out a patent, #896059, dated August 11, 1908, entitled "Record for Talking Machine" in which he cut a neat U-shaped groove in the wax master in contrast to using a needle which traced the sound waves on the wax but actually tore the wax out instead of cutting it out. His individual patents totalled forty-six. There were nine joint inventions and seven design patents. Then suddenly in 1922 he stopped inventing. Probably he was too busy with managerial work to keep in close touch with the problems on which his inventors were working. There is some evidence that Mr. Johnson and not the man whose name is on the patent covering the first automatic recording changing machine was the true inventor of that device. For many years automatic record changing machines had been sold for use in public places. They were the ancestors of what are now known as "juke boxes" but the Victor Talking Machine Co. was the first ever to put out an automatic record changer for use in the home. The juke boxes were too complicated and required too much service to be used in the home. The first automatic Victrolas ran for years without service. They sold well. Unhappily, the second model was an expensive failure, but that was not the fault of Mr. Johnson for by then he had sold the business.

CHAPTER VI

WHAT MANNER OF MAN WAS HE

Fannie Smith Johnson, his stepmother, was born on the 10th of March, 1843, and died on December 8, 1907. It probably was in June 1907 that Mr. Johnson decided to take his stepmother for a ride in the trap. Daniel, the coachman, hitched up the ride and drive horse, Victor. Son Fen was standing in the driveway between the house and the stables when he heard the unmistakable sound of a runaway horse. Through the porte-cochere, on the dead run, came Victor, nostrils flaring and feet failing the ground. Well knowing the ways of horses, son Fen stepped out of the driveway onto the grass. There was a slight turn in the driveway. Victor was interested in staying in the driveway but quite indifferent as to whether or not the trap stayed in it. The front wheel of the trap struck the curb just in front of son Fen and he observed with interest that his father was still driving the horse while seated in the air holding onto the reins. His father landed on a pile of iron fence sections. Seeing his father seated safely on the fence sections, son Fen ran after the rig, fearing for the life of his stepgrandma.

By the time son Fen made it around the stable, Victor was peacefully grazing in the back pasture and submitted quite tamely to being led back to the stables. Mr. Johnson was due to sail on a steamer that night. With the aid of a cane he managed to hobble aboard the train and go to New York. Once aboard the steamer he collapsed in great pain. On the voyage across his leg turned completely black. Upon arrival in England it was established that he had, in addition to a tremendous amount of bruises, a small fracture. Still suffering much pain, Mr. Johnson retired probably to Ruthin Castle in North Wales. Walter Clark, a tall dark handsome man, half-brother to Alfred, took time off from the talking machine business to go and console Johnson on his bed of pain. That was so much appreciated by Mr. Johnson that he wrote son Fen about it. Mr. Clark, Alfred, that is, hearing that E. R. J. was hors de combat, put his motor car on the channel steamer and

came over to England, where he picked up Trevor Williams. The two of them rather bravely, considering the unreliability of cars and the condition of roads in those days, drove up to see E. R. J. in Wales. Mr. Johnson blamed this accident for the attacks of melancholia which began soon after.

Beginning, as soon as he was able, Mr. Johnson contributed to the support of the Smiths, the Wendells, and he even supported old Mr. Lodge, under whom he had served his apprenticeship and had no cause to love because Mr. Lodge had refused him journeyman wages when his apprenticeship ended. A Frenchman by the name of Louis Lumier invented a process for taking color photographs, or, rather, transparencies. He formed a company and I, son Fen, think that Mr. Johnson put some money in it. The man is of interest to this account because later he invented a diaphragm made out of folded paper which when attached by one edge to a talking machine needle would reproduce sounds. The British company put it on the market for a while. The American company had no market for such a cheap device but many years later when radio came on the market, Victor manufactured and sold a speaker using the Lumier diaphragm. It was in 1907 that the New Jersey Wire Stitcher Co. paid its first dividends manufacturing under the Johnson patents and it paid a dividend every year thereafter for the next twenty years. The account of this year can be closed out with an amusing letter from Mr. Royal. He went fishing in New York Bay during the annual run of the drum fish. The schools were on the surface. He saw one school which he estimated to be one hundred yards in diameter. He tried all sorts of bait but there were no takers. Running out of patience, he tied three large hooks together into a gang hook, that is to say, he made it like a grapnel. Casting over the backs of the fish, he managed to snag some but the hooks tore out. He planned to take a rifle on the next trip and shoot one, also to borrow a harpoon from the Victor treasurer, Bert Middleton.

Mr. Johnson had changed very much from the days when he wanted to play his violin while Elsie Fenimore played the piano and had written Miss Fenimore glowing accounts of the few times when he was able to attend the opera or the orchestra. He allowed

Mrs. Johnson to play her piano but preferred that she play it when he was not home. He would not permit a talking machine and records to be in the house. He and Mrs. Johnson ceased to attend the opera. Mrs. Johnson kept up her music and singing but her only audience was son Fen. She seemed to be quite content to discontinue going to the opera but was definitely interested in meeting the artists.

This yearning resulted in an invitation to the reigning prima donna, Nellie Melba, to a luncheon in the Merion home. It was accepted. The date was after Xmas 1908. Son Fen was present and remembers it well for a good reason. Madame Melba gave him a very wet smack kiss on the cheek, which he hated. The next incident was an imaginary draft from which Madame Melba demanded protection. A large and heavy screen was brought into the dining room and arranged behind her back, which made service from the serving table by the butler a rather awkward performance. Most of the conversation escaped son Fen but one part of it remains vivid because of his own and his parents' reaction. Nellie said that she was dining in one of those outdoor restaurants popular in France and Austria where the public strolls by separated from the diners by only a small railing. For dessert, said Nellie, she ordered mousse and some children who were listening began to run about screaming, "Madame Melba eats mice." Nellie was quite pleased with her little joke but the best that Mr. and Mrs. Johnson could do was put on a strained smile. Son Fen thought it was pretty flat, too. That was the first and last time that a Victor artist was ever invited to the Johnson home.

Most industrialists seemed to have been men of great drive and energy and they or their biographers boast of twelve to sixteen hour days of hard work. Mr. Johnson may well have worked a ten hour day or even longer before he became self-employed, but by the time son Fen can remember his working day, it was down to nine hours. By 1912 it was a good deal less. He got up early because he was unable to sleep late in the morning and he was off to the office before son Fen left for school, but he was often home by 5 o'clock and would select a book from his extensive library of classical literature and read until dinnertime, which was

at 7:00 P.M. After dinner he often sat on the porch and smoked a cigar.

The Johnson household was dry, no cocktails, no wine, not even beer. This was not by Mr. Johnson's choice. He often would drink champagne when dining out in the evening, but Mrs. Johnson was bitterly opposed to alcohol of any sort, excepting for medicinal purposes. Her idea of medicinal dose was a teaspoonful of brandy. That may have been a medicinal dose for her ninety pound self but it certainly was not any benefit to her 190 pound 6 foot husband or even to son Fen, who sometimes got a teaspoonful of brandy in a glass of milk when suffering with a fresh cold. Mrs. Johnson went riding and Mr. Johnson rode his horse Victor until about 1912, when he bought a Packard roadster for himself and a large Packard car for family use. At first he enjoyed driving the roadster. It had a bucket seat in back for the coachman, Daniel Crowley, whom he took along to change a tire in case he had a puncture, which, of course, in those days everybody often did. Unfortunately, he could not keep his mind on driving. Presumably it strayed back to the Victor Co. This resulted in a series of accidents and soon he left the driving to his chauffeur, Dick Ludlow, who was an ex-race driver, and after the manner of race drivers, was very cautious on the roads. An added reason for Dick's caution was that Mr. Johnson told him that if he had an accident and killed Mrs. Johnson, he, Mr. Johnson, would shoot him. However, by that time he had given up carrying his automatic pistol and son Fen had swiped it.

Mr. Johnson was not only a keen fisherman, he was also a keen hunter. In his early days his hunting was done with a shotgun. Mrs. Johnson told Dale Kramer that he had gone hunting with his friend Copeland in the state of Washington and they shot wildcats and a bear. Son Fen does not believe that a father could refrain from recounting a hunting story in which wildcats and a bear were bagged. Therefore, he does not believe that it was true. Aside from mention of shooting in the Tinicum marshes, the earliest hunting story he ever told son Fen was that he was out hunting for key deer on one of the larger Florida Keys when he heard a buzzing sound behind him which he took to be a Florida diamond backed



E. R. Johnson on Horse "Victor"

rattler. Presumably, he had a rifle and not a shotgun because if he had had a shotgun he would have tried to use it. He said that he drew his cal. 38 Colt automatic pistol very very slowly and very very slowly twisted around without moving his feet or legs. Much to his relief, he discovered that the sound was made by an empty pea pod on a vine which was vibrating in the wind.

As soon as he could afford to do so, which was probably in the summer of 1906, he placed an order with the English gun firm of Wesley Richards for a matched pair of 12 gauge pheasant guns, a cal. 303 doubled barreled rifle, and a double barreled elephant gun of cal. 405, all of them single triggered. In 1908 he was able to go deer hunting again. He proved his ability to shoot by killing a deer at 350 yards. It was really his first experience with going camping and he became so enamored with it that he wrote a short book called *Buck Fever*. Then just to keep it company he wrote another short book entitled *Tarpomania*. His next chance to go big game hunting was with Douglass, Royal and a Mr. John J. Deane. That began on November 6th and ended on the 21st, 1911. Deane was a poet and had a poet's utter disregard for the truth. He wrote a long poem in which Royal and Johnson demonstrated the excellency of their marksmanship by shooting a can full of oysters at 500 yards. Even if the can were a five gallon can instead of the usual one gallon can, that was a most improbable feat. He then states that both Royal and Johnson got elk and that Johnson killed a tremendously large mountain lion while Royal killed a male mountain sheep. Mr. Deane must have gotten his hunting trips mixed up because the story that Mr. Johnson told son Fen is as follows. The hunt was in the Jackson Hole country and it was bitterly cold when they arrived. They had a long hard ride to the hunting territory when they pitched their permanent camp. No sooner was the camp set up when it began to snow. The snow became so deep that it was impractical to go hunting. Another hunter and his guide barely made it into their camp. The hunter was so exhausted that his mouth was all puckered up and his breath made a whistle every time it went in and out. They spent the entire time snowed in. When the snow melted a little they had a very hard time getting out. Nobody got any game. That was his



E. R. Johnson - 1910

last big game hunt. From that time on he stuck to upland bird shooting.

Even though Mr. Johnson was keen enough about big game hunting to write a book describing his experience, the recreation that attracted him the most was fishing. His first companion on Florida fishing trips was his father-in-law, but by 1912 the old gentleman was pretty much past the fishing stage, certainly well past big game fishing. Mr. Johnson invited Mr. Royal and Mr. Alfred Clark to go to Florida with him, where, as usual, they lived aboard a chartered yacht. On the 27th of March he had the luck to catch a record African pompano, weight 6 pounds and 4 ounces. Then they went bone fishing. Royal and Johnson gave Clark a big build-up about how difficult it was to catch a bone fish. Clark, having no experience at all, had beginner's luck. He caught more bone fish than the other two caught together.

Meanwhile, back in Merion, Mrs. Johnson was having a much less pleasant time of it. She recovered from the cardiac infraction but ever after that her color was deathly pale and she took to resting more and more in bed. One day a maid came to her and said that she was quitting. Mrs. Johnson inquired why. The maid said, "I've never been with anyone who is going to die." While Mr. Johnson cared little or nothing about social life, Mrs. Johnson was interested in meeting the right people. Whether or not it was 1912 hardly matters, and perhaps under the laws of libel it is not wise to mention the lady's name, but a lady of great social standing on the Main Line and a majestically bulky build to go along with it, came to call. Mrs. Johnson was delighted, took her into her gold room parlor, and rang the bell and ordered coffee. The majestic society matron said very stiffly, "This is not a social call." Mrs. Johnson, whose mind was never slow, and seldom lacked an answer, replied in tones dripping with ice, "But can it at least not be gracious?"

Another person of great social standing in the Philadelphia area was Edward T. Stotesbury. A gentleman by the name of Anthony J. Drexel became a partner of J. P. Morgan, the banker, and later founded Drexel & Co. of Philadelphia. The business of Drexel & Co. was the underwriting of stock and bond issues for both new companies and well established companies wishing to raise more

capital. Therefore, their advice was anything but disinterested. Stotesbury maintained a very large residence with forty or more guest rooms and his method of doing business was to entertain on a lavish scale. He used his social standing to make the acquaintance of wealthy investors, or to put the matter bluntly, he was a super stock salesman, although it is probable that he personally never sold a block of stock to anybody. What he did was establish a friendly relationship and then turn his high pressure sales force loose on the poor and often unsophisticated big investors. He was a man of small stature and had been a drummer boy in the Civil War. Son Fen got tired of hearing about how Stotesbury beat a drum in the Civil War, and with the sharp perception of a child, did not trust him. Mr. Johnson never lived up to his income by any means, so he had substantial sums to invest. Stotesbury cultivated his acquaintance and then adroitly sold him several hundreds of thousands of dollars of stocks which were being promoted by Drexel and some of which turned out very badly. Mr. Johnson being a business builder and manufacturing man, did not at first understand the art of investing. He made mistakes in purchasing stocks from other brokers, too. But he was a fast learner. When he found himself in possession of a number of stocks which were not so good he began paying attention to his personal affairs, set up a private office with a Senior Secretary in charge and two or three assistants. His stock and bond portfolios soon became perfectly sound.

In addition to his love of fishing, which evolved into big game shooting, Mr. Johnson continued to be keenly interested in upland game shooting. For that purpose he and Royal made an annual pilgrimage to the Carolina Hotel in Pinehurst, North Carolina. In 1912 they included son Fen, who had a glorious time. There is nothing to recount about the actual hunting but son Fen recalls an incident which shows that Mr. Johnson had a true sense of humor and that there was a strong comraderie between these two men. Mr. Royal was a pipe smoker. With elaborate care and much polishing he was carefully breaking in a gourd pipe. While in the gunning field Mr. Johnson quietly picked up a gourd which was in the shape of a pipe but three or four times bigger than any pipe

that could be smoked by anyone excepting Paul Bunyon. He then bought the largest curved pipe stem that he could find and a small quantity of plaster of Paris. He cut away the base of a shotgun shell and thereby obtained a brass ring. With the brass ring he attached the pipe stem to gourd, and with the plaster of Paris he shaped a bowl with a white overlapping ring just like the manufactured gourd pipe which Royal was smoking. He even remembered to perforate the bottom of the bowl so that the pipe actually could be smoked. With an appropriate little speech one night he presented the pipe to Mr. Royal. Mr. Royal went along with the joke and dumped half a can of smoking tobacco into the bowl of the pipe, tapped it down carefully and lit it. The cloud of smoke that he drew was enough to create a London fog in the dining room if they had been in the dining room. Fortunately, by that time they had moved into the large and spacious front lobby of the hotel.

It was about that year that Mr. Johnson began to read Lewis Carroll's *Alice in Wonderland* and other writings. There is a fascination about Lewis Carroll's writings other than his attempts at philosophy and logic because his stories are so completely whacky while at the same time they accurately portray many human characters. The matter became fixed in son Fen's mind because on numerous occasions his father recited Carroll's poem *Jabberwocky*. Goodness only knows what language it is in but the word "Jabberwocky" means to "Go round and round." While poetry is not musical there is in it a rhythm which reminds one of music, or at least it used to be. It may have been for that reason that very few poems even of the classical nature were included in Mr. Johnson's library.

The family spent the summer of 1913 in Manchester, Vermont. An incident occurred there that showed that Mrs. Johnson while inclined toward high society was by no means snooty. She was out riding in the big Packard open touring car when the darn thing broke down. Mrs. Johnson waited impatiently while Dick Ludlow, the chauffeur, delved into its interior; then along came a horse drawn ice wagon, obviously headed on the road to the Johnson summer mansion. Mrs. Johnson recognized the driver, flagged him

down, and holding the exceedingly snooty pooch – that blasted blenham spaniel Peggy – in her arms, she climbed up alongside the driver and rode back to her house. Son Fen is an eye witness to this episode.

Mr. Johnson had definite ideas as to how a boy should be raised. He thought that a boy should be under a mother's care until about twelve years of age. When that time of life arrived for son Fen he began to gradually but firmly take over more and more. He would often take son Fen with him to the Victor Co. and the two would walk around the plant, with Mr. Johnson paying special attention to Victor inventors who were tucked away in cubby holes here and there.

Early in the summer of 1914 he decided that a tour of Europe is what he needed to relax and just what son Fen needed to widen his outlook. The pair sailed aboard the Cunard steamship MAURETANIA, a four-stacker. Steamship dining rooms in those days had a common plan. There was a captain's table, which was small. The captain and his principal officers ate together but there were no passengers at his table unless they were officials of the steamship line. There was a sort of stage behind the captain's table and during the evening meal an orchestra played there. In front of the captain's table there were several long tables positioned athwart ship. There were no chairs. People sat on solidly mounted stools, which could be turned upon their pedestals, and which had arm and back rests. There was a good reason for this system. The narrow and fast trans Atlantic liners of those days rolled like destroyers. Passengers were assigned seats but with a suitable tip to the purser, or maybe it was to the chief steward, they could change their seats. Son Fen was surprised when two strange ladies sat down, one on either side of his pop, and son Fen found that his seat was one seat away from him. The ladies introduced themselves. In spite of a lot of make-up, it was obvious that they were old because they had wrinkled necks. Son Fen did not suspect it then but what the ladies were after were Victor recording contracts. In those days a large part of social conduct was designed to maintain the proprieties. Young as son Fen was, he knew that the conduct of these women did not fit into the Victorian

standards of the day. The actresses chatted gaily but even an actress can feel the hard gaze of a stony eyed youth. One tried to butter up son Fen with compliments on his good looks. It did not work. Regardless of son Fen's disapproval, it was obvious to him that his father enjoyed talking to these ladies. Outside of the contact at meal times, there was no other social contact. The ladies never attempted to go strolling on the deck or be seated in the saloon with him. That would have been "too too outre," as the British say.

Landing at Cherbourg, France, Mr. Johnson engaged a courier, Gary. His job was to give advice on travel routes, make all the reservations and deal with everybody who rendered service from the bellhop to the guides who guided tourists through museums, palaces and ancient ruins. Couriers spoke anywhere from six to a dozen languages well enough to make themselves understood. Most of them were fluent in at least four. They were worth their wages plus graft. The unreliable ones and those who took too much graft were promptly blacklisted by the travel agencies. From Cherbourg father and son went to Paris. Theretofore Mr. Johnson had not been greatly interested in paintings, but in Paris he obviously fell in love with the works of the great masters. He would open the guide book and explain the features, such as the perfection of the hair or the grace of the body posture, to son Fen. Son Fen stood shifting from one foot to the other. In the school gymnasium he had made a mistake in setting the length of the flying rings and had hit the gym floor with a resounding crash which flattened both arches. He suffered in silence and made no attempt to understand art. His mother had tried to develop his artistic side but son Fen had no artistic side. His vivid memory of the Louvre and the numerous other places visited where great art was displayed is quite simply and purely that his feet hurt.

In those days the fashion of slimness had not become a health fad with the population. People ate what they pleased and Mr. Johnson pleased to eat quite a lot. Also, he liked very rich food. He was already decidedly overweight when the trip began and on the tour he began to put on weight so fast that it was puzzling how he managed to keep from bursting out of his clothes. Still, he

was a strong and vigorous man. The two of them did not actually go mountain climbing but they allowed themselves to be led up some of the gentler paths on the sides of the mountains by a guide. On one occasion they crossed a snow field. Mr. Johnson was so heavy that he sank in clear up to his hips, while son Fen walked gently along on the crust without sinking in at all. Son Fen enjoyed the Swiss mountains but most of the trip was a bore. He perked up a mild interest when walking about the Coliseum and was even more interested when he saw the lead water piping and the great arches of some ruin or another, probably it was the baths of Caracalla. A thing which impressed son Fen was to see a lot of people living on the side of the still smoking and active volcano of Vesuvius. He was slightly impressed with the ruins of Pompeii.

