

# *Lancaster's Part In The World's Watchmaking Industry*

By JOHN J. BOWMAN

The importance of timekeeping to all of us, and the fact that our city, for nearly three-quarters of a century, has been an important center of the American watchmaking industry, together make the subject of this paper deserving of the attention of the Lancaster County Historical Society; and my appreciation is due you, my fellow members of the Society, for giving me the congenial task of preparing the story and telling it at this meeting.

But before focussing on Lancaster's own part in the history, we may get a better perspective of this, by looking for a little while toward its entire American and its world-wide backgrounds.

Nowadays, the wearing of watches is practically universal. Without accurate timepieces, it would be impossible to carry on the mighty operations of modern industry, and transportation, and communications. Imagine the chaos in all of our lives that would result from a breakdown of even a half of the watches now being carried, or from any serious shortage in the supply of them! So Lancaster's citizens should not fall short of understanding and appreciating their own community's part in the work of providing the world with highly accurate timepieces. This local story shall be brought to the front after we have considered some related events and personalities, of other times and places.

Not only should we think of the importance of the watchmakers' work toward the management of our daily comings and goings, but its place, too, in the evolution of industry and science, even in the history of civilization itself. Many are unaware of the part played by watchmakers as inventors, in the very creation of the modern industrial system. While everyone knows that be-

fore Henry Ford became a revolutionizer of big industry and transportation, he began his career as a watchmaker—they may need to be reminded that the inventions of the steam engine, the steam locomotive, the steamship, the sewing machine and the linotype, are among the many credited to men who had the mechanical training and technical education of watchmakers. Think of the debt that humanity owes these men, for so much of its freedom from painful physical drudgery, and for comforts whereby the “commoner” of today lives certainly better than any of the kings of old!

Nor is it only in the field of mechanics applied to practical uses that the world owes so much to the watchmaker. When in the sixteenth and seventeenth centuries, the dawn of modern science in astronomy and physics first called for accurate time-keeping, the call was answered by the inventions and superb workmanship of men like Thomas Tompion and George Graham in England, whose achievements were so honored that these two watchmakers were given burial in Westminster Abbey, in company with the kings, the philosophers and poets, and the naval and military heroes of the British Empire.

### **Beaumarchais, Watchmaker and Maker of History**

Another watchmaker whose life should be better known to all Americans, was the Frenchman, Pierre Caron de Beaumarchais, who was a key actor in world history and in one of its most stupendous events—the accomplishment of our independence, to become the United States of America. Competent opinion has it that Beaumarchais more than any other man secured the help of France for the American colonies in the Revolutionary War. Without that help, can it be imagined by any who know the economic conditions here during that war, that Washington’s lean armies could have kept the field for the seven years before Britain gave up the struggle? The idea that France might reduce English sea-power, safeguard her West Indian possessions, and get revenge for the British conquest of Canada, by supporting the growing movement in the American colonies for separation from England, was not only original with Beaumarchais, but his influence at the court of Louis XVI was so great that he was able to promote his idea to become French government policy, even against opposition by the majority of Louis’ ministers and courtiers who, born to privilege and power as the hereditary nobility, almost to a man

politely hated Beaumarchais and all his works as a man who, although in origin a mechanic and the son of a mechanic, had gradually eclipsed them all in real power at the court, by his sheer personal abilities of many kinds. For not only did this watchmaker early become a master of court intrigue, politics and diplomacy, maintaining his place by continual duels with tongue, pen and even sword with aristocrat opponents; but amid all this he was writing plays that were influencing the onset of the revolution in France against hereditary privilege; plays so skillfully written that they were applauded even by some of the nobility, who were not keen enough to see in them a subtle undermining of their own political and social positions. His comedies, "Barber of Seville," and "Marriage of Figaro," set to the music of Mozart and Rossini, have lived more than a century and a half, to be still sung in our own day.

Actually before our Declaration of Independence, Beaumarchais secured commitment of the French government to his American policy; and added his own fortune to secretly given government funds to send three shiploads of supplies to America, ostensibly as a private commercial transaction. His fleet for this use eventually reached the number of forty vessels, by which time French aid had become openly acknowledged by the treaty negotiated by Benjamin Franklin in 1778. Franklin's arrival on his mission to France in December, 1776, was nearly two years after Beaumarchais began his campaign there for intervention, and several months after Beaumarchais' first three ships passed the British blockade and landed here.