By the end of the first week in August the tour was over. Father and son boarded the ill fated liner LUSITANIA. As the deep toned steam whistle blew, they waved goodbye to Gary, who stood sadly on the dock, shedding partly honest tears and partly tears which were inspired by a little bit too much indulgence from a bottle of wine which he was carrying in his pocket. On the 14th of August, the day before they docked in New York, war was declared in Europe. News of it must have been received over the Marconi wireless but for some reason it was not transmitted to the passengers. The first they knew about it was when they walked down the gangplanks and heard the newsboys shouting, "War in Europe" and waving newspapers with great black headlines.

CHAPTER VII

MORE ABOUT V. T. M. CO.

On the 28th of June, 1915, Mr. Johnson wrote to Mr. Williams as follows: "Since Mr. Bierbaum surrendered his position I have had very little difficulty with the Gramophone Co. and little occasion to appeal to you on business matters. I hear you joined the Home Defense Unit of the British Army. I sincerely hope you won't have to fight. We (the Victor Co.) are very prosperous." However, in 1915 the first signs of the troubles to come appeared. It was obvious that the United States of America was going to have to be the arsenal for the Allies. War equipment required large quantities of very hard steel and the Victor Co. made its needles out of just such steel. Suddenly the federal government cut off the supply of hard steel from firms not engaged in manufacturing war equipment. This did no great harm to Victor's competition because the competition used a softer record material than Victor and their needles had long lasting jewel points. The Victor steel needles could be used only once because of the hard abrasive material of which Victor records were made. Mr. Johnson set his mind to solving this problem. He discovered that a very hard steel alloyed with tungsten was not on the restricted list of metals. He therefore suggested that this metal be used to make a long playing needle for Victor. To this idea someone else added the idea of buying tungsten wire in the appropriate diameter and mounting short lengths of it in brass holders, brass likewise not being on the restricted list. In March, under the trade name of "Tungs-Tone", Victor was manufacturing 25,000 needles per day; thus, Victor survived its first war crisis. On January 1, 1917, Mr. Johnson wrote to Mr. Williams stating, "Victor is booming. (Our) 10,000 employees will make 8 to 10 million dollars profit this year. We are the only real manufacturers of talking machines. The government has been bothering us with investigations and we are still fighting price cutters."

Mr. Johnson once stated the reason that he thought was responsible for the success of the company. He said, "Our greatest

secret process is this — we seek to improve everything we do every day.” To his father’s opinion son Fen adds his own, “The secret of his success was a quality product sold always at a fair price.” In addition to that he built up a great sales organization, one of the most extensive in the world for its time, and he spent for that day and age very large amounts of money on advertising.

In respect to advertising, there was a humorous event, the date of which is unknown, so it may as well be told here as at any other time. In the spring of 1891 William Wrigley, Jr. started with \$32 capital in the business of selling soap. In the following year he offered two packages of chewing gum with each can of baking powder, having added that universally desired item to his line of goods. The chewing gum proved to be very popular and his business rapidly turned into an exclusively chewing gum enterprise. Wrigley and Mr. Johnson were almost of the same age and one day they found themselves partners in a golf game. Just by way of making conversation, Mr. Johnson asked Mr. Wrigley what his line of business was. Wrigley snapped back, “I spent \$14,000,000 on ads and you don’t even know who I am!” Mr. Johnson was only spending \$4,000,000 so he did not think that the moment was propitious for him to say what line of business he was engaged in and how much he spent on advertising. At this point it seems reasonable to mention another humorous matter. In 1869 the Campbell Soup Co. had been founded by Joseph Campbell, a Philadelphia fruit wholesaler. A financial backer, Arthur Dorrance, became president in 1894 and his nephew, John P. Dorrance, had become president in 1914. Like the Victor Co., the Campbell Soup Co. had grown exceedingly and the two plants were right next door to each other. This produced one of the first bad jokes about the city. Whenever the opportunity presented itself, Philadelphians would say, “Camden is that place over behind the Victor and the Campbell Soup Co.” The statement was almost literally true.

There was still one more vital factor in Mr. Johnson’s success. He once said, “You can’t furnish all the brains yourself, nor can you draw all the pay.” When he found a good man he treated him liberally.

Before the Victor Co. was a dozen years old five of its officials, besides Johnson, were millionaires or nearly so through salaries, commissions, bonuses and the rise in value of stock. The five were Haddon, Atkinson, Douglass, Albert C. Middleton and Louis Geissler. Royal, having been so long in England on a low salary, missed the chance to buy Victor stock when the price was very low. He may have been worth a million when he died but that is doubtful because he hung on to his job long after his health made retirement advisable.

Another man less intimately connected with the firm, who had made a million out of it, was young Henry Babson, who like Douglass was from Seward, Nebraska. Babson had later gone to work for Douglass in Chicago and had become a partner with him in jobbing firms. As a Victor distributor Babson was very successful, and when selling out his business to the Victor Co. he had received enough stock to make him the largest single stockholder next to Johnson.

Salaries of the lower ranks of the executives were added to by commissions and bonuses according to the company's earnings.

"If I could only find a practical plan," Mr. Johnson had written to Barry Owen in the early days of Victor, "I would pay every employee in the business in the same way, even down to the office boy, and we are working toward that end. But of course it is difficult to accomplish. It is all right as long as the company is making money, but off years have to be taken into account, and the fact that employees have to have a certain income has to be looked out for. It is not hard with the higher officers, as they generally have capital to last over a period of depression." Efforts to pay the workers in direct ratio to the earnings of the company were not very successful. A production bonus was tried. But workers had a feeling, which Mr. Johnson was never able to dispel, that increased production would eventually lower the bonuses.

In 1918 the federal government forced the Victor Talking Machine Co. to engage in the manufacturing of war materials. The method was quite simple. Raw materials became rationed and Victor could not get any unless it accepted government contracts for military equipment. Victor's metal manufacturing department

began turning out small fittings for rifles. The cabinet factory made stocks for the American version of the British Enfield rifle and constructed wooden fabric covered wings for the larger types of airplanes. Seemingly, Mr. Johnson personally went to Washington and negotiated the necessary contracts, although son Fen never found any proof of this. The factory having been substantially turned over to the U.S. government, the Victor trade and its jobbers and dealers, therefore, being placed in rather desperate circumstances, and neither Victor nor its trade making any money to speak of, Mr. Johnson sank into melancholia again. An additional reason may have been that son Fen became a candidate officer in the field artillery school at Fort Zachary Taylor, Kentucky. When the war ended and son Fen returned to his parents' home, Mr. Johnson very suddenly – as he always did – recovered. It took most of 1919 to get the factory wheels turning on the production of talking machines and records again. Mr. Johnson made an address to the fourteenth annual convention of the National Association of Talking Machine Jobbers in Atlantic City in June of 1920. A few quotes are of interest: “During the last five years the Victor Co. has experienced a series of most trying circumstances. It almost seemed as though the good fortune which had before smiled so consistently upon us had deserted us, but we know that an organization worthy of the favor of fortune must be prepared to stand all the trials that fortune imposes. Today the Victor Company is still climbing. Perhaps the responsibilities of the Victor organization can best be illustrated by a few statistics.

We own and operate 1,663,552 square feet of factory floor space in one united plant at Camden and have under construction 218,013 square feet more, with land available to double this entire plant; we have 16 1/2 acres of lumber piled from twenty to fifty feet high on every available foot – the most valuable lumber pile in the world – and a 50% extension under way; we have also 10,000 employees and could use 5,000 more. This force is being increased as rapidly as skilled workers can be employed and trained; we pay out, when our people all feel like working, about \$300,000 in weekly wages,

besides the monthly salary roll, and expect to pay 50% more as soon as people can be found to take the money; we are using 36,850,000 feet of high grade lumber per year and will use 50% more soon; we burn 55,000 tons of coal per year, and are making preparations to burn 80,000 tons.”

He then went on to talk a good deal about politics but failed to say anything that had not been said many times before by other conservative businessmen.

It is a matter of deep regret to son Fen that the Victor Co. while seeking to improve its product failed to seek in the right direction and a significant development was entirely overlooked. Perhaps this was because it occurred in the telephone business. The Western Electric Co. achieved a method of electrical recording which had a range from 30 cycles to 5,500 cycles per second and this was far superior to the mechanical recording which the Victor and the other talking machine companies were using. There was another very significant occurrence. The Gramophone Co. in England had also suffered very much because of the war, and as in America, as soon as the war was over the demand for talking machines and records boomed. The Gramophone Co. did not have the capital to take advantage of this boom. The directors of the company became desperate and appealed to the Victor Co. The result was that Victor bought a 50% interest in the Gramophone Co. Ltd. With the Gramophone Co. in distress and having nowhere else to turn for capital, it seemed strange that Victor did not acquire control. Many years later Mr. Alfred Clark told son Fen that there had been a gentleman's agreement that Victor never would buy the additional 1% of stock which was necessary to control the Gramophone Co., but no one in the Victor Co., ever mentioned this to son Fen. However, knowing the pride of the British, the unwritten agreement probably was actually made. There is another mystery which has not been proved at the time of writing and may never be proved. Under date of February 10, 1921, son Fen entered in his diary, “Conceived improvement on Pa's automatic by which 10 and 12 inch records could be used indiscriminately — write E. R. J. a memo.” This would seem to indicate that Mr. Johnson was the true inventor of the first

automatic record changer to be invented and successfully sold to private individuals. Prior to that time the only automatic record changers were the so called "juke boxes" which were used in places of public entertainment and were equipped with coin slots. Son Fen had gone to work in the Victor Co. in January of 1921 and was in the engineering department.

There were other reasons for the success of the Victor Co. in addition to those already mentioned. The company drove its labor hard and stubbornly adhered to piece work. Inevitably this policy led to an attempt to unionize the company. There was a strike in the metal manufacturing department. The type of strike was a little ahead of its time. It was a "sit down" strike. The laborers entered the building but refused to work. The Camden police were called and the workers were passed out like cord wood. Some of them were given rides in the paddy wagon to the local hoosegow. There was no civil rights law suit as there would have been had this occurred in the 1960s and 70s; in fact, the strike quickly collapsed because the majority of the workers did not really want a union. They were getting more than union take home pay and always had ever since the company was founded. For a little while the superintendent of the metal manufacturing department, Fred Jones, walked around with a revolver in each hip pocket. The unions only succeeded in organizing one small section in Fred's department. It was the buffers and polishers and there never again was a strike at Victor, not even in the unionized department.

Victor was the preferred place to work in the city of Camden and the local residents were too delighted to get a job at Victor to even talk about a strike. If they had talked about a strike, son Fen would have known about it because one of his responsibilities was to receive the reports of the private detectives which the company employed. Wherever it is applicable the piece work system is the best but it does have its drawbacks. Whenever a new part is introduced into the factory its piece work price must be established. Naturally the workers always try to push the rate up by slowing down. Just as naturally the management always tried to keep the rates down by speeding up the initial production. In Russia they have labor heroes who receive medals and applause for

acting as pace makers. Son Fen suspects that the heroes find a little something extra in their pay envelopes, too. Victor did not use labor heroes. In the cabinet factory Eugene Keefer, the superintendent, had a secret arrangement of double rate with a wisp of a woman who had set the pace in the sanding department. How she did it son Fen never understood, but she left strong Italian men far behind. Undoubtedly there were other pace makers with the same arrangement all through the factory. That was one of those things which superintendents arrange with the accounting department and the general superintendent pretends he knows nothing about.

In the early days of the company there was another factor which was considered to be of great importance and which very probably was in its day. It was the policy of granting exclusive franchises to both jobbers and dealers. Doubtless this policy was introduced as soon as Victor felt confident of its position as leader of the industry, probably in 1905. Initially, the jobbers and dealers were not exclusive but when the day of confidence came Victor got tough. Either they became exclusively Victor or they lost their franchises. Son Fen has not been able to find out the date of the law suit but knows the story well. The Victor's "bete noire" was the Macy's Department Store. It was the biggest price cutter in New York City. For a number of years they submitted to both being exclusive Victor dealers and maintaining Victor prices which were announced in the factory advertising without any fiddle faddle about suggested list price. Son Fen does not recall when the Sherman Anti Trust Laws were first introduced but it was probably around 1912 when the government really began to get tough. The day came when Macy's decided that they could get away with using Victor products as their cut price leader. Victor promptly cut off Macy's franchise. Macy's, just as promptly, brought a suit for treble damages under the Anti Trust Laws. Victor's lawyers advised Mr. Johnson and the Board of Directors that they had no chance whatsoever of winning. Victor humbly accepted a consent decree which prohibited not only price maintenance but also dealer exclusivity. Judge Learned Hand acquired the power to put any part or all of the Victor Board in

jail at any time that he thought Victor was breaking the rules by which it had consented to abide. For a while the Victor management thought the company was ruined but the only damage to its business was minor.

After the decree was entered, Victor could no longer force jobbers and big dealers to maintain repair departments by threatening to cut off their franchises. Repair departments never seemed to make a profit so the jobbers and dealers promptly closed them down. Thereafter the talking machines had to be sent all the way to Camden, even from San Francisco, whenever servicing and repairs were needed. There was another effect. Practically all dealers took on other talking machine lines. The competing lines made cheaper machines for each price class and granted bigger discounts. Therefore, the stores made more money on the products of Victor's competitors. Salesmen invariably tried to sell the other lines but Victor's reputation and advertising were so strong that the customers adamantly demanded Victor products. No doubt the Attorney General of the United States was deeply disappointed when the Victor's near monopoly of the talking machine business in the western hemisphere went merrily on its way.

In the 1920s what was known as "bossism" was practiced in all of the big cities. The most notorious was Tammany Hall in New York. Philadelphia ran a close second under the iron control of Edwin H. Vare, and Camden was under the control of boss David Baird. Mr. Johnson was very hostile to the boss system and was not on friendly terms with the Philadelphia or Camden political bosses. It is unfortunate that his hostility did not extend to the son of Camden's boss, David Baird, Jr., who ran the David Baird Co. which sold lumber, spars, pilings, derricks, flag poles and sawn and plain lumber in the cities of Camden and Brooklyn, New York. He was a personable young fellow and he sold Mr. Johnson the idea of a Camden City Athletic Club. He also persuaded him to head up the bond sales drive. Mr. Johnson himself advanced the idea that there should be a good hotel in Camden. Somebody else came up with the idea of city planning and a Cooper River Parkway. I am sure it was Mr. Johnson who conceived the idea of



Victor Talking Machine - Camden Plant

building a library for the city of Camden in the park in front of the Victor office building. It definitely was Mr. Johnson who decided to back the Camden newspaper which was hostile to boss David Baird. Once a stew like the foregoing is put into a pot it cooks for an exceedingly long time before the pot begins to boil but sooner or later boil it does and with that kind of a stew somebody always gets scalded. People began to put the stew together early in the 1920s and the person who got scalded the most was Mr. Johnson. The pot really got to boiling in the years of 1928 and 1929, during the boom, and the boiling over and the scalding came later during the bust. While this cooking process was going on we will skim through the highlights of a few years of Victor's and Mr. Johnson's history, the two being almost inextricably tangled.

While Mr. Johnson's liberal policy with key men had a lot to do with his success, it in the end back-fired on him. Albert C. Middleton, Charles K. Haddon and Leon F. Douglass retired, thus forcing Mr. Johnson to reorganize the top echelon of Victor. He placed Alfred C. Clark, the managing director of the Gramophone Co. Ltd., and Colin C. Cooper on the Board of Directors of the Victor Talking Machine Co. of Camden. Cooper was a professional accountant employed by the Gramophone Co. and corresponded roughly to a certified public accountant in the United States. He then promoted some of the other members of the Victor Talking Machine Co. to directorships, the most noteworthy being Edward E. Shoemaker, Ralph Freeman and Calvin Goodard Child. He also placed son Fen on the Board, where he was expected to maintain a respectful silence and learn the business. Mr. Clark set up a committee system at Victor similar to the system at the Gramophone Co. in England. When Mr. Royal was stricken with his terminal illness, angina pectoris, and could no longer hold the Board in line as chairman, he requested son Fen to be substitute chairman pending the return of his father.

The committee system had been installed to control the superintendents of the various departments who had become wild as broncos as soon as Mr. Royal ceased to make his daily rounds of the major departments. Son Fen made himself the chairman of all

the committees and the company settled down to the hard work which was necessary to keep it successful.

In 1923 the radio business suffered a decline. Many people in the radio business thought that the talking machine business was to blame for the decrease in their business, but this was not true, because in the year of '23 all business in America was suffering one of its minor depressions. Mr. Johnson also suffered one of his depressions but it was a brief one. When he came back to work he found the Board of Directors under the impression that radio was the cause of the decline in the talking machine. During his periods of melancholia Mr. Johnson carefully read the newspapers and he told the Board that radio was not to blame for the decrease in Victor business. He decided there should be a banker on the Victor Board and selected Mr. Levi Rue, who became the first outsider to serve on the Victor Board. Like all bankers, Mr. Rue leaked information about the Victor Company to investors and for the first time Victor stock began to do a dance on the over-the-counter stock market. Son Fen was very angry but could do nothing about it.

In 1924 the radio industry had a sudden boom that really hurt the talking machine business. Record sales went off 10% and machine sales 25%. The radio boom was due to the elimination of nuisance features, such as, batteries, Galina crystals, earphones and to big improvements, such as, vacuum tube amplification, the alternating current power source and the loud speakers. Almost everybody immediately bought a radio set. What saved the Victor Co. was that the radio boom was a flash in the pan. As soon as everybody had a radio set they went back to listening to music on talking machines and records. Victor gleefully put out a record spoofing the radio industry in which all the squeaks and squawks which were introduced while tuning the several dials on the front of a radio set were intermingled with some bad music and speech, the speech being scarcely intelligible. The records sold like the proverbial hot cakes for about a year. Whether it was a mistake or a wise decision will never quite be known. Someone in the Board of Directors meeting raised the question of whether or not we should go into radio. Mr. Johnson replied quite firmly, "I have

been in all the patent fights I ever wanted to be in. The radio industry is going to be fighting over patents for years. We are not going to put out a radio." And that was that. Victor never did. However, the wheels of progress could not be stopped. It became evident that electrical recording of records with vacuum tube amplification and perhaps electrical reproduction of records was on the way even though it was not already there. In February of 1924 George W. Smith, who had replaced Mr. Royal as General Superintendent of the Victor factory, Mr. Alfred Clark and son Fen went to call on Mr. David Sarnoff at his home in Mount Vernon, New York. The talk was brief. No agreements were made. Wisdom decreed that more than one source of supply be developed so Smith and son Fen went on to see Lee DeForest and his vacuum tube plant in Jersey City. Then the pair went to see Kraft of Western Electric and later they had a short talk with Mr. Jewitt, the President. Smith and son Fen were picking up bits of knowledge here and there but were not making any actual progress toward filling the company's needs in the electronic field. Worry began to gnaw in the back of son Fen's mind but he was not yet seriously alarmed.

In November of 1924 Francis Baraud died. It seemed as though he would have been immortalized for having painted what was probably the world's best loved trade mark, "His Master's Voice," but Nipper, the dog, died slowly and painfully as RCA phased him out in the 1950s and 1960s. Long before the end of the 20th century Francis Baraud and his dog Nipper will be forgotten.

While the scouting was going on, a change in the public taste forced Victor Co. to put out upright Victrolas in period styles and also to develop horizontal Victrolas of about the shape of a lowboy but with longer legs. Prior to 1922 the public had been quite content with upright Victrolas in which the coarse OG curves of the Victorian furniture had become highly refined and graceful. The upright Victrolas in period styles sold reasonably well but the demand swung to the horizontal machines. The competition put out what was known as flat top horizontal machines. Mr. Johnson was afraid that people would put flower vases on top of the flat tops and thus would not play records as often as before.

He, therefore, insisted that Victor develop a horizontal cabinet which was not a flat top. A curved lid was put into the center part of the cabinet. You could mount flower vases on each end but not in the middle. The trade promptly dubbed it, disdainfully, the "humpback" Victrola. The decision was Mr. Johnson's first big mistake. Thousands of machines were made but in the fall of 1924 the plant had not received orders for even 10% of the production. The Christmas season of 1924 and 1925 was a disaster. Victor's peak sales season came and went. The Victor plants, its wholesalers and dealers were choking on vast inventories of unsold talking machines. Mr. Johnson could not believe that he was wrong. He ordered a sales campaign. Machine sales picked up a little but not enough. By the 27th of January it was obvious that the Victor plant was going to have to shut down. In February Mr. Johnson realized his mistake and suffered another attack of melancholia. He went home destined never again to set foot in the Victor offices or factories.

That part of the plant which manufactured talking machines was shut down completely. Mr. Johnson wrote a letter to the directors which said, "Don't lay off the working men. I have \$8,000,000 outside of the company and I will make all of it available to the company." When son Fen saw the carbon copy he was terrified but the letter never reached the Board of Directors. Son Fen thought that Mr. Royal flagged it and was deeply grateful to Mr. Royal for that and for backing him when he assumed the power which his father had previously exercised.

The Victor Co.'s earnings fell to \$250,000 and the general opinion of everybody was that the company was going bankrupt. This disaster was averted by just three men who contributed, each in his own way, to the reestablishment of the company as the booming business that it had been for so many years. The men were George W. Smith, son Fen, and Edward E. Shoemaker.

Son Fen wishes he could find the date of the first demonstration of the mechanical reproducing system which later became known as the Orthophonic Victrola. His best guess is that it was in April of 1925. The system was said to have been developed by Joseph Maxfield and Henry Harrison at the Western

Electric Co. A similar device without a re-entrant horn had been developed by the Westinghouse Co. The Orthophonic Victrola could reproduce sound from 40 to 1,200 cycles per second. When coupled with the Western Electric's electrical record recording, the reproduction was vastly superior to the Victor's talking machines and records. It had a re-entrant type of horn which cannot be described in words but can be readily understood when illustrated. The principle of the machine was a horn that increased in size on an exponential scale. The exponential horn together with the sound box constituted a logarithmic accoustical reproduction system. Putting it more simply, the larger diameter of the diaphragm in the sound box exactly balanced the weight of the air in the longer horn with its bigger mouth. Electrical pick-up and amplification of talking machine records at that time was not even equal to Victor's ordinary Victrolas. Before Western Electric got around to demonstrating the Orthophonic to Victor, George Smith got wind of it and had Victor's engineering department construct a coiled metal exponential horn. Son Fen presumes that the calculations were made by a physicist, Dr. Carlton D. Haiges, of that department. By luck there was a sound box among those son Fen had collected from various parts of the company which had a diaphragm considerably larger than the standard Victor sound box. Smith had the sound box, the horn and a necessary turn-table and motor assembled in an upright Victrola cabinet. Then he placed it in the Victor auditorium and hid it behind a curtain.

The Western Electric officials brought over their machine and it was placed in center stage. Victor's officers, some directors and some trusted technical employees attended the demonstrations. The machine filled the auditorium with sound and for the first time in their lives the Victor people heard the rumble of bass notes almost as deep as they came from the instruments of a real orchestra. When the record was finished George Smith had the Victor machine pushed out from behind the curtain, picked up the record and played it on the experimental Victrola. The reproduction was not quite as good as the Orthophonic but it was so close to it that it took all the wind out of Western Electric's

sails. Instead of Victor being hung up by the thumbs and helpless, the company had a fighting chance of developing and marketing its machine before the W. E. Co. could do anything with theirs for the W. E. Co.'s electrical recording system was not the only one in existence. This incident greatly reduced the price that Victor ultimately had to pay. It also caused Victor to begin serious negotiations with Western Electric. Victor's purchasing agent, Edward E. Shoemaker, and son Fen were chosen to do the negotiating. The contracts were completed by the 21st of May.

As soon as the contract was signed with Western Electric negotiations were started with Dave Sarnoff. He was only nine years older than son Fen so it soon became Fen, Shoey and Dave, but the duel was deadly and no real friendship developed. RCA had not yet fought free from General Electric and Westinghouse Electric & Mfg. Co. Therefore, those two firms had to be included in the conglomeration of contracts. Frequently negotiations ran into the late afternoon and Shoey and son Fen would stay overnight in New York. Upon those occasions the three men would have a drink together, then separate for dinner. After dinner Mr. Sarnoff's courier, by the name of Gallop, would gather up son Fen, Shoey and Dave and escort them to a theatre.

Probably it was in June of 1926 that Mr. Royal's heart pains increased. The Board was under a terrific strain. They all felt that Mr. Johnson would never be able to manage the company. When Mr. Royal relaxed his grip the company was literally headless. Son Fen was, of course, a young man as yet untested. As is often the case, it was a trivial incident which triggered the quarreling. Shoemaker reported that the Victor Pierce Arrow limousines were worn out and would have to be replaced. He recommended some other make of car. Another director proposed that we should buy a different make of car, his favorite. Suddenly the directors sounded like a bunch of kids, each arguing the virtues of the kind of car he drove. When a pause came in the hubub son Fen adjourned the meeting. At the next meeting Shoemaker announced that he had found a way to settle the argument. He had measured the number of square inches in the back seat of all the automobiles the directors had advocated. Old man Atkinson

sarcastically inquired, "How many square inches is the average soprano's ass?" The tension broke. Everybody had a good laugh. Then someone proposed that the matter be left to the decision of the purchasing agent and it was so ordered.

Peace did not last for long. A discussion arose pertaining to Victor talent. It is sad to say that Mr. Royal lost his temper and called Mr. Child a liar. Son Fen had foreseen that real trouble was on the way and taken the only measure he could. He had gone to his father and asked for permission to vote his stock at the annual meeting. Mr. Johnson had granted the permission and signed a proxy. The shock of Mr. Royal's remark silenced the Board. Coldly and loudly son Fen said, "Gentlemen, I have been authorized to vote my father's stock and if this quarreling does not stop there will be some changes in the membership of this Board." From then on son Fen never had any trouble in maintaining the order and calm which is a requisite in a Board meeting.

It was obvious that prices would have to be cut and the heavy inventories of the old type Victor talking machines were going to have to be sold in a hurry and a whole new line designed and manufactured before fall. The decision was made. The wholesalers were invited to the Victor plant. On August 3rd son Fen gave a fighting speech. He began, "You are invited here that we might bring each of you to hold the same opinion and work for the same end, the preservation and enlargement of the talking machine industry." He told them what was wrong with the industry, announced Victor's contracts with the electrical and communication industry, and spoke the magic words, "new Victor products." He then turned the meeting over to Roy A. Forbes, who had just been made sales manager. Victor cut its prices as much as 50%. The company could not absorb all of the loss so for the first time in the company's history the jobbers and dealers had to share it. From that day onward the trade and the general public recognized son Fen as the de facto Executive Vice President.

The cut price sale of all Victor products, both talking machines and records, was a success even though it occurred in Victor's off

season, the summer. While the sale was going on the new line was designed. Victor did not know what the public wanted so it simply went overboard with nineteen new models. It even went so far as to put an electrical pick-up and a vacuum tube amplifier in the same cabinet with the Western Electric's improvement, the Orthophonic Victrola. This seems crazy, but it was not. The two reproductions systems had different characteristics. Mechanical reproduction was best for some records, electrical for other records. The real talking machine "buffs" actually wanted both systems. The Victor Co. gambled heavily on one model, an upright machine which it called a Credenza Orthophonic Victrola. It built 10,000 in the initial order. The list price was \$300 each. The judgment proved to be correct. During the approximate four years before this model was superceded by all electric reproducers, Victor sold 67,000 units, worth approximately \$20,000,000 at market.

The Victor Co. was again prosperous. Son Fen and Mr. Royal reported regularly to Mr. Johnson at his home in Moorestown, New Jersey. His mental ability which he retained in full regardless of his melancholy outlook and emotions, was astounding. His mind penetrated to the very bottom of every matter and he gave much valuable advice.

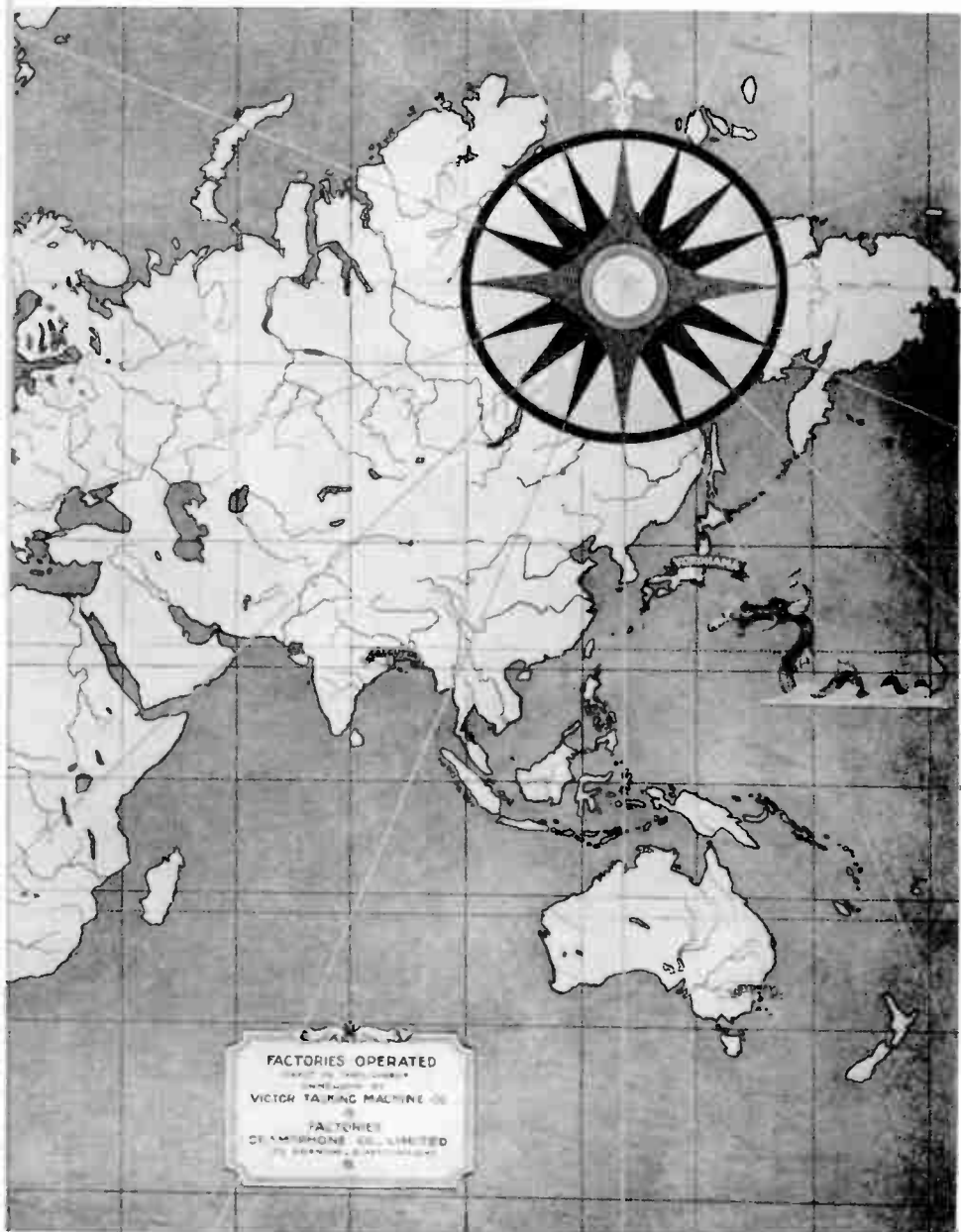
Several times a year, for years and years, people had been offering to buy the Victor Co. In October Mr. Johnson gave son Fen an order which shook his son right down to his toes. He said, "If anybody offers to buy the Victor Co. bring me the offer." Monday, the 16th of November, 1926, was the fateful day. Two men who had tried before, tried again. They were Hector McNeil and E. M. Kappenstroth. They offered \$105 per share. Son Fen reported to his father. Mr. Johnson said just one word, "Sell." During the first part of the negotiations Mr. Johnson continued to stay home but firmly and clearly made the decisions. He said he would sell at \$115 per share of common stock provided the buyers guaranteed to pay all the other stockholders the same price and the payment was to be cash and the buyers were to pay \$100 per share for the preferred stock. The buyers were the New York banking houses of J. & W. Selegman, represented by John C. Jay

and Speyer & Co. The latter firm also left the negotiating to Mr. Jay. Mr. Jay offered Mr. Johnson a \$250,000 payment for an option. Son Fen presumes the deal was just a little too big for even those two banks to swing without arranging for a loan from other banks. On the 7th of December, 1926, Mr. Johnson granted the option. By that time Mr. Johnson had returned to his private office and was negotiating almost directly with the bankers. With the option signed, the bankers at once began to pester Mr. Johnson to change the sales terms. They wanted to take over and reorganize the company at once and pay later. For four days Mr. Jay and son Fen burned up the telephone wires. Mr. Johnson at first refused politely; then he grew angry. On Christmas eve he ordered son Fen to inform the bankers that he and son Fen were going to Pinehurst on the day after Christmas and would not return until New Year's day and that the bankers' request would positively not be granted. Father and son departed. Mr. Johnson's only child was very tired and rather disconsolate.

On the 6th of January, 1927, the sale of the Victor Talking Machine Co. of Camden, New Jersey, its subsidiary companies in Canada, South America and Japan, and its 50% holding of the affiliated company, the Gramophone Co. Ltd. of England, was completed. Gramophone had many subsidiary plants. The bankers acquired Victor of Camden's 45 million dollar business, Victor of Canada's 4 1/2 million, Gramophone of England's 18.24 million – total about 68 million – and in all these firms about 14,000 skilled people, plus countless wholesalers and dealers. The Johnson family received \$22,229,960 for its holdings. Mr. Johnson, of course, held almost all of the stock and Mrs. Johnson and son Fen received only a small amount of money. This caused son Fen to desire to go on working at Victor. He was very pleased when the bankers elected him First Vice President and gave him a substantial raise in both salary and commissions. He became the de facto Executive Vice President and worked under the new President, E. S. Shoemaker, until Victor became a division of RCA a couple of years later.



Map Showing Global Organization of



Victor Talking Machine Company

CHAPTER VIII

A BUSY RETIREMENT

1927 was a boom year for both business and the stock market. Mr. Johnson had seen booms before and knew that they were always followed by “busts.” He put all the money that he and his wife received from the sale of the Victor Co. into tax-free gold bonds. Son Fen followed suit with his modest share. Mr. Johnson knew how to make money but he did not yet know how to spend it. His standard of living was not commensurate with the amount of his income. No matter how hard Mrs. Johnson tried, she could not make the gloomy old Allen Castle into a cheerful place in which to live. There was no attractive view from any window. The front windows were only a few yards from the main street of Moorestown and Main Street was by no means beautiful. From the side windows all that could be seen were a few trees. The rear windows overlooked a hundred yards of lawn but no planting and at the end of the lawn was a railroad track. The house was situated on the north side of Main Street.

Albert Middleton, who lived a few doors to the east had done rather better. His house bore no resemblance to a castle. The windows were bigger so that more light could get in and the view from his rear windows was pretty all year around and really beautiful in the spring because the whole valley behind them was planted with apple trees. In addition to that, Middleton had a good quality summer home at the seashore and a medium sized yacht. When it had become obvious that Prohibition was going to be the law of the land, Middleton installed a large steel vault in the cellar of his house and stocked it with every conceivable kind of hard liquor and wine; thus, in his retirement, he was “sitting pretty,” as they say in the vernacular.

Mr. Johnson had taken a few steps to improve his living standards. He allowed Mrs. Johnson to build an airy and beautiful house in Ventnor, New Jersey, for summer use. In 1924 he had leased a cotton plantation near Southern Pines, North Carolina, and purchased a house in his favorite recreation spot, Pinehurst,

North Carolina. The quail shooting on the plantation proved to be excellent so Mr. Johnson bought it.

Ever since he was a boy on the farm in Delaware he had been hostile to the tenant system. He proudly told son Fen that he was going to show those southerners that black people would work for wages. He had the flimsy frame tenant houses torn down and built modest brick ones in their place. He even built a church on the plantation for the workers. The existing planter's house and the barns were satisfactory so they were left unchanged. Following his orders, the labor on the plantation was paid in cash and everything ran smoothly during the planting. Still working for cash, the black people were willing to do the cultivating in between the rows but when harvest time came around they quit. When asked why they had quit, they said, "We have enough money to keep us the rest of the year so why should we work?" There was no way to force them to work and there was no way to bring in other labor. The entire cotton crop actually did fall to the ground and rot. Chagrined, Mr. Johnson permitted the manager to return to the tenant system. Thereafter the plantation yielded a normal crop of cotton.

The Johnson family and such friends as were lucky enough to be invited enjoyed the quail hunting for many years. Regardless of his great weight of 260 pounds, Mr. Johnson was still able to walk rapidly after the dogs, shoot the covey rise, and hunt down the singles. The birds were educated. There never was a second rise of the same covey as there had been on one occasion back in 1911. There was an incident that showed that despite his great weight he was rather agile, too. The size of the plantation was 3000 acres, which meant that hunting parties sometimes travelled more than a mile from the hunting lodge to the nearest quail ground. A buckboard drawn by two horses was used for transporting the gunners. Mr. Johnson, gun in hand, was seated in the rear of the buckboard when something, probably stinging insects, caused both horses to rear on their hind legs. Impelled no doubt by the memory of the runaway of the horse, Victor, Mr. Johnson rose from his seat, sprang lightly over the side of the buckboard, broke his fall by placing one foot exactly on a 6x6 inch square steel step,

then bounded to the ground. Son Fen watched this performance with admiration. To Mr. Johnson's credit, when the horses had quited down, he reentered the buckboard and went on his way.

During the 1920s there was a colorful character by the name of Jesse Livermore who at first was known as the boy wonder of Wall Street. Having lived frugally and saved part of his wages, he became a short term speculator in the stock market and soon built a sizable fortune, which he proceeded to lose. He reentered the market for a repeat performance and did so well that he was able to buy a 171 foot yacht by the name of ATHERO. When the second fortune was lost, the yacht had to be sold. Undiscouraged, Livermore built a third fortune, or rather, won it gambling on the stock market. When that fortune went the way of the other two, Livermore shot himself. In 1927 the first big spending which Mr. Johnson did was to buy the ATHERO for \$483,585, sight unseen. He did take the precaution of sending son Fen and a tug boat operator to New York to inspect the yacht. He paid the tug boat operator a substantial fee. In the Merchant Marine, and especially in the yachting business, there are no transactions without the payment of a commission to somebody and the standard of ethics in the payment of commissions is extremely flexible. The tug boat operator did something that was shocking even to the yacht broker. He asked the yacht broker to pay him a commission if he sold the yacht to Mr. Johnson, regardless of the consultant fee that he was already receiving. The yacht broker not only turned him down but also told son Fen. In that instance the dirty deal had not gone through so there were no grounds for legal action. In another instance which son Fen knew about, a tug boat architect had been given a fee to buy a pair of motors for a yachtsman. In addition to collecting the fee to act as the yachtsman's agent, the architect collected the usual 5% commission from the seller of the motors. Someone talked. The yachtsman brought suit and forced the tug boat architect to refund the agent's fee.

The ATHERO actually was in excellent shape and without making any changes other than to rename her CAROLINE, Mr. Johnson became a yachtsman. Son Fen was very anxious that his father should join his yacht club, which was the Corinthian Yacht

Club of Philadelphia. He took his father to the Saturday luncheon, a gathering of thirty to forty members, which is the required first step toward becoming a member. The second step is for the new yacht owner and his yacht to go on a club cruise. There was always a great deal of drinking during the Saturday luncheons. The Commodore of that day was a short fat man who was even fatter than Mr. Johnson. The Commodore told the usual dirty joke, and, pounding his hands on the table, was laughing loudly when his chair turned over backward. He was too well padded and also too drunk to feel any pain in the fall. He thought the performance was so funny that he got up and repeated it. Mr. Johnson not only seldom took a drink himself, he was a little bit prudish about people who did, that is, about people who took too many. When the pair departed from the luncheon he said somewhat angrily, "I am not going to join a club composed of a bunch of drunks. I am going to join the New York Yacht Club." Son Fen had attended luncheons at the New York Yacht Club. He said nothing but he wondered how his father would react the first time that he attended a New York Yacht Club luncheon.

Coincidentally with his hobby of photography, that is to say, slightly overlapping with it, Mr. Johnson took up the hobby of precious stones. At first this was indulged in with the excuse that his wife should have the finest of jewelry. Mrs. Johnson's jewel box continued to grow until it actually overflowed. Not one to stow her jewelry in a bank vault, she solved her problem in another way. Mr. Johnson began to notice that jewels he had purchased for his wife were beginning to appear on the persons of his wife's relatives and even friends. He took the hint and stopped buying jewelry for her but started a collection of polished but otherwise raw gemstones. Suddenly, just as suddenly as he had dropped photography, he lost interest in gemstones and employed a man by the name of Kuntz to complete his collection. Rather a spectacular collection was built when Mr. Johnson just as suddenly decided that he did not want to spend any more money on gemstones so Kuntz wrote a book called "The Curious Lore of Precious Stones" and the collection wound up in the Academy of Natural Sciences of Philadelphia.

In no sense of the word could Mr. Johnson be called a hobbyist. Many years lapsed before he took up another hobby and that one may have been due more to a growing refinement in his tastes than in a true hobby instinct. Mostly because of his wife's urging, he had bought a few decorative pieces of art for his home and had had a large portrait of an unknown lady hung in the front hall. A kid from across the street shot a hole in it dead center in the forehead, but as it was only with a beebee gun, the damage was easily repaired.

By spring of 1927, when the novelty of yachting had somewhat worn off, he became ripe for the picking by art dealers and had the misfortune to fall into the net of a noted Philadelphia firm. They had of course many customers who spent large sums of money on such things as ancient bibles but their really big spender was Henry E. Huntington, who unfortunately for the brothers, died. By the time the three brothers died, they were so famous that they had a biographer, or rather, biographers. These gentlemen gleefully reported that soon after Huntington's death the rich Mr. Eldridge R. Johnson fell into their hands like a ripe plum. This is not a quotation from the biography. They express the bitterness son Fen felt toward the brothers. At first Mr. Johnson's purchases were merely some prints, especially those by Cruikshank. Those purchases had been made before the sale of the Victor. After the sale of the Victor the brothers really went to work on him. They sold him thirty-five Rembrandt etchings for a fat round \$95,000. Then they really made a coup, as the Amerindians used to say. They sold him an alleged painting of "An Old Lady with a White Cap" by Rembrandt. The picture was even more famous under the name of "Rembrandt's Mother." Son Fen has been through the correspondence and nowhere did the smart operators ever say right out that the picture was really a Rembrandt. They skirted around the point. Mr. Johnson fell for the picture and handed out \$75,000 for it and they also sold him an alleged VanDyck portrait of Jaques Galtier, "The Court Musician to Charles I" for another \$48,500, plus many items that were legitimate. In the early 1950s Mrs. Johnson decided that such treasures inherited from her husband should be in the Philadelphia Art Museum and offered to

give them the Rembrandt and the VanDyck portraits. To her shocked surprise, the donations were coldly rejected – they were both forgeries. There are many ways in which persons skilled in the collection of art can tell a forgery, especially a painted forgery, from the true work of the great masters. There is no point in going into the details. As attorney-in-fact for his mother, son Fen would gladly have sued the brothers estates and/or the resulting foundation for the difference between the cost price and the evaluation of the forgeries for his mother's estate, which was \$25 each. Unfortunately, he could not find proof of fraud so, legally, no fraud had been committed.

There was one collection the firm made for Mr. Johnson which really did render him the enjoyment which was proportional to its cost. That was the collection of "Alice," and most especially the manuscript of "Alice in Wonderland" which was created by the skilled pen of the author of the poem "Jabberwocky" which Mr. Johnson had been fond of reciting way back around the turn of the century. The author was Louis Carroll (Charles Lutwidge Dodgson). Mr. Johnson even had himself photographed over in England with Alice Hargraves, who, when a little girl, had inspired the famous work. After paying for the manuscript, Mr. Johnson had quite a hard time getting it away from the dealers as they very naturally placed it on exhibition whenever and wherever they could. A steel cabinet which looked exactly like a fine mahogany cabinet was made and equipped with nonbreakable glass to contain the "Alice" manuscript and Mr. Johnson actually carried it about with him aboard one of his yachts. Probably it was the only thing which Mr. Johnson collected about which he was truly proud and about which he had every right to be. Mr. Johnson locked up most of his prints and etchings in a big yellow safe in his office and never bothered to look at them again or show them to anybody.

Mr. Johnson had a number of facsimilies of "Alice in Wonderland" made up and he placed an order for plates for a facsimile of a second "Alice" book. Unfortunately, the plates, then in Germany, disappeared during World War II and son Fen was never able to trace them down.

When Mrs. Johnson wanted a biography of her famous husband, son Fen tried to turn her away from the same firm, but she insisted on going to them. They recommended an author so green that his only writing experience was as a reporter for YANK magazine during World War II and they recommended that Mrs. Johnson pay the gentlemen the fat fee of \$6,000. The result was that when the manuscript was submitted to a publisher Mrs. Johnson received a scornful letter saying that the publishers did not publish "vanity manuscripts."

Mr. Johnson employed a yacht captain by the name of Andrew J. Petersen, who had very firm ideas about how guests and even the owner should conduct themselves aboard one of the big yachts. His idea was that they should spend their time on the fantail or in the main saloon, stay off the bridge, and never talk to the crew and never enter the crew's quarters or the engine room. He was a competent longshore pilot and could shoot the sun but, according to his first officer, was unable to take star sights. He was rough on his officers and crew and the turn-over was high. The CAROLINE required about thirty men in the crew, including stewards. Mr. Johnson had his new yacht brought around to Philadelphia and anchored near the big and beautiful steam yacht owned by Cyrus Curtis, the publisher. The two men, both retired, found a good deal in common. They became well acquainted; perhaps they were even friends.

Mr. Johnson missed his old associates so he invited the entire Victor board to a luncheon on board his yacht. A good time was had by all. Mr. Johnson then made the discouraging discovery which all owners of big yachts have to make sooner or later. He found that it was very easy to obtain guests for a weekend cruise as long as he had them back in time to catch a train to their home or place of business on Sunday night, but it was practically impossible to get someone to cruise for a month. Even son Fen had a job and could not go away for more than a weekend. However, he was a director of the Canadian Victor Talking Machine Co. and by taking along his male secretary he was able to join his father and mother on a run from Bar Harbor, Maine, around through the Gut of Canso and up the St. Lawrence River

to Quebec, where he took a train to Montreal in time for a board meeting. Mrs. Johnson was on that cruise and complained to son Fen that his father was not his dignified normal self. He seemed to be a little bit overbearing, and, strangely, a little bit "smarty." Her claim is somewhat born out by a letter which he wrote on August 31, 1927, just before sailing from Montreal. The letter was addressed to Mr. Royal. In the first paragraph he said, "Mr. Haddon and Mr. Middleton both have offices on the same floor of the Wilson Building with me. Why don't you rent one of the small offices on the same floor, making a little Victor colony? If you spend all of your time with your cows you may get in the position of the old lady who used to kiss her cow, and when her friends remonstrated with her she said it was all a matter of taste."

On September 19, 1927, he donated \$800,000 to the University of Pennsylvania for medical physics. The resulting building was named the "E. R. Johnson Foundation for Research and Medical Physics" and got going the following year under the direction of the later very famous Dr. Dellev W. Bronk. In November of '27 he joined the Rittenhouse Club, which is rated socially as the number two club in Philadelphia. The number one club is the Philadelphia Club. No one can get into that club unless he is of an old Philadelphia family. The Johnsons and Fenimores being Delawareans, did not qualify.

By December 21, 1927, he had given away more than his ordinary income for the year. As the maximum income tax rate that year was only 25%, his gifts were definitely not inspired by a desire to cut down on taxes; in fact, giving away money to cut down on taxes is pure nonsense. Even when the income tax bracket has a top of 90%, a person has ten cents left out of the dollar to spend on himself, whereas if he gives a dollar away the whole "darn" dollar is gone and he has nothing left to spend on himself at all. Labelling gifts in cash as a tax loophole is nothing but big lie propoganda against the rich and, to a lesser extent, the giving away of art collections and appreciated stocks are not loopholes either. Such donations never work out financially as advantageously to the donor as selling the stocks on the market and/or the art collections. Mr. Johnson's yacht operating expenses

→ in 1927 were \$52,000. In addition to that, he was running his home in Moorestown and another home at the shore. He had gone overboard and spent an appreciable portion of his capital, or at least he had spent and given away an appreciable portion of his capital. It is astonishing that even the richest of men can run through their fortunes if they overspend their incomes to a substantial amount. Mr. Johnson knew it and two or three years later he took a round turn and a half hitch on his expenditures. In gratitude for his liberality, or perhaps hoping that he would continue to be as liberal at frequent intervals, he was elected a life trustee of the University of Pennsylvania. Thus ended the year of 1927.

In January of 1928 he successfully signed up enough guests to occupy most of the guest staterooms aboard his yacht for a whole month. They were nephew George, nephew Eldridge and his wife Marge, niece Elsie Reeves MacEwan, Elsie's friend Babs Legan, and Elsie's future brother-in-law, Ralston Fidler. Mr. and Mrs. Johnson, with their aforementioned guests, had a pleasant cruise to the Bahamas, Cuba and Jamaica. The young folks went ashore at each port. The old folks stayed aboard. As is usual when cruising aboard one of the big yachts, the captain picked his weather; therefore, no storms were encountered. The guests played cards, drank too much liquor and ate too much, and nothing whatsoever happened which is worth recounting.

By the 1st of February, Mr. Johnson was back in Moorestown with time on his hands and wondering what on earth to do with it. He took to window shopping along Chestnut Street in Philadelphia. One day he happened to wander into Wanamakers and was astonished to encounter the finest collection of Chinese art that he had ever heard of or ever seen. Walking up to a salesman, he inquired the price of the entire collection. The salesman said he did not know and called the manager. The manager said they were not expecting to sell the entire collection as a unit because it was drawing customers into the store and they expected it to be sold piece by piece over an extended period of time. Mr. Johnson grew insistent. Finally the floor manager gave up and took him to a higher authority. The higher authority named what he thought

was a prohibitive price and Mr. Johnson accepted it. The imperial palace in Peking had been looted of its treasures and the John Wanamaker store had bought almost all of them. There was an absolutely perfect crystal sphere ten inches in diameter, probably a world's record, many pieces of coral and jade and also dishes made of spinach jade and green and white jade. There was a lapis lazuli table screen 9 3/4 inches high. When he had the collection, Mr. Johnson did not know what to do with it. He solved the problem by selecting a number of smaller pieces which would fit nicely into a single display case in his Moorestown home. All of the rest of the pieces were given to the Museum of the University of Pennsylvania, where they may be seen today. Most of them are in the central rotunda and the great crystal ball is in an alcove delightfully illuminated from below with a beautiful figure of an oriental dancing girl, not Chinese, poised on one foot behind the globe with one toe of the other foot pointing down at it.

Then early in February Mr. Johnson succeeded in organizing another month long cruise. He had the company of a man of his own age, Mr. House, who had been his neighbor in Pasadena, California, but the rest of the guests were people in their thirties — nephew El again, this time without his wife, son Fen and son Fen's brother-in-law, Don Darby. The cruise began in Key West. The first anchorage was Dry Tortugas, famous for Fort Jefferson and the imprisonment of Dr. Mudd, who had set the broken leg of Lincoln's assassin. The young people had fun fishing and harpooning turtles. The yacht then went to Havana, to Matanzas, to Great Inagua Island. All three stops were very dull because those places are "touristified." The next port was not a tourist town. It was Cape Haitian in Haiti. At that time Haiti was under the control of the United States Marines, who were politely called gendarmes, and technically were not an occupation force because they were allegedly under the control of the Haiti government and were a police force. Disregarding the mild danger, the young men went ashore and rode scrubby little Haitian horses up to Cristofe's Castle, La Ferriere, where they were astonished to see the cannon still on their mounts, gun powder in the powder magazine, flints in the flint magazine and rusty stands of muskets collapsed on the

guard room floor. They helped themselves freely to souvenirs, which was strictly contrary to Haitian law. Mr. Johnson and Mr. House did not go ashore.

The yacht touched at Port au Prince, San Diego and Havana. At Havana, Mr. Johnson and Mr. House went ashore for the first time on the cruise, and, like any other tourists, had a motor ride around the town and a luncheon in the principal hotel. Nephew El, son Fen and Don Darby went to the gambling casino, where they lost about \$50 apiece. At least nephew El and Don Darby lost. Son Fen had been cured of gambling while in college and kibitzed on the other two while sipping Scotch and soda. He was wearing his yacht uniform which one of the croupiers mistook for a Merchant Marine uniform. The croupier turned to son Fen and said, "You don't belong here." Son Fen wandered off to look at the baccarat game where elderly bejeweled ladies were handing one thousand dollar bills to be scooped up in a wooden shovel by the croupier. The yacht returned by way of Key West, Florida, and the cruise ended at West Palm Beach. Again, as usual, there were no adventures, no excitement, simply nothing worth recounting. Had it not been for his loyalty to his father, son Fen would have been very glad to have made his first long cruise on a big yacht his last one. His description of cruising on a big yacht was: "Nothing to do, all day in which to do it and fifty people to do it for you."

Mr. Royal was still nominally the chairman of the board of the Victor Talking Machine Co. While Mr. Royal had been the powerful righthand man of Mr. Johnson at the Victor, his method of carrying on business did not include paper work. When he received a letter he stuck it in the pigeonhole of his roll top desk and after a while the sender wrote to somebody else or the matter was just forgotten because it did not matter anyhow. Mr. Royal handled his personal affairs the same way, verbally or not at all, and this incurred the deep displeasure of the Internal Revenue Service. After a while an IRS man came around and demanded to see Mr. Royal's books. Mr. Royal said, "I do not keep any books." The Internal Revenue Service was able to trace Mr. Royal's income through his bank deposits, and without allowing for any

deductions or business expenses, handed him a bill taxing his entire income of \$242,000, of which \$231,000 was salary and commissions; thus, his true unearned income was only \$11,000. As was mentioned before, Mr. Royal returned too late from England to make a good buy in the Victor stock. He never became a millionaire. His English salary had been so meager that he had been unable to save anything much so he could not have bought Victor stock even if he had had the opportunity. Mr. Royal took his tax troubles to his old friend Mr. Johnson and Mr. Johnson assigned Mr. Royal's tax problems to his private Senior Secretary, who was very good on tax matters. The Senior Secretary worked up a revised income tax report for Mr. Royal and saved him a good deal of money. Every time Mr. Johnson went cruising he begged his old friend to come along but the poor man just was not up to it physically. To the best of son Fen's recollection, he never did have a chance to sample the luxurious living aboard a big yacht other than a day run down the Delaware River and back.

On the 22nd of June, 1928, Mr. Eldridge R. Johnson received an honorary Bachelor of Arts degree from the University of Pennsylvania. Dressed in cap and gown, he made the customary little speech. If the trustees had taken the trouble to look into Mr. Johnson's education and history they would have given him a degree in mechanical engineering, which would have been much more pleasing to him and to the rest of his family. Honorary degrees are, as some wit sarcastically and truthfully stated, more a means of financing colleges and universities by degrees than they are honors to the recipients. Mr. Johnson had himself photographed in cap and gown, put the picture away and forgot about it. Someone took his degree, put it in a frame and hung it on a side wall of his office, where it gathered dust until it was given to the Eldridge R. Johnson Memorial.

In October, 1928, Mr. Johnson was invited to the White House, where he showed the "Alice" MS to President and Mrs. Calvin Coolidge and to other bibliophiles who had been invited to the luncheon too. On the 11th Mr. Johnson began to pile up trouble for himself in a big way. He gave a dinner at the Walt Whitman Hotel to raise money for the Camden Athletic Club. Those

attending the dinner were not requested to donate money. They were requested to pledge themselves to buy bonds. Mr. Johnson, with his usual liberality, offered to buy bonds in an amount equal to all of the other persons who actually bought bonds collectively. The CAC became a victim of the great depression. One wing of the building had actually been built and a substantial amount of ground had been purchased. In order to protect his father's interests, son Fen brought a suit and took possession of the ground and buildings. The contractor had not been paid. The contractor and his son, both as white as sheets, came to see son Fen. The contractor's son opened the proceedings by saying that his father's firm would be thrown into bankruptcy if they were not paid. Then the contractor's son very nearly ruined his chances of getting paid by threatening to sue Mr. Johnson. However, son Fen overcame his natural tendency to never retreat in the face of a fight and paid the contractor. The next thing that happened was that a group of the bond holders brought suit against Mr. Johnson, claiming that Mr. Johnson had not purchased City Athletic Club bonds but had made a donation to the City Athletic Club while everybody else had paid for their bonds. From reading the newspapers Mr. Johnson must have known that he was being sued, but he was much too ill with melancholia to testify in court. Son Fen, acting under a Power of Attorney, successfully defended his father. As there were a couple of hundred bond holders, the local sentiment was rather against Mr. Johnson until son Fen quieted the criticism by donating on his father's behalf the completed wing of the Athletic Club and the surrounding ground to the Camden YMCA.

Returning to October, 1928, on the 24th of that month Mr. Johnson accepted the Vice Presidency of the Association against the Prohibition Amendment, thereby incurring the ill will of the Anti Saloon League. He dealt with those people by ignoring them completely. President Coolidge had uttered his famous words, "I do not choose to run." Therefore, the Republicans ran the famous mining engineer and philanthropist, Herbert Hoover, for President. On the 31st Mr. Johnson made a nation wide radio broadcast for that presidential candidate. He followed that with a donation of

\$50,000 to the Republican National Committee and when they asked for still more money he loaned them \$25,000. Strangely, after many years, he got his loan back. It was just about the only loan he ever made that was repaid. The money was recovered by Daniel Pomeroy, who never let son Fen forget about it.

Mr. Johnson's political activities did not actually cause him personally any trouble. They, in fact, brought him an honor in a backhanded kind of way. There was an ill informed radical professor at Harvard who won fleeting attention to himself by writing a book called "America's Sixty Families." This character was also exceedingly careless with his facts. He used tax figures taken from the NEW YORK TIMES in 1925. There is an old saying that figures do not lie but liars figure. By means of some very fancy mathematics, best known only to himself, he figured out what each of sixty American families were worth. Then he proceeded to multiply this figure by three and actually had the nerve in his text to call his figuring conservative. He listed all of the sixty families, giving each a number, and accused them of running the economy of the United States of America and everything else, including all of the philanthropies to their own benefit, and even of controlling the government. The Eldridge R. Johnson family was No. 41 on his list. He stated that that family had a net aggregate fortune taxed of \$25,000,000, which was, in his opinion, a gross adjusted fortune after multiplying by three of \$75,000,000. The whole Johnson family was never worth \$30 million. Later he wrote another book and the reviewer of the second book referred to his first book as "muck raking" and to his second book as "wild conjectures and irresponsible inuendos." When Mr. Johnson died without leaving anything to the public, this ignorant professor whiningly complained in the public press as follows: "Did not Mr. Johnson know that leaving money to the public would reduce his inheritance taxes?" What was he? A neurotic?" What Mr. Johnson knew and understood very clearly was that he could leave but little to his heirs and that leaving money to the public would make that little less. For example, had he left half of his fortune to the public, he would have cut the amount which each of his heirs received almost exactly in half.

The tax on his estate, plus the legal and court fees, wiped out 76%. It makes no difference under the law whether a deceased person has one heir or fifty. The taxes are the same. Conceivably, if a deceased person left \$100,000,000 to one heir and the one heir receiving about \$24,000,000 left that amount to a single heir, it would be possible for three or four generations to be millionaires without earning or contributing anything to the initial estate. But! A rich person, let alone a line of rich persons, seldom has a line of single heirs. There are grandchildren, nephews, and nieces about whom most rich people care enough to remember in their wills. There is no danger whatsoever of this country falling under the control of a large class of people inheriting wealth for generation after generation. The old saying, "In America it is only three generations from shirt sleeves to shirt sleeves" is almost literally true.

It was either late in '28 or early in '29 that Mr. Johnson decided that he was not satisfied with his secondhand yacht. He personally made contact with the marine architectural firm of Henry J. Gielow, Inc. He gave this firm very detailed and thorough instructions in regard to what he wanted in way of a new yacht. He had an eye for beauty and undoubtedly the most beautiful vessels that ever floated on this world's oceans were the Clipper Ships. He specified that the hull of his new yacht was to look like a Clipper Ship, even including a long bow sprit. Of course it was not practical for the underwater lines of a motor driven modern vessel to be the same as the underwater lines of a Clipper Ship, but that was immaterial to Mr. Johnson. What he wanted was for his new yacht to have the exquisite sheer line of a Clipper Ship, a clipper bow and a clipper stern. The resemblance of Clipper Ships ended there. The superstructure was to be entirely modern. When the plans were well developed Mr. Johnson took son Fen to see them. Son Fen was deeply shocked. A glance sufficed to tell him that the vessel was going to be top heavy but he knew his father too well to say anything about it. The architects were just as well aware that the vessel was going to be top heavy as was son Fen. They were not worried because Mr. Johnson had specified a new marine development, a Sperry gyroscopic stabilizer, like the one in



LYNDONIA, the yacht of Cyrus Curtis. This wonderful device was supposed to keep the vessel from rolling more than two degrees either side of the vertical regardless of in what seas she was. The claim, of course, was ridiculous on the face of it, but neither Mr. Johnson nor son Fen had any way of knowing that at that particular time. While the pair were at the architects Mr. Johnson specified a suit of sails and remarked, "I guess they will add about three knots to the vessel's speed. Won't they?" The architect's representative said, "Yes." Son Fen was furious. It was obvious to him that the little bit of sail which could be used aboard such a vessel would not add anything at all to her speed. However, he again remained silent and consoled himself with the thought that if the motive power of the vessel should break down she at least would have a chance of being laid-to under sail. The price quoted was \$1,567,410.90. The contract was placed. Some accountant must have had a fine sense of humor. Ninety cents on a million and a half contract! Imagine that!

In 1929 the Dow Jones average reached a peak of 381.17, at which point, on what is still known on Wall Street as "Black Friday", the bubble burst. The market started a three year fall with very few and only minor recoveries. It hit bottom in 1932, with a Dow Jones average of 41.22. It required twenty-four long weary years to recover to the 1929 high. With only eight or nine moderate falls, but many many jiggles, it continued to rise until the Dow Jones figure went over the top at 1000 in 1972. There was one year which is regarded as a stock market crash and that was in 1966. Actually the crash was a mini-crash when compared to the terrible crash of 1929. In addition to his commitment for a new yacht, Mr. Johnson had piled up the rather awe inspiring total of \$1,173,532.39 in the cost of his art collections. That was the figure in his annual report on the 31st of December, 1929.

Mr. Johnson never had any trouble in persuading nephews George and El to go yachting. The only trouble was that he keenly desired those young gentlemen to be gainfully occupied. To nephew George a gainful occupation was downright revolting. Nephew El was not so dead set against gainful occupation provided he personally did not have to do any work. Nephew El

put his money into partnership with a couple of other people in a bond brokerage firm which, because of his lack of effort and his partners lack of aptitude, slowly and painfully went broke. Since nephew George was "stone broke" in the year of 1930 and Mr. Johnson was, as usual, up against it to find people who would go on a month long cruise, Mr. Johnson relented and invited nephew George to go cruising. At that time son Fen was likewise not gainfully employed. Son Fen accepted his father's invitation and two or three other guests were found. Son Fen was an inveterate scribbler of daily events and, somewhat refined and condensed, his diary was as follows: "It was just a full repetition of a former cruise until the day we sailed out of Port au Prince, Haiti, bound for Santo Domingo City (Ciudad Trujillo). George and I were standing on the bridge of CAROLINE when we both heard and saw a ten foot shark bite a piece of wreckage. The shark had a shovel nose and its back was not the dark blue of that deep sea variety which follows ships. Its back was a light blue, a powder blue. I have never since read of a shark with his color of back so I do not know what kind it was. The wreckage looked like the hatch cover from a small craft of some kind. There was blood on it. Had someone been cleaning fish there or had someone died there? The shark circled the hatch cover, then rushed it, slid out on top of it, floundered around snapping its teeth, then flipped itself overboard."

We entered the Ozuma River and tied up to a quay very nearly at the spot where Columbus reputedly moored his vessel to a tree. Just off our port bow, some fifty yards away, was a castle which was used as a prison. San Dominicans are mostly brown skinned people, speaking Spanish. The top of the castle had been roofed over and the prisoners apparently had run free of this area. Most of them were coal black. They were dressed in broad black and white prison striped uniforms, but unlike those of Haiti, the stripes ran around the legs, arms and body instead of up and down. They were the most cheerful group of prisoners I have ever seen, yelling, laughing, cracking jokes and waving to us and to the people in the streets below." When son Fen was in Cape Haitian a captain of the police told him that they had trained a young man by the name of

Leonidad Trujillo Malinas who was much more intelligent and reliable than any other Dominican. Trujillo had been given the post of Chief of Police in San Domingo City. The captain had given son Fen a letter of introduction to him. Now, only two years later, in 1930, Trujillo was a Generalissimo and firmly installed as a dictator. He reigned for thirty-two years and was assassinated in May of 1961. Son Fen remembered that he had the letter. He said, "Pop, I have a letter of introduction to the President." Mr. Johnson said, "I will not entertain a g-d nigger aboard this boat'." Actually Trujillo was not a coal black, black man. His skin was a pale white but there were a few drops of black blood mixed with his Spanish blood. That made him socially unacceptable to a man born so near to the Mason Dixon line as Mr. Johnson. Son Fen walked to the rail and dropped the letter overboard. Then it occurred to him that it would not look so good if some fisherman or beachcomber found the letter, discovered that it was addressed to the President and delivered it. The cruise continued but was of no interest until the yacht put into Dry Tortugas. There we found Ernest Hemingway, the author, and a companion stranded and out of food. Mr. Johnson reprovisioned their fishing vessel and had them aboard for dinner. Hemingway, then about thirty-five, looked like a round faced boy. His reputation at that time was so obscure we did not know who he was.

When Mr. Johnson based his yacht in Florida and invited people to come down and go fishing, he was rather more successful than when he tried to get up parties for longer cruises. The best fishing companion that he had was brother-in-law Ed, who was such a good sailor that he never got seasick, not even in the Gulf Stream. For some reason best known to himself, or perhaps to Captain Petersen, the Johnson parties never went fishing around Bimini. They either fished right out of one of the Florida ports, such as Palm Beach, or made a fast night run out of Miami to the Dry Tortugas. When the wind is against the stream, the Gulf Stream can be exceedingly rough. In April of 1931 Mr. Johnson was actually tossed out of bed, but, fortunately, was not injured, probably because he was too well padded. This made him doubly anxious for the arrival of his new yacht, CAROLINE II.

Mr. Johnson returned north and was deeply troubled by a law suit. When a man is known to have sold a business for many millions of dollars, it is just natural that quite a number of people claim to have had a hand in effecting the sale, and, therefore, were entitled to a commission. Mr. Johnson had dealt liberally with those who actually were entitled to a commission, excepting son Fen, who made no claim for a commission even though he had done most of the work which was not done by his father. In 1931 a man by the name of Hulse tried to collect a commission of 15% of the sale price of the Victor stock from Atkinson, Staats, Johnson, Haddon, Royal, Babson and Douglass. The case came to trial on September 8th and at first things looked very bad for the above mentioned group, but Staats finally found proof that Hulse had nothing whatsoever to do with the sale of the Victor Co. The Victor stockholders won the law suit.

The happy day finally came on July 31, 1931, when CAROLINE II was launched. She was christened by a beautiful little grandniece named Caroline, who was almost an exact reproduction of her grandmother, Mrs. Johnson's big sister Carrie. She was not related to Mr. Johnson's mother after whom the yacht was named. The yacht was so beautiful, really spectacular, that A. B. Newell, Managing Editor of MOTORSHIP magazine was persuaded to write a small book about her, or perhaps he got paid for doing it. The book was not copyrighted and practically the entire edition was kept aboard the yacht and given as a souvenir to guests. The following description was extracted from the book but is not necessarily quotes.

CAROLINE II ranked high among the ocean going yachts. Only one large pleasure craft had been built in American shipyards since 1926. (However, that did not mean too much because the largest yachts in the world were almost all built in Europe). Steel was employed throughout the main structure. Hardwood was used where it served better than steel and produced a more attractive finish, as for example in the decks and rails, which were teak. She had the modern features of a double bottom and watertight bulkheads. If she had had the misfortune to flood even so large a compartment as the engine room, she would have remained afloat.

Further floatation could have been achieved by pumping overboard the fuel and fresh water which were carried in parts of the hull and were part of the main structure and not separately installed tanks. The tanks thus provided carried 365 tons of fuel oil, 1163 gallons of lubricating oil and 347 tons of fresh water, which gave a cruising range on one filling of 10,000 nautical miles at a cruising speed of 12 knots. She was supposed to have a maximum speed of 15 knots. (She never made it. Her true maximum turned out to be only 13 knots). She had two 8 cylinder Cooper Bessemer Diesel engines of 1500 horse power each. They turned at 300 r. p. m. (OR 5 REV. PER SECOND)

Auxiliary power was furnished by three Diesel electric generators. When operated in unison they had a total capacity of 350 kilowatts. The unusual amount of electric power which could be generated was necessary for the Sperry gyroscopic stabilizer and the many other electrical service requirements. They were the refrigerating machines for the preservation of six months supply of food, the cooling system which also heated the ship in cold weather, the sanitary and fresh water systems which circulate fresh and salt water, both hot and cold, throughout the vessel, the electric passenger elevator, the gyro compass, the automatic steering gear, the bilge pumps, the anchor windlass, boat hoists, and a laundry.

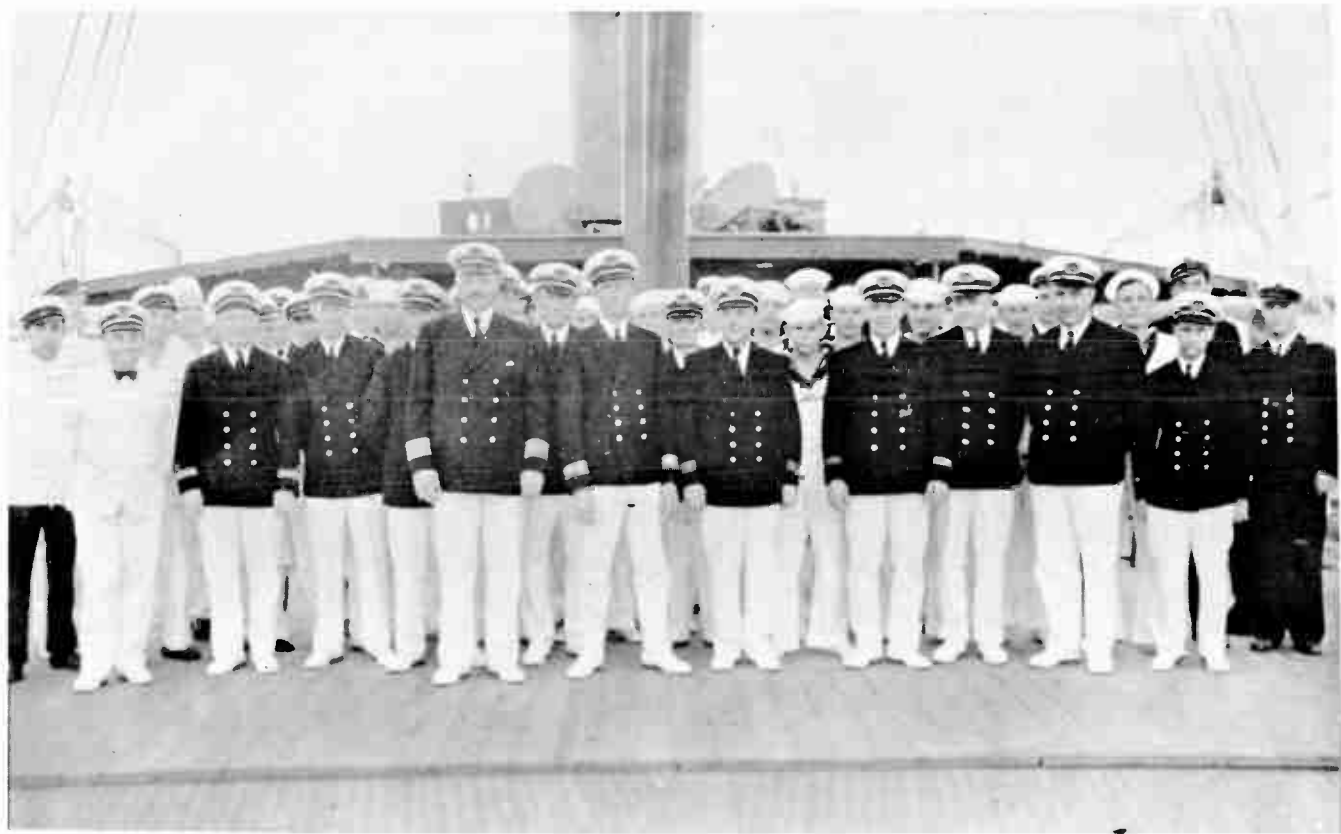
The gyro stabilizer was one of the major points of interest aboard the ship. Perhaps the simplest and most readily understandable explanation of the method by which the gyro-stabilizer maintained the vessel on an even keel is to compare it with a spinning top, the potential capacity of which has been recognized for many years but only very recently developed and applied by the Sperry Gyroscope Co. A simple wheel of the proper size mounted on a shaft and caused to spin may be made to resist strongly any force tending to roll the vessel on which it is mounted. The gyroscope in the CAROLINE weighed 105,790 pounds. Its complete wheel was 8 feet in diameter, weighed 45,000 pounds and spun at a rate of 1,300 revolutions per minute. The shaft upon which the rotating wheel was mounted was carried in bearings which were held in a heavy steel frame that was in turn

attached to the hull structure of the yacht. The gyroscope accomplished its stabilizing effects by employing rather complex electrical and mechanical devices which detected the slightest rolling movement and immediately brought into action forces that resisted the action of the waves. Waves do not beat against a ship as they do against a solid breakwater because the ship is free to rise and fall and the bulk of the waves pass under her, imparting a comparatively small amount of roll. One wave merely starts the rolling and it requires an entire succession of waves to build up violent rolling motion. Therefore, only a comparatively small artificial force, equal and opposite to the disturbing action of each wave and lasting until the energy of the wave is spent, need be applied to prevent rolling. The gyro-stabilizer simply catches the roll at the start and never permits it to build up to bad proportions.

→ The CAROLINE^{II} required a crew of forty-two men, including the master and his mates. In addition to that there was a staff of eight cooks and stewards and a radio operator. This came to a total of fifty-one persons, not counting a maid and a valet who were quartered in the passengers' section of the vessel and were supposed to be brought aboard by the owner and his wife.

Compared to the size of the crew, the accommodations for passengers, namely, the owner and his wife and guests, were ridiculously small. Mr. and Mrs. Johnson, of course, had spacious quarters. In addition to that there were six guest rooms, each with a connecting bath and each guest room could carry two guests. Spaciousness was achieved in the arrangement of cabins on deck. The living room occupying the after end of the main deck house was 25 feet wide and 37 feet long. Double doors led from this room to the after deck which was sheltered and provided with a comfortable lounging space. The dining room, or rather, saloon, also in the main deck, was 29 feet in length and 26 feet wide. The entire main deck house was given over to these two large rooms and several smaller compartments, which included the galley, the maids' dining room, an embarkation hall and the smoking room.

In addition to the main deck, there was an upper or boat deck which had an observation room at the extreme forward end,



Officers and Crew on CAROLINE

providing a clear view ahead about equal to that from the pilot house, which was directly above this room. In the after end of the boat deck was the captain's apartment and the master gyro compass room and a radio station. Aft of that was a cabin which was intended for use as a laboratory when the yacht was engaged in scientific expeditions and exploration work. Mr. Johnson had grown tired of plain cruising and had conceived the idea of an oceanographic expedition which actually came to pass at a later date. The after part of the boat deck was clear of all obstructions in order that it could be used for deck sports and perhaps on occasion carry an airplane. The after mast was deliberately made strong enough to support a boom and the appropriate rigging for lifting a float plane out of the water and depositing it on the deck.

The decorations followed the styles of XVIII Century England and were executed in such a manner that in passing from one room to another one felt the change in the soft color harmonies. While one room leaned more to the earlier periods than another, there was about the whole a well studied feeling of unity and restfulness. The furniture in the living room, or more properly speaking, the living saloon, was predominantly Queen Anne and William and Mary, with a few Chippendale pieces. (The description of the luxuries of the yacht run on for several pages in the descriptive booklet. The writer omitted to mention that Mr. Johnson had a private office on the main deck and that the silver and China service was on an equally lavish scale with the furnishings of the yacht and her interior decorations. There were many larger yachts in the world than CAROLINE II but there is one thing that is certain, none was as luxurious).

The world's largest yacht, that is to say, a vessel built as a yacht and not converted from a freighter or a destroyer, was the ORION, LOA 333 feet, 315 tons, speed 16 1/2 knots, crew forty-four, built in 1929 and owned by Julius Frostman.

Ships are called she for a good reason. Many men have loved a ship more than they have loved a woman, and like the end of a human life which has been well spent, the end of a fine ship is always tragic. There is no better place to tell what became of CAROLINE II than right here following her launching. When Mr.

p. 2

Johnson returned to the United States in the condition as described in Chapter I, son Fen was unable to believe that his father's condition was permanent; therefore, in 1934 through 1938 he had CAROLINE II kept at a dock in the Tebo Yacht Basin in Brooklyn, New York, in a condition of "ready to go." The cost of this stand-by condition ran \$60,000 to \$90,000 per year. In 1939 it became obvious that Mr. Johnson could not go cruising, even if he desired to, because the country was rapidly plunging toward engagement in another European war. In April of 1938 son Fen began to make vigorous efforts to sell CAROLINE II. Regardless of national advertising, only two men wealthy enough to make the purchase showed any interest. One was an English knight, much too old and too fat to be of any use to his country and whose fortune was safely out of the grasp of the British crown. He bluntly demanded of son Fen, "What is the bottom price?" Son Fen just as bluntly said, "Make me an offer and I will tell you if that is the bottom price or not." Sir Robert refused to commit himself. Early in 1939 son Fen became very anxious indeed to stop the useless drain on his father's fortune. He was approached by a Mr. and Mrs. William Leeds. Mr. Leeds was one of those unfortunate rich men's sons who suffered from a very bad press. During all of his life he was called a playboy and ridiculed as no good. The truth was that Mr. Leeds was a man of great physical courage, did a good deal of philanthropic work; in fact, he organized and supplied an entire ambulance corps to the British in the North African campaign; served with it as a driver and when the U. S. got into the war he joined the Coast Guard as a Chief Boatswain's Mate and retired from it in 1945 with the rank of full commander. The last and most vicious thing which the press said about him was that he was a narcotic addict. The truth was that the man was dying of a very painful cancer and because of that he shot himself in January of 1972. Mr. Leeds bought CAROLINE II for a mere \$200,000, renamed her "MOANA." He had the pleasure of cruising aboard her for only two years, 1939 and 1940, and perhaps to some extent in 1941. In 1941 he sold her to the U.S. Navy for \$275,000. On June 11, 1942, she was commissioned "U. S. S. HILO" (PG-58). She was outfitted and

served as a Motor Torpedo Boat Tender. She served in various places all the way from North Africa to the Far East. On the 22nd of September, 1943, while lying at the Buna Jetty in Port Moresby, she was attacked by bombers. Fortunately, they missed by a scant 200 yards. She was attacked many times again and was able to fight off the bombers with an ever increasing number of anti-aircraft guns. As the Seventh Fleet moved toward Japan the HILO followed and was attacked repeatedly. Some attacks were by Kamikaze, the famous Japanese suicide planes. In August, 1945, she was made ready for her return to the United States. In October of 1945, while returning to the West Coast of the United States for decommission and disposal, she rolled 32° in a moderate swell. She was forced to return to port and strip away some of her armament. The last official record of her is that her estimated time of arrival on the West Coast of the United States was December 1, 1945. There is nothing whatsoever to indicate in the official history of the U. S. S. HILO of what was the final disposition of this fine little ship. Hopefully, she was converted into an inter island passenger vessel and is still ploughing the seas somewhere in the southwestern Pacific.

Getting back to Mr. Johnson and the pleasant if not happy days he spent aboard CAROLINE II, Mr. and Mrs. Johnson, with guests and son Fen aboard, cruised as far south as Guatemala. Lying alongside the extensive commercial steamship dock in Puerto Barrios, Mr. Johnson stayed aboard. Son Fen acted as courier and rented a private car for his mother. The private car was far short of the private cars to which she had been accustomed, but the journey up the narrow gauge railroad which ran to the capital city was less than a day so Mrs. Johnson did not mind. There was an observation box with windows and two seats, a forerunner of the modern day vista dome, which was promptly appropriated by nephew George and son Fen. They had a thoroughly enjoyable time watching the operation of the old fashioned "choo choo" on the high trestles, in the tunnels and in the almost tunnel-like jungle which was alongside most of the track. At every trestle there were cattle grazing on the track. Almost invariably one stupid brute would run ahead of the train

and fall through ties of the trestles, whereupon the fireman and the engineer would climb out of the engine, grab the dumb cow by its horn and tail, drag it on its side and throw it over the side of the trestle. They always chose the upper side of the trestle where it had not too far to fall before it hit the ground. Whether it survived the fall and climbed back to join the herd was no concern of theirs. The visit to Guatamala City was no different from that of any other group of tourists.

On the voyage home a stop was made at Colon. Mr. Johnson again elected to remain aboard. Mrs. Johnson again elected to hire a private car on the narrow gauge railroad that crossed the isthmus and that time the car was even worse. It was so weak from over age and lack of maintenance that the entire top of the car would lean from one side to the other side as the train chugged around curves. One thing can be said for Mrs. Johnson; she was almost completely lacking in physical fear. While living in Merion many years before too many boys had attached too many sleds behind her sleigh. The sleigh turned over and the lightweight Mrs. Johnson, still with her hands in her muff, sailed over the coachman, Daniel, and landed in a snow drift. The boys detached their sleds; the coachman righted the sleigh; Mrs. Johnson climbed back in and continued her ride. On another occasion when son Fen had to drive off a burglar with an empty rifle, she showed no fear at all.

Son Fen was somewhat alarmed for fear that the entire top was going to come off the miserable private car, but Mrs. Johnson sat in her seat, gazed out the window and enjoyed the scenery. After a brief visit to old Panama City on the Pacific coast, the party returned to the yacht. The party then cruised along the Central American coast and pulled in as close as the captain dared to the old city of Tulum. The white temples were quite visible but no one dared go ashore because the place at that time was notorious for being infested by bandits and that brings us to the Johnson-Smithsonian Deep Sea Expedition.

Mr. Johnson at first considered a scientific cruise to Easter Island and made the mistake of mentioning it to J. David Stern, nublisher of the Courier Post in Camden. The result was a full

account, most of which was produced by Dave Stern's vivid imagination, of the expedition that was going to go to Easter Island. Letters poured into the Johnson office from people who wanted to go on the expedition and some were quite bitter when they were not allowed to go. The cancellation of the plan to cruise to Easter Island received only a small notice on an inner page of the newspapers. Mr. Johnson's reason for cancelling the expedition to Easter Island was because he had a much better idea.

CHAPTER IX

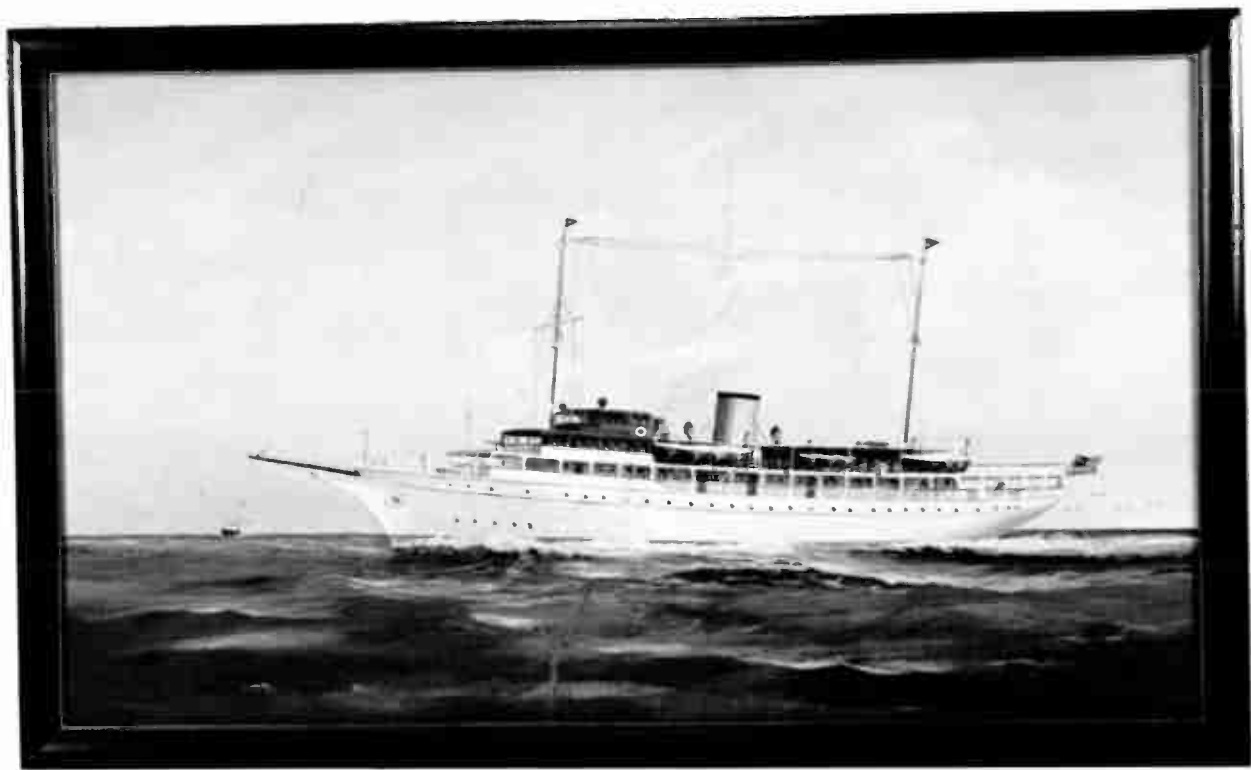
THE LAST CRUISES WERE THE BEST

Radium was a precious substance already in use for the control of cancer and it was produced by a laborious process invented by Madame Curie, or rather, Doctor Curie. Mr. Johnson evolved the theory that radium being very heavy, heavier than lead, would accumulate on the bottom of the ocean deeps. There are a dozen deeps in the oceans of the world, give or take a few. Mr. Johnson's assumption was correct. In a paper published in January of 1942, entitled "Radioactivity of Ocean Sediments IV – The Radium Content of Sediments of the Cayman Trough", by C. S. Piggott and Wm. D. Urry, from the Geophysical Laboratory, Carnegie Institution of Washington, No. 1054, the paper confirms the fact that there is radium in the core samples which were brought up from that particular ocean deep. The only trouble is that the amount of radium is so small that it is probably as unprofitable to extract as it is to extract gold from sea water. However, at the time Mr. Johnson conceived of the idea there was nothing to indicate that scientists were thinking about it and it was not until after World War II that scientists discovered there were actually nodules of metal of one kind or another on some areas of the ocean floors.

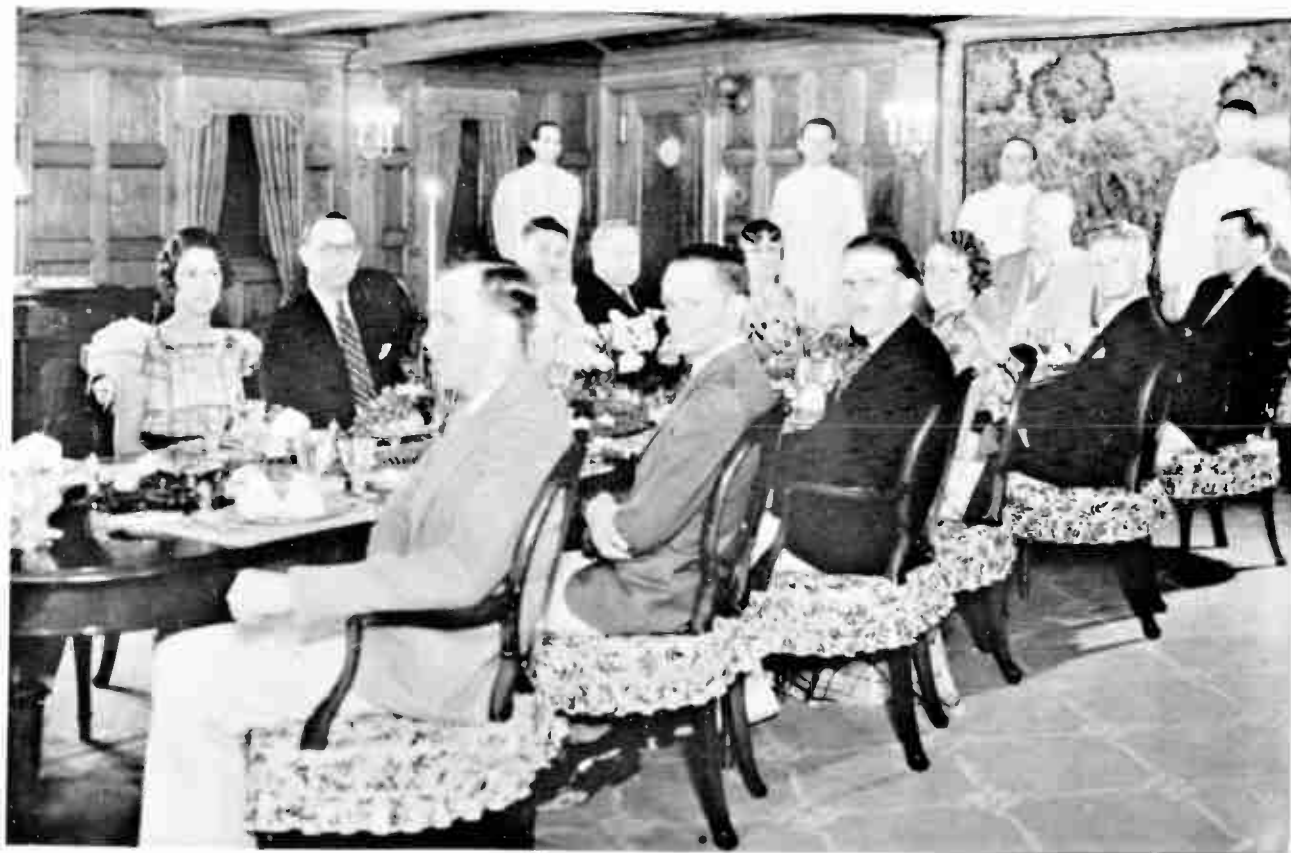
Just how Mr. Johnson came to be in contact with the Smithsonian Institution is not made clear in his correspondence but by the 1st of October, 1932, he was in contact with the secretary, Dr. Charles G. Abbott. The Smithsonian Institution was and still is essentially a government bureau with a secretary just like the Secretary of Labor or the Bureau of Indian Affairs and the rest of the hodge podge which is known as the federal government. There is one big difference between the Smithsonian and the government bureaus, that is, after the initial fuss over the exact handling of Mr. Smithsonian's will, no President has paid particular attention to the operation of the Smithsonian and the secretary of the Smithsonian does not get fired every time the administration changes. Dr. Charles G. Abbott, the Secretary with whom Mr.

Johnson came in contact, was notorious because of his stubborn insistence that the Langley steam driven airplane had actually flown in 1896 and his refusal to credit the Wright brothers as the first constructors of a power driven plane that actually flew, and, further, for his refusal to accept the Wright brothers' plane as an exhibit in the Smithsonian. Langley was a Smithsonian scientist and that may have caused Abbott's deep desire to give the credit to Langley. Dr. Abbott's claim to fame is based on his study of sun spots and the resulting weather on earth which he stated ran in cycles of eleven years. At the time of his setting forth of his theory there was a big to-do about it among scholars. Perhaps more of them opposed the theory than supported it. Dr. Abbott was destined to live to be one hundred years old in January of 1973 and to be still actively engaged in inventing things. If a newspaper article can be believed, he was actually taking out a patent on a recent invention.

Of course one of the first things that came under discussion was the cost of the proposed expedition. Dr. Abbott suggested that Mr. Johnson deduct it from his taxable income. Mr. Johnson replied that he could not deduct it because he had already exceeded the amount which could be deducted from taxable income under the income tax law. The next problem that arose is seemingly trivia but on careful consideration it is not so trivial after all. On the 15th of November, 1932, Mr. Johnson wrote to Dr. Abbott as follows: "The number of people on the expedition, according to my count, are nine. Are all these people first-class passengers, that is, would they dine with the owner? You have to be a little careful on a yacht. There is the owner's dining room, which he and his guests use; the captain dines alone, unless he has guests; there is the officer's mess; the general crew; and there is also a special dining room where valets, maids and aides-de-camp dine. However, there will be none of this class of people, that is, attendants to any of the guests whom I invite on the boat this trip and if any of these people do not fit clearly in any of the above classes, I could give them the special dining room. Please do not understand that I am trying to draw any unnecessary lines – I am quite liberal myself – but I would like to know what your version



Yacht CAROLINE II



Dining Saloon Aboard CAROLINE

of the matter is and exactly what you would expect so that there will be no possible confusion.”

Dr. Abbott appointed Dr. Paul Bartsch, an eminent conconologist to be the leader of the scientific party. Son Fen was distinctly startled as he was well acquainted with Dr. Bartsch and did not think he possessed executive ability. Dr. Bartsch was a tall thin German who had fled from Germany before World War I in order to avoid being drafted into the German army. Son Fen's estimate of Dr. Bartsch was based on specific characteristics. What son Fen had noticed was that Dr. Bartsch was very easily excited; in fact, he grew so excited that when talking to someone he would actually spray them with spittle. In addition to being easily excited, he very easily lost his temper. A man who easily loses his temper seldom can be a leader of men.

In addition to the mistake about selecting a leader, a mistake was made in regard to the winch equipment. Son Fen had an engineer by the name of Henry H. Murray, who computed the length of wire which could be paid out before the wire broke under its own weight. There was some slight knowledge of the depths of the great deeps which had been ascertained by means of wire soundings and the breaking of the wire did not appear to be a problem insofar as its own weight was concerned. What was a problem, a very serious problem, although it was not then recognized as such, was the tension of the wire on the drum when it was being wound up. The safe and proper procedure would have been to install a capstan, which is the nautical term for a vertical winch head, on the stern of the main deck of CAROLINE and to run the wire from a roller over the stern around the capstan and then to the take-up drum on a winch of the horizontal variety. That would have prevented the wire from being wound too tightly on the winch. There was another problem which was not considered. The expedition was not going to use a single strand of wire such as was used in the Kelvin depth sounding machine but a wire rope manufactured by the Roebling Co., and while wire rope may not break under the strain of its own weight plus the additional weight of trawls and bottom samplers, it can undergo changes due to the strain which can make it far more dangerous

→ than a side winder rattlesnake, but all of that knowledge is based on hind sight. Dr. Bartsch, the Teebo Yacht Basin, the Lidgerwood Winch Co. and the Woods Hole Oceanographic Institution and Mr. Johnson personally all went to work on the winch problem so it is not possible to decide who made the basic mistake.

In addition to the mistake about the winch equipment, a mistake was made as to how much the expedition should do within the brief amount of time which Mr. Johnson allotted to it. Somebody thought up the idea of sending up sounding balloons from the yacht while it carried on the oceanographic work and thus keep track of the winds aloft. This took time away from the personnel which should have been used on the exploration of the great deep. On top of that, just about every conceivable form of oceanographic collecting gear was put aboard the CAROLINE without any regard to the great weights and strains which some of the gear would put upon the wire. Dr. Bartsch requested son Fen to develop a camera suitable for photography in the great deep. Son Fen put his engineer, Henry Murray, on the job and a camera was built in time to be put aboard for the expedition. It was excellent in every respect excepting that it was not sufficiently completed to actually take any pictures. Son Fen had no great desire to go on the expedition, but being loyal to his father, he began rushing up and down the coast in company with Dr. Bartsch and rounding up all that seemed to be necessary in the way of equipment. Then, suspecting that there were many problems still to be solved, he consented to join the expedition for the early part of it. He was soon to regret his decision because he got stuck with the whole of it.

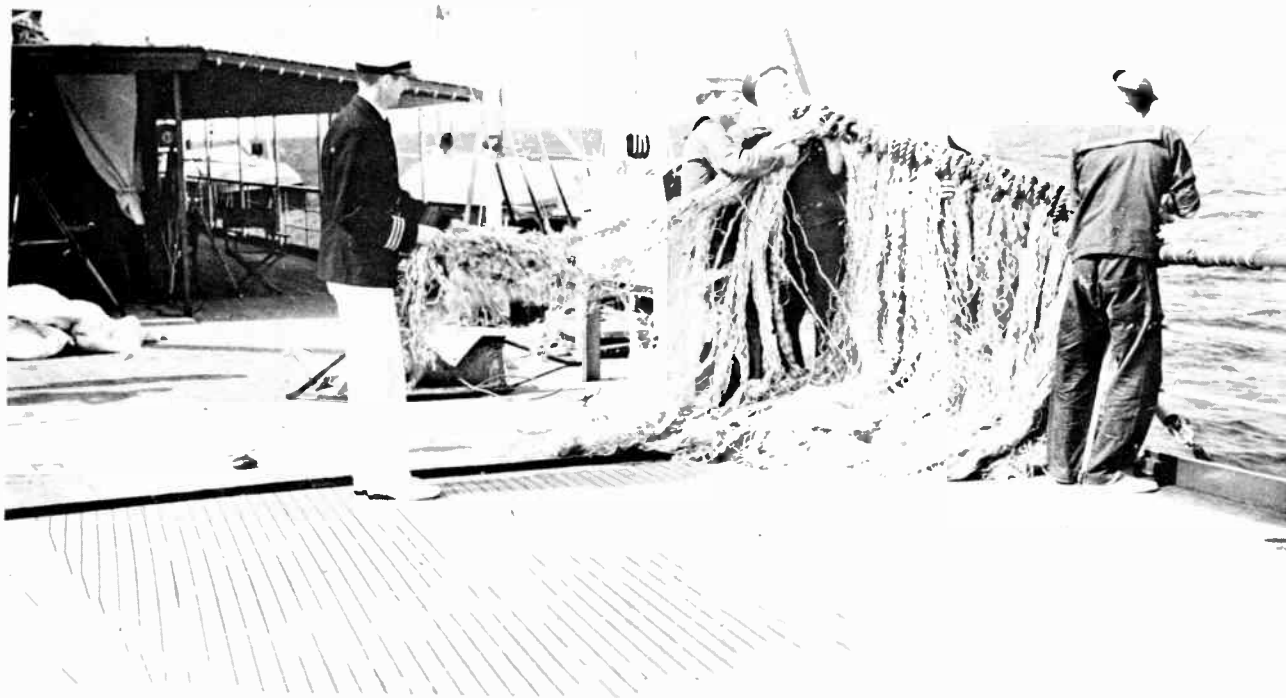
→ On the 17th of January, 1933, Mr. Johnson wrote Dr. Abbott, "I have only just returned from abroad. Will sail aboard CAROLINE with Dr. Bartsch Friday or Saturday of this week. I wish you to make it plain to him that the expedition must come to an end by March 15th. I learned through my visit abroad which was taken partly for that purpose that the general financial situation of the world is not improving and that we are facing a crisis more grave than the experience behind us." In the foregoing he was a true prophet. 1931 and 1932 had been terrible years of

depressions but 1933 was a year of disaster. ←

The Johnson-Smithsonian Deep Sea Expedition actually sailed on time. The guests aboard were Dr. George D. B. Darby, son Fen's father-in-law, Mr. and Mrs. L. F. Douglass, and their daughters, Ena and Flo. On Tuesday, the 24th of January, the CAROLINE docked in Miami, Florida. Before breakfast, on the 25th she was hit with a flood of visitors. Some were friends whom the expedition members were glad to see and some were people whom they could have missed seeing with pleasure. The yacht sailed at 4:30 P. M. and anchored the next morning in Nassau harbor. Some underwater motion pictures were taken at Dr. Bartsch's request but underwater motion pictures in shallow water were "a dime a dozen." To son Fen the time spent seemed to be wasted. The expedition sailed again the next day and the first useful observations began when Lt. Townsend Brown, U. S. N., put the sonic depth finder into operation.

San Juan harbor, Puerto Rico, was entered on January 29th and the expedition received every courtesy from the doctor, the customs and the immigration. The yacht lay-to-anchor and everyone aboard was annoyed by a pest in a hydroplane propelled by an outboard motor with no muffler which circled the yacht many times. Son Fen ordered away the speed boat, brought it into the privileged position with the outboard racer on its port side and passed close across its bow that the wash swept over the outboard driven craft. There was no more trouble with outboards. On the 30th the yacht ran a few miles west of San Juan and began lowering trols, beam trols and tangles in rather shoal water. As these items of equipment were hauled up it was noticed that at every 8 to 10 feet there was what looked like the effect of pulling a kink straight, that is to say, there appeared to be places in the 3/8 inch wire rope that looked to be unstranded. The cause was a puzzle, but the symptom was a sign of trouble to come.

The expedition continued to work in daytime only and anchor for the night in the harbor until the 9th of February, when it ran to the east end of Mona Passage which divides Puerto Rico from the island of Hispaniola. Some dredging was done and the yacht put in for the night into the port of Mayaguez, Puerto Rico. On



Tangle on CAROLINE

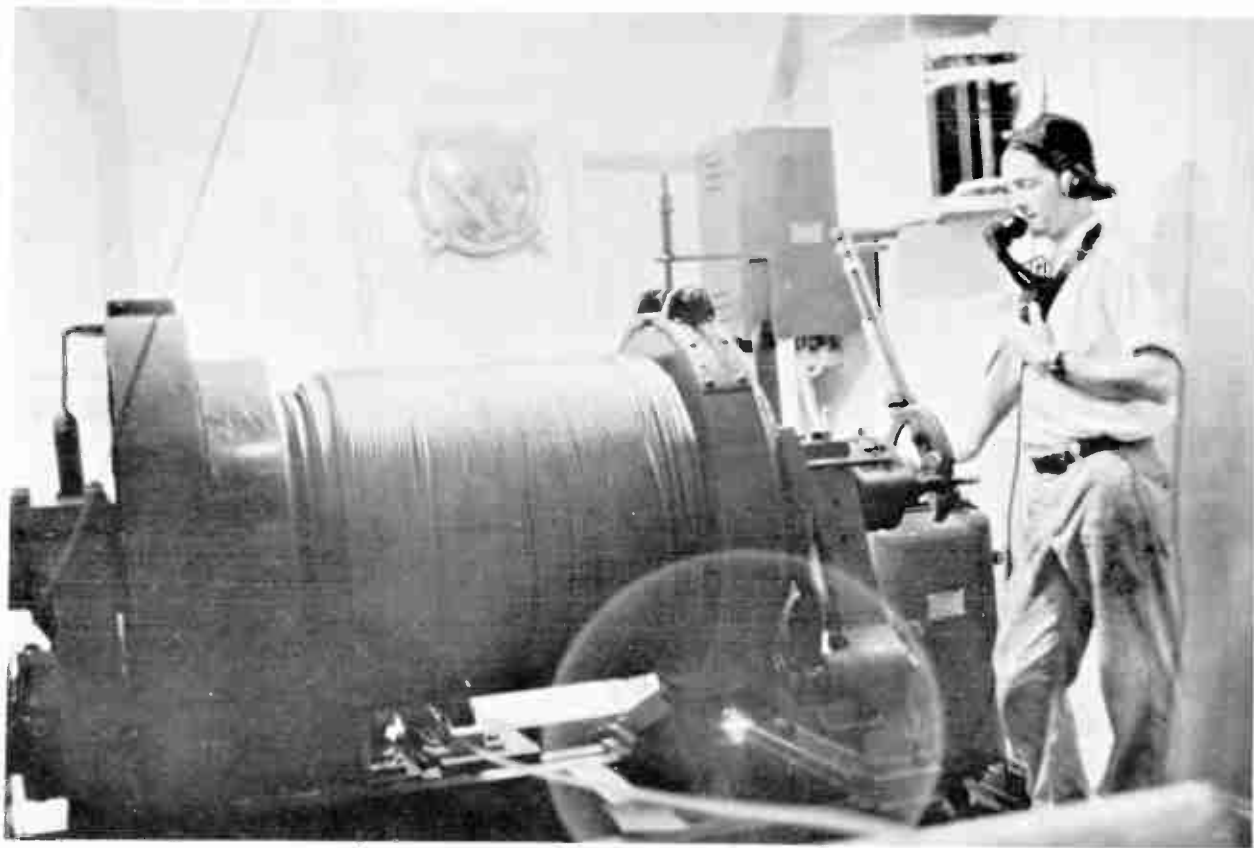
the following day the yacht was anchored in the lee of Mona Island, where she lay for the night, enabling the expedition members to go ashore on the island the next morning. The island is quite small and uninhabited. Some caves with large stalactites and stalagmites visible were seen from the anchorage but the personnel was unable to reach them. However, the scientists and even the girls were able to go ashore at another point. A few small specimens of fauna were collected. Mona Passage itself was pretty thoroughly examined with soundings and dredging. On the 14th the first sign of strain between the captain and the expedition personnel showed up. There were some mild words over a stain on the deck. There were other minor engagements between the captain and the members of the scientific staff. Finally everybody went to bed – “just one big unhappy family.” Probably the most useful result of the examination of Mona Passage was the discovery of an uncharted shoal. Of course the knowledge of the ship's position was essential to the recording of bottom data. Wilding, one of the scientists, went to the bridge and distracted the attention of the officer on watch from his duty of conning the ship just as the captain came on the bridge. Ignorance was not bliss that time. The captain laced into Wilding and son Fen had to intercede and introduce a routine.

On the 24th the scene of operations was shifted to San Juan Passage, which separates Puerto Rico from Culebra Island. From that point it was possible to reach some of the deeper parts of the Puerto Rican deep rather quickly. In that area an attempt was made to catch fish in the deeper sorts by baiting hooks with bits of sponge which had been soaked in luminous materials of various colors, but as is often the luck with fishermen, the fish would not bite so trolling was resumed with a beam troll. Apparently fish were not plentiful in that area because the troll came up full of just water. On the 28th the CAROLINE ran into the harbor of St. Thomas. During the preceding few days there had been a successful haul at 3100 fathoms, which was probably the deepest haul that had ever been made to that date. The dredge was quite small, being only one foot in diameter, but it came up pretty well filled with small fauna. Unhappily, the wire had gone slack at one

point, probably due to insufficient headway and it came up with kinks. By that time a look-out was being kept for kinks and they were lifted over the sheave, or rather the roller chock which was mounted on the tariff rail. About 200 meters had to be pulled off the winch into a heap on deck and then the wire rope had to be cut at the point where the kinks ceased. By that time the expedition was not only running out of wire rope, it was also running out of dredging gear, having lost item after item.

Just as son Fen had foreseen, the personnel began to quarrel and Dr. Bartsch was unable to maintain the necessary discipline. Son Fen was astonished when Dr. Bartsch walked up to him and said, "I cannot handle the situation. Will you take charge?" Son Fen did not want his father to be disappointed so he complied. The best way to convey what he did is to quote from a letter he wrote to his mother, "I seem to be the only one who can bring about any team work between the crew and the scientific staff. I just collar the needed talent and materials, put them all in one spot, stop the talking and they work. Once a job is under way there is no trouble. They just need assistance to stop thinking up new ideas on how to do something and start doing it. Generally there are several ways to skin a cat. Most people just can't seem to choose one for themselves. What I did was what any executive does. I listened quietly to all parties, then gave an order in polite language as to which method was to be used."

Captain Peterson was more of a prima donna and gave more trouble than any of the scientists. Son Fen gave orders to him in writing. Walter Kennedy, the engineer from son Fen's yacht, was on the expedition as winch master. Son Fen gave the captain an order to run day and night on a sounding survey of the Puerto Rican deep. Walter Kennedy told son Fen that the captain was so mad he balled up the paper, threw it on the deck and danced on it. Young Lt. Brown, who was in charge of the sonic depth sounding device, cheerfully sat and operated it for twenty-four hours straight. Son Fen, smoking big cigars and drinking black coffee, recorded the soundings called out by the lieutenant and also recorded the time, but he was not cheerful about it, distinctly not cheerful about it. Later the soundings were correlated with the



Winch and Winchmaster Kennedy

ship's position as recorded by the captain and his officers with the help of the radio direction finder, some celestial navigation and a lot of very good piloting. Piloting means keeping a record of the vessel's position by means of compass courses and distances run on each course. With a knowledge of the contour of the bottom, the work of collecting specimens became much easier. The depth soundings were later reworked by the Hydrographic Office and the Coast & Geodetic Survey published a chart.

Biological collecting was done with a variety of implements. When the bottom was too rough to stand nets a tangle was employed. It was a 6 foot length of 2 inch pipe from which frayed loops of hawser 8 feet long were suspended. With such a swab the ocean floor was swept for twenty minutes and in its tangled threads many bottom living forms were enmeshed.

When it was possible a dredge was used, consisting of a heavy iron frame with the long sides slightly flaring, from the rear end of which was suspended a net protected on the outside with a canvas sleeve. Soon it was learned that nothing larger than a 4 foot element could be employed safely on account of the roughness of the bottom. Samples of bottom mud, made up largely of the skeletons of minute creatures were preserved undisturbed.

On very rough bottom, in shoal water, it was found that the Chesapeake oyster dredge, with its linked chain bag, was very serviceable. Above smoother bottom, in intermediate depths, the 6 foot or the 9 foot reversible beam trawl which consisted of two U-shaped runners 4 inches wide and 4 feet long held apart by tubes of the desired lengths was used. To the four open ends of the loops was attached a long net with its lead line at the mouth end. The bag was kept open by a hollow glass spear suspended on the inside. Again in the intermediate depths and on fair bottom the large beam trawl of 35 foot aperture was used to good effect. In this the net is kept open by two weighted boards which are so hitched to the net and towing line that when the latter is pulled they take and keep an outward slant, thus holding the net open.

For work between the bottom and the surface a conical bobbin net 6 feet in diameter and 15 feet long mounted on a one inch steel bar formed into a 6 foot diameter ring was used. As the catch

for this device was always very light, it was used on the hydrographic line with 1200 to 1500 fathoms of line out.

The deepest bottom haul was 3200 fathoms made with a bucket dredge designed by Mr. Johnson. It consisted of a ring one foot in diameter with a hinged loop connecting the two sides, carrying the loop in the middle for the cable attachment and suspending a protected bobbin net 5 feet long.

The initial collecting was done in the shallower waters near the shore and for a time all was well with the winch. Unhappily, as more and more line was paid out the weight of the 5/32 inch wire rope without the attachment weighed about 1200 pounds and some of the attachments, plus the drag of the water, may have added as much as another 1000 pounds. When the work began in deep water the strain was so great that turns of the second and third layer of wire being on top of a number of turns of wire which had not been paid out wedged themselves between the turns which had not been paid out, thus exerting a tremendous spreading action on the flanges of the winch. After one deep haul the winch flanges simply cracked. The CAROLINE put back into San Juan harbor. As she passed through the entrance she was pursued by large swells and followed by a large steamer. The stern wave of the large steamer combined with a large swell and spanked CAROLINE on her tail. Mr. Johnson was standing by the starboard quarter with son Fen beside him. The steel hull of CAROLINE actually bent at a point about 50 feet forward of her stern. Then her stern flapped up and down like the tail of a porpoise. Mr. Johnson turned to son Fen and said, "Is this vessel seaworthy?" Son Fen said, "Yes." Actually any steel vessel will bend a little in a sea which is following or coming from forward and if hit by a big one under the stern will vibrate just as did CAROLINE II. Son Fen had reservations about the ability of CAROLINE II to survive a hurricane, especially if the gyro stabilizer cut out, but he did not think that his father would venture onto the high seas during the hurricane season or attempt a winter crossing of the North Atlantic Ocean, and he was right about that.

While the winch was being rewelded and given additional



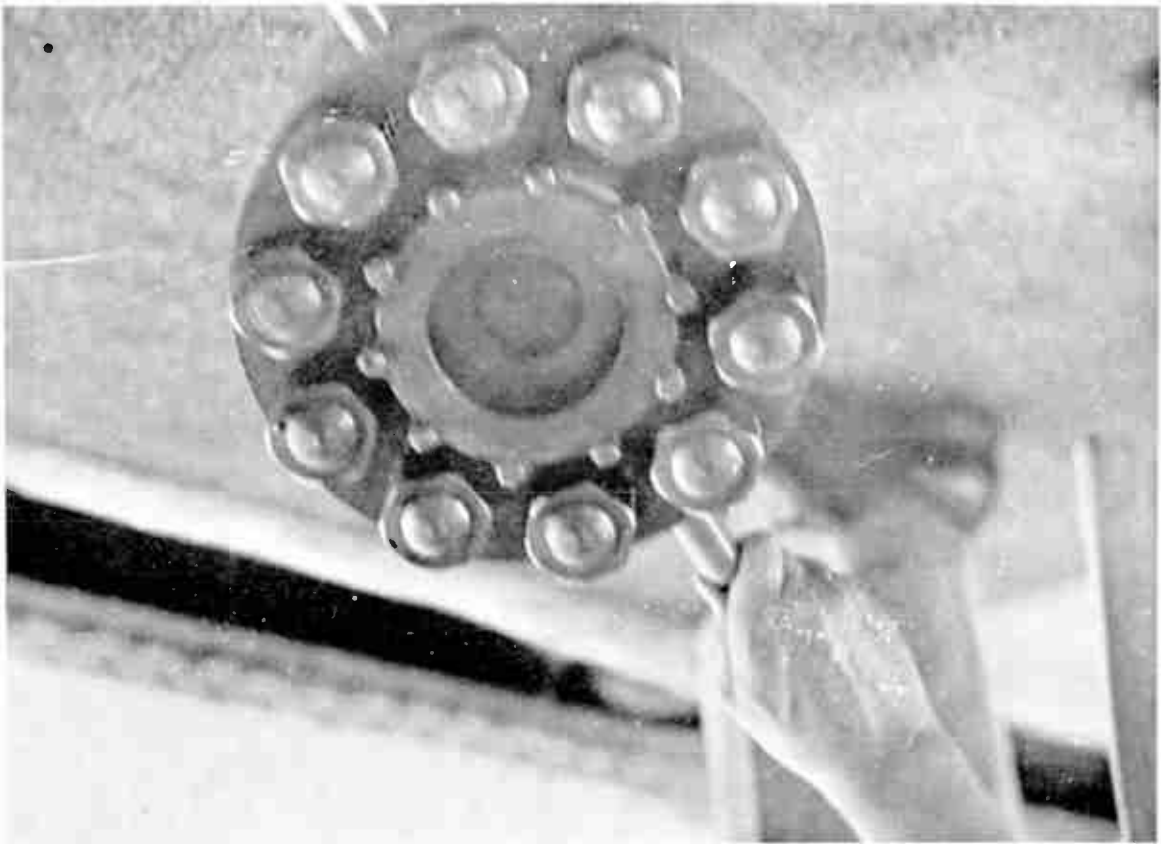
Ena and Flo Douglass in Net

bracing all hands happily went ashore and visited places to see, such as the Fortaleza. Mr. Johnson invited the governor and his lady aboard for lunch. The Douglasses made the governor's wife nervous by snapping too many pictures. Other than that the affair went off beautifully. When the winch repairs were completed the expedition returned to the Puerto Rican deep. In addition to collecting specimens from the bottom, many specimens were collected from the intermediate depths and the surface. A big shark hook was kept constantly baited and hung over the stern. A tiger shark was caught which weighed 460 pounds and gave birth to thirty-nine young, each about 2 feet in length. Of course they were born dead. The shark was almost 18 feet in length. On another occasion a tiger shark was hooked and allowed to drown in the water, which most sharks promptly do when they cannot swim and keep water flowing through their gills. Another tiger shark swam up and began to chew on a pectoral fin of the dead shark. Son Fen thought that the specimen would be damaged so he took his father's 30-30 rifle and placed a bullet through the top of the shark's head exactly between the eyes, which is the position of its small brain and the only place where it can be instantly killed. Dr. Bartsch was very upset and said, "Now you spoiled the chance of finding out if sharks will eat sharks." Son Fen did not know how Dr. Bartsch could have spent the time he had spent in the tropics at sea without knowing that a shark will eat a shark just as quickly as he will eat anything else and does not care whether the shark is dead or alive. However, he made no comment to Dr. Bartsch and no apology either.

The time came when it seemed propitious to test out the not quite completed deep sea camera designed by Mr. Murray. The design of the camera was as follows: There were two hemispheres made of forged steel with flanges with heavy bolts. Between the hemispheres there was an annealed copper gasket. By means of a big socket wrench the nuts were tightened until the copper flowed, thus forming a watertight seal. Each time the camera was used a new copper gasket had to be inserted because once the gasket was forced to flow it became too hardened to flow any more and it was not possible to place the two halves together again

in exactly the same position. In order to take pictures there was a hole in one of the hemispheres about 2 inches in diameter. An area around the hole was ground flat and then lapped. Studs were placed outside of the lapped area. A 2 inch thick piece of crystal glass was likewise lapped to a flat that was so perfect it could be rung onto the metal surface, where it would stay in position because of the air pressure and when lowered overboard because of the hydrostatic pressure. The studs around the glass were merely to prevent it being pushed off sidewise. A small hole had been drilled through the other hemisphere. A bolt was covered with a dielectric plastic sleeve and inserted in the hole. Inside and out, under the bolt head and the nut, were non-conductor washers. The nut which was on the outside was tightened until the plastic washers flowed and again formed a watertight seal. The design called for a hammer on the outside somewhat like that of a single action revolver. It was to have been cocked and released when a fish jerked on a baited hook out in front of the lens port. An electrical conductor was to have connected the insulated bolt to the hammer which was to have been insulated from the case. When the hammer fell a sharp point like a firing pin was to have pierced the paint and completed the electrical circuit which operated the camera shutter. A battery, a photographic plate holder and a lens were to have been mounted on the inside. These accessories were not completed in time for the expedition. Also, the problem of illumination was not solved, so all that the expedition actually had was a pressure resistant chamber which could be tested to find out if it would remain dry at the contemplated depths. On the 27th of February the chamber was lowered so slightly over 3.4 miles; to be exact, to a depth of 3000 fathoms. The chamber came up dry. This tempted son Fen to try a deeper lowering. Unfortunately, there was a slight error in the correction factors used for the sonic sounding. The actual depth was somewhat less than the depth reported to son Fen. The chamber struck bottom, which slacked the wire. Now it is characteristic of wire rope that when stretched by an overload it will form kinks when the wire again becomes slack. The chamber struck bottom, which slacked the wire. When the kink struck the

Johnson-Smithsonian Deep Sea Camera



sheave on the stern of CAROLINE the wire broke and approximately two miles of wire was lost. The preceding and successful lowering established a record for the lowering of a watertight chamber which was not surpassed for many years. The chamber itself now reposes, together with the wire, on the bottom of the great deep in, no doubt, the form of rust. The accident made it impossible to collect a core sample from the bottom of the deepest part of the deep and Mr. Johnson was very angry but not at son Fen. His anger was over the error that had been made in equipping the expedition with its winch. If the length of wire had not been lost with the deep sea chamber, it is very probable that it would have been lost when the coring device struck the bottom of the great deep and slacked the wire since the principle involved in the accident would be exactly the same. Mr. Johnson had not told anybody but son Fen about his thought, that there would be radium in recoverable quantities at the bottom of the great deep and after his anger subsided he consoled himself with the thought that he could try for it again on the next expedition, but that was never to be.

On Saturday, March 4th, the sonic depth sounder was again operated all day and all night but by this time son Fen had been trained as an operator so he and Lt. Brown took alternate watches. By then the expedition had accumulated a line of soundings which commenced off Anagada Island in the Virgins and ran in three parallel strips as far north as Cabo Engano, which is at the southern tip of the island of Hispaniola. On the next day soundings were continued all day and half the night and rectangle about 200 miles long which enclosed the previous line of soundings was completed along the axis of the deep. Nobody got any sleep at all because the clanging of the sounder echoed throughout the ship. The port of San Juan was reentered on the 7th. The Douglasses went ashore and stayed at a hotel, being very much exhausted, while the CAROLINE ran off shore again and did some more dredging.

On Thursday, the 9th of March, the expedition was abruptly terminated because everybody on board was in a panic about their families, fearing that the families could not even get enough



Lt. Brown Operating Sounder. Son Fen Recording (Aboard CAROLINE)

money to buy food. On the 4th of March, 1933, the expedition had received the news over the radio that there was a "Bank Holiday" but nobody, including Mr. Johnson, had quite grasped the import of this news. On the 8th it was driven home with great force because any bank in a suspicious condition was not going to be allowed to reopen until it had been thoroughly audited by the government, and in those days the depositors stood to lose everything in a bank failure. After only a few audits it became evident that a very high percentage of banks were going to remain firmly closed for some time.

Even with everybody aboard suffering severely with anxiety, the scholarly members of the expedition who were true scientists could not refrain from making just a few last dredges and taking a few last sonic soundings, but the loss of time was only a matter of a few hours. On the 14th the CAROLINE docked at the Washington Navy Yard. The expedition was met by Dr. Abbott and other Smithsonian people. Mrs. Johnson, son Fen's wife, and her mother arrived by train, and regardless of the financial panic, Mrs. Johnson had managed to hire a private car. The Admiral in charge of the Washington Navy Yard came aboard, as did Dr. Meriam of the Carnegie Institution. Despite the desire of everybody to get home in a hurry, the courtesies were not forgotten. All the visitors and all the members were entertained at a big tea aboard the CAROLINE. On the 15th of March all of the scientists, all of the guests, and all of the family departed and the expedition was formally at an end.

It is not known whether the Johnson-Smithsonian Expedition had more than its share of failures because the scientists who wrote up the reports of preceding deep sea expeditions were human enough not to mention their failures, and of course in the official Smithsonian report there was no mention of any failures. Regardless of failures and frustrations, there were many valuable results. The sounder, which was attached to the outer hull of the CAROLINE, had been checked against wire depth soundings which were taken with a single strand wire and some slight disagreement had been established. Also, it was known that the speed of sound varies with the temperature of the water and its

salinity. Therefore, the deepest spot of 4,400 fathoms had been revisited. The vessel had been brought to a stop and a special microphone had been rigged over the side. A corrected sounding had been obtained which showed that the actual deepest spot was only 3,380 fathoms. Due to the drifting of the vessel, all of the reversing thermometer readings and all of the water samples, with one exception, were decided to be too inaccurate to be acceptable and were, therefore, not placed in the record. The one exception was due to the fact that the wire was quite vertical because for once the wind was not blowing and the vessel did not drift. In all the other cases there was a considerable amount of drift which brought the wire to an angle which could not be exactly determined because the wire followed a curve instead of a straight line. Therefore, measuring the angle at the surface did not establish the exact angle of the wire. The deepest actual dredge haul was from 3,100 fathoms. Prior to the Johnson-Smithsonian Expedition there had been ninety-six soundings in the Puerto Rican deep. They, of course, were wire soundings. The total area of the deep was 18,400 square miles. The Johnson-Smithsonian Expedition took a total of 187 echo soundings, which was a very respectable showing for such a brief expedition.

The artist Cheveralenge had worked all day and sometimes half the night making water color paintings of that which was brought up from the bottom. This was necessary because the specimens changed color rapidly upon arriving at the surface. He was able to achieve a very high speed by making a sketch and just indicating the colors with spots of colors and outlining the color area in pencil. The biological specimens obtained filled some two thousand containers ranging in size from two ounce vials to sixteen gallon tanks. The material was obtained at 109 different stations, mostly below the 200 fathom depth. There is a department of science which deals with the classification of all flora and fauna. It is called taxonomy. Its devotees often spend their lives writing descriptions and drawing pictures. Shortly after the expedition ended Dr. Abbott gave Mr. Johnson the bad news that the government had cut off the Smithsonian's funds for the publication of papers. Dr. Abbott, of course, requested permission



E. R. Johnson, 1933



Mrs. E. R. Johnson, 1933

from Mr. Johnson to charge him with the publications. Not knowing actually what he was getting into, he granted permission. The papers averaged about \$2,000 apiece because the Smithsonian had a very large mailing list. With two thousand containers filled up, many of them containing numerous specimens and each specimen requiring a separate paper, provided it was new and not previously described the number of papers could have run into tens of thousands. The cost of the expedition was not supposed to exceed \$50,000 but the outpouring of papers began to roll up a cost equal to the cost of the expedition until son Fen arbitrarily cut off the production of papers by informing Dr. Abbott that no more papers would be paid for by Mr. Johnson. That happened, of course, after Mr. Johnson had again become melancholy, as described in chapter one.

By the way of comic relief, Flo Douglass made a pet out of a hermit crab which she had collected on Mona Island and named "Mona." The hermit crab went the way of all hermit crabs and in order to console Flo, Mr. Johnson arranged with Cheveralenge to paint a picture of a hermit crab. Mr. Johnson, for the only time in his life, wrote a poem.

MONA

Oh, where is my wandering crab tonight?
 Mona, my hope and my joy!
 I never found out in your brief young life
 If you were a girl or a boy.

I put you to bed with jelly and bread,
 And tucked you in nice and warm,
 But you're lost, or stolen or have wandered away,
 And I fancy you are out in the storm.

Oh, Mona my love, come back to your Flo,
 And I will forgive you the past.
 I grieve for you darling; but all will be well
 If you'll only console me at last.

The picture and the poem were duly enclosed in an envelope and sent to Flo in California, and on that light note it is time to pass onto other matters. Prior to the Johnson-Smithsonian cruise Mr. Johnson grew a mustache. Mrs. Johnson, son Fen, nephews George and Eldridge, and niece Elsie, strongly disapproved, but only his wife said anything about it. His reply was, "Permit me my small vanity" which ended the opposition then and there. No one ever again mentioned the matter excepting the newspaper publisher David Stern and what he thought nobody cared. The mustache was waxed at the ends. It was not very big and on a man the size of Mr. Johnson it looked terrible. It is unfortunate that he did not have his and his wife's portraits painted while he was still a well built handsome man and she was still a beautiful woman. Early in 1933 he employed Nokol Schattenstein to paint their portraits. Despite the fact that he was old and fat and she was emaciated, the portraits are attractive because they are so colorful. He wore his New York Yacht Club evening dress uniform and she wore a rose colored dress. As soon as the portraits were finished Mr. and Mrs. Johnson departed this country, and since the reason for their departure was not purely a matter of pleasure, it calls for an explanation.

Back in 1928 Mr. Johnson had made the biggest mistake of his life but that year being a boom year there was no public reaction. In 1928 he said to son Fen, "I have made enough money so I am going to give away all of my income." His motive was not to escape income taxes because the maximum rate in 1928 was a mere 25%. Furthermore, Mr. Johnson's mistake was not the decision to give away all of his income. His mistake was that he did it openly and personally. In that year many rich men were giving away large sums of money, but some of them, like Jack Dorrance, President of Campbell Soup Co., were wise enough to give away the money covertly. Of course, like Jack Dorrance, they had the reputation of being tight wads. When Dorrance died a nasty little joke went around Camden and Philadelphia to the effect that when his funeral cortege came up out of Jersey and crossed the bridge into Philadelphia, there was an armored car following it and someone said, "Look, Jack Dorrance is taking his

with him.”

However, in 1929 there was the stock market crash and soon many people and institutions became desperate for money. In 1930 the number of people coming to Mr. Johnson's private office in the Wilson Building in Camden suddenly increased to such an extent that he was obliged to rent room across the hall from his personal office, to erect a partition across the hall and to install a long bench extending about thirty feet to seat the seekers after money. In 1932 Mr. Johnson began to feel the strain of this situation. He rented still another room next to the room in which he had his personal desk and when he had had enough of interviews, he would slip from his office into that room and out a door which was not marked, thus gaining the elevator and escaping from the building. Soon after that people began turning up at his residence in Moorestown. The butler refused to let them in but people would stop him anywhere he went and ask him for money.

In 1928 he actually had succeeded in giving away 78.3% of his income. After the 1929 crash he was less enthusiastic about giving all of it away because it began to look to him as though the rich would not always keep getting richer. The Democratic party had begun to talk about wealth limitation, that is, the crowd who were known as New Dealers talked about it. There were many southern Democrats who were Conservatives. On the 23rd of November, 1932, Mr. Johnson wrote to Mr. Royal, "I am sailing for Europe on the BERENGARIA. I have to get away from this country. There are too many appeals for assistance. I have given away quite a little more than one-half of my income but that only seems to whet their appetites for more. It annoys me very much to have continuous appeals coming in. The worst of it is that most of these appeals are from people who really do need assistance. "When he returned from Europe he escaped the clamor by going on the Johnson-Smithsonian Deep Sea Expedition but after the expedition he returned to his office, where the long bench filled up again. Mr. Johnson could no longer stand the pressure.

In April of 1933 he ordered the captain to take CAROLINE II across the Atlantic and prepare for a cruise in the Mediterranean. He had already contacted Mr. and Mrs. Arthur Gibbs. Mrs. Gibbs

was Barbara Williams, the oldest living daughter of Trevor Williams. The young couple were only too happy to undertake the responsibility of sending out invitations for two Mediterranean cruises aboard the CAROLINE. In April Mr. and Mrs. Johnson took passage on a steamer and the steamer overtook the CAROLINE somewhere at sea in the North Atlantic so that Mr. Johnson was able to see his yacht as he sped by on the faster vessel. In Great Britain there was a large class of idle people who were only too happy to accept invitations to such a luxury as a yachting cruise in the Mediterranean.

Among the guests aboard the CAROLINE Mediterranean cruise was a Mr. Mark Lubbock, one of those who composed and conducted the British Broadcasting Company's programs. It seems that BBC did not pay very good wages. Returning home from Rome, Mr. Lubbock sat on the hard wooden seats of a third class carriage which swiftly erased all thoughts of cruising on the CAROLINE. The sole reason for mentioning Mr. Lubbock is that he joined with Barbara Gibbs in composing a poem which described both cruises of the CAROLINE. Then, too, there was a theme song entitled "Cruisin" which was a faithful representation of the life habits and peculiarities of the guests aboard. The theme song impressed Barbara Gibbs, who had influence with the Electrical Musical and Shares Co. Ltd., the successor to the Gramophone Co. Much to Mark Lubbock's surprise, he suddenly found himself ordered to the recording room of that firm. Mark, long, lanky and affable, did his best to sing. His best was not very good. Nevertheless, the song was put on wax and fifty copies were made.

Cruise No. 1 began at Cannes, made a stop at Ajaccio on the island of Corsica, then slipping between Corsica and Sardinia, ran south to Tunis, where the old ruins of the city of Carthage were visited. The cruise then back-tracked to Cannes for some reason not recorded, then went to Messina on the toe of the Italian boot, passed through the strait between Italy and Sicily and cruised around a little among the southernmost Greek islands. Next, cruising toward the northeast, CAROLINE II passed through the famous strait called the Dardanelles and visited Istanbul. There the

ship put about and retraced its course to the Greek islands, made a stop at Athens and Delphi, then cruised leisurely along the northeastern shore of the Adriatic, ending the cruise at Venice.

The June cruise was a short one. The yacht actually put into such Yugoslav communist ports as Zara, Split, Dubrovnic and Kotor. The commissars must have had a grand time pointing to the yacht and telling the people how a few Americans had all the money. Then passing between the island of Corfu and the mainland, it again passed through the strait of Messina and ended at Naples. Nephew George and niece Elsie had the good fortune to be among the guests on that last cruise.

There is a photograph of Mr. Johnson on his quarter deck, wearing his yachting uniform. The boy who had wanted to be a gentleman had become a very fine gentleman indeed, so there on his quarter deck is where we shall leave him.



E. R. Johnson in Main Saloon Aboard CAROLINE

LIST OF PATENTS ISSUED

Wire Stitching Machine	Apr. 25, 1893 ...	496,314
Stapling Machine	Jan. 25, 1898 ...	597,773
Gramophone and Actuating Device Therefor	Mar. 22, 1898 ...	601,198
Sound Recording and Reproducing Machine	Oct. 17, 1899 ...	634,944
Sound Recording and Reproducing Machine	June 5, 1900 ...	650,843
Gramophone	June 5, 1900 ...	651,076
Sound Recording and Reproducing Machine	Aug. 7, 1900 ...	655,556
Sound Recording and Reproducing Machine	Aug. 7, 1900 ...	655,557
Sound Recording and Reproducing Device	May 28, 1901 ...	675,331
Sound Recording and Reproducing Device	May 28, 1901 ...	675,332
Sound Box for Talking Machines	Aug. 6, 1901 ...	679,896
Machine for Leading Sound Records	Sept. 3, 1901 ...	681,918
— Spring Motor	Dec. 31, 1901 ...	689,884
— Governor for Spring Motors	Dec. 31, 1901 ...	689,885
Gramophone Brake	May 27, 1902 ...	700,937
Sound Recording and Reproducing Device	July 8, 1902 ...	704,047
— Hand Motor for Toy Gramophones	Apr. 14, 1903 ...	725,343
Sound Record	Sept. 22, 1903 ...	739,318
Sound Record for Talking Machines	Sept. 22, 1903 ...	739,421
Turntable for Talking Machines	Oct. 13, 1903 ...	741,247
Sound Recording Machine	Oct. 13, 1903 ...	741,500
Sound Recording Machine	Oct. 13, 1903 ...	741,501
Reproducer Support for Gramophones	Oct. 27, 1903 ...	742,666
— Speed Governor for Motors	Feb. 2, 1901 ...	750,858
Removable Turntable for Sound Recording Machines ...	Feb. 23, 1904 ...	752,682
Sound Box for Talking Machines	Mar. 1, 1904 ...	753,274
Cabinet for Talking Machines	Nov. 8, 1904 ...	774,453
Turntable for Talking Machines	Dec. 27, 1904 ...	778,492
Cutting Tool for Sound Recording Machines	Jan. 3, 1905 ...	778,975
Method for Affixing Tablets to Sound Records	Jan. 3, 1905 ...	778,976
Sound Recording and Reproducing Machine	Jan. 31, 1905 ...	781,429
Talking Machine	Mar. 21, 1905 ...	785,362
Talking Machine	Mar. 21, 1905 ...	785,363
— Motor for Talking Machines	Mar. 6, 1906 ...	814,047
Talking Machine	Mar. 13, 1906 ...	814,786
Amplifying Horn	Mar. 13, 1906 ...	814,848
Sound Box for Talking Machines	Aug. 11, 1906 ...	828,551
Talking Machine	June 11, 1907 ...	856,704
Sound Box for Talking Machines	Sept. 3, 1907 ...	865,105
Record for Talking Machines	May 19, 1908 ...	888,089
Record for Talking Machines	Aug. 11, 1908 ...	896,059
Talking Machine	Jan. 11, 1910 ...	946,442
Sound Box for Talking Machines	Mar. 6, 1910 ...	951,127
Sound Conveying Device for Talking Machines	Jan. 23, 1912 ...	1,015,321
Record for Talking Machines	Feb. 6, 1912 ...	1,016,271
— Motor for Talking Machines	Mar. 12, 1912 ...	1,020,206
Talking Machine	July 30, 1912 ...	1,034,015
Sound Box for Talking Machines	Oct. 22, 1912 ...	1,041,799
Talking Machine	Apr. 29, 1913 ...	1,060,550
Talking Machine	July 29, 1913 ...	1,068,591

TO E. R. JOHNSON (as of Jan. 18, 1927)

Sound Conveying Tube for Talking Machines	Aug. 26, 1913 ...	1,071,055
Sound Box	Nov. 24, 1914 ...	1,118,348
Sound Box Diaphragm	Apr. 25, 1916 ...	1,180,401
Cutter for Sound Reproducing Styli	June 12, 1917 ...	1,229,169
Tone modulating Device for Talking Machines	June 26, 1917 ...	1,231,370
Talking Machine	Aug. 7, 1917 ...	1,235,695
Sound Box for Sound Recording and Reproducing Machines	Sept. 21, 1920 ...	1,353,479
Talking Machine	May 24, 1921 ...	1,379,345

RE-ISSUED PATENTS

Reproducer Support for Gramophones	Apr. 26, 1904 ...	12,213
Talking Machine	Jan. 4, 1910 ...	13,069

JOINT INVENTIONS

Sound Recording and Reproducing Machine (Clark & Johnson)	May 9, 1899 ...	624,625
Talking Machine (Johnson & Moore)	Oct. 25, 1904 ...	773,290
Talking Machine (Johnson & English)	Jan. 23, 1912 ...	1,015,322
Talking Machine (Johnson & English)	Sept. 9, 1913 ...	1,072,851
Talking Machine (Johnson & English)	Oct. 7, 1913 ...	1,075,288
Talking Machine (Johnson & Dennison)	July 13, 1915 ...	1,146,260
Talking Machine (Johnson & English)	Dec. 28, 1915 ...	1,165,414
Switch (Johnson & Murray)	Sept. 5, 1916 ...	1,197,497
Talking Machine (Johnson & English)	Feb. 27, 1917 ...	1,217,869

DESIGN PATENTS

Design for Talking Machine Cabinet	Jan. 3, 1905 ...	37,284
Design for a Cabinet for Talking Machines	May 4, 1909 ...	39,971
Design for Cabinet for Talking Machines	May 4, 1909 ...	39,973
Design for Cabinet for Talking Machines	May 4, 1909 ...	39,973
Design for Cabinet for Talking Machines	May 4, 1909 ...	39,974
Design for Cabinet for Talking Machines	May 27, 1913 ...	44,105
Design for Cabinet for Talking Machines (Johnson & Kieffer)	June 1, 1915 ...	4,747,398