The reason why Franklin's achievements are fully credited and Beaumarchais' generally unknown here, in connection with French aid, is complex. Beaumarchais' earlier moves had to be kept a state secret, because France and England were not then at war. Later on, Arthur Lee, an American commissioner in France, a vain man and a typical bureaucrat, schemed with friends in the Continental Congress to have it put on record that credit for French help was due him alone, and no repayment expected. After the war, when Beaumarchais claimed repayment of the amount of money he had advanced personally for the earlier shipments, the Congress records inspired by Lee for his own personal glory, were used to dispute the claims. After Beaumarchais' death in 1799,

his heirs continued the claims, which were finally compromised about fifty years after their origin.

Think of the difficulties the French claimants were in, trying to collect moneys not only from a country then financially very poor, but for debts of which no clear record dared be made when incurred, let alone Arthur Lee's misrepresentations in the Continental Congress records! Quite understandably, the American attorneys took full advantage of such records, in denying the Beaumarchais claims.

And it is equally understandable that our early American historians would unfortunately but naturally look upon Beaumarchais as an adventurer with faked claims, rather than as a friend of our country. They probably thought that the kindest thing they could do was to ignore Beaumarchais in their writings. In some of Benjamin Franklin's *private* correspondence, that was published long after his death, he acknowledges clearly the position that Beaumarchais rightfully deserves. But how few would happen to read this? So the man who might have been in our American legend a hero like the Lafayette who came to us in one of Beaumarchais' own ships, is to most of us a nonentity. What led me to study the life of this astounding man, was an address given by the Hon. James M. Beck, Solicitor General of the United States in President Coolidge's administration, at Lititz, Pa., about twenty years ago. Mr. Beck was a Lancaster Countian, a native of Lititz, and a first cousin of our Society's President, Dr. Herbert H. Beck. His familiarity with records of the United States Court of Claims (in which by the way there is litigation still pending with estates connected with our Revolutionary and 1812 and Mexican wars) made him familiar with the Beaumarchais case, which was the topic of his Lititz address. Not only my interest in United States history but also the fact that Beaumarchais had been a watchmaker, my own craft, led me then to collect and read all I could find to throw more light on his life. I am tempted to close this about Beaumarchais with a story that illustrates the quick wit that he often used to confound his opponents, French aristocrats, who of course did all they could to discredit this one-time artisan, whose birthright was an ambitious power of intellect, rather than inherited privilege. A noble courtier planned with a group of others to humiliate Beaumarchais at a great reception at the

palace of Louis XVI. The idea was to stage conspicuously a reminder of their rival's mechanic origin—looked upon then, in that French high society, as something so humble as to be shameful. This Duke's proudest possession was a magnificent watch with its case covered with large set diamonds and other precious gems of extravagant value. It was contrived that at a certain time, Beaumarchais and the Duke should be surrounded by "the right people." Then the Duke took out his watch, looked down his nose at Beaumarchais and said, "Eh—I understand you are a watchmaker; here is my watch, stopped; will you be good enough to take it and get it going again, for me?" Beaumarchais took the watch, turned it around in his hand, pretending to examine it; then let it slip through his fingers to the marble floor, where some of the finest gems in the case were smashed to ruin. Then Beaumarchais looked down his nose at the Duke and said: "Sorry; it has been so long since I've worked at my craft, that it seems I've grown clumsy!"

### **The Beginning of Watchmaking**

A survey of the history of watchmaking in the worldwide sense shows the craft having its beginning in Nurnberg, Germany, shortly after 1500, with Peter Henlein, a locksmith, being the first to use a coiled steel spring, instead of weights, to be wound up for motive power for a timepiece mechanism. Soon after this, the craft appeared in France; later in Switzerland, then in England. In Germany, the disorders incidental to the Thirty Years' War, 1618 to 1648, broke up the industry, which never revived there to become of any importance in world-trade. In fact, England and Switzerland were the only countries that ever became great exporters of watches prior to the existence of American watchmaking on a large scale, which grew from the starting of a factory at Roxbury, Massachusetts, in 1850, that moved to Waltham four years later. This brings us to the American background for the story of watchmaking at Lancaster, Pennsylvania.

Self-supporting personal enterprise alone created the American system for manufacturing watches. Its story is too intricate and widespread to be briefly told, concerning all of the sixty and more firms that had careers of greater or less length from 1850 to to-day. But an example of one of them and its progeny may be told, because in two of these, first appear three men later prominent in the earlier days of the Hamilton Watch Company; as well

as to illustrate the amazingly tangled, swift-moving nature of all of our American watchmaking history. The case of the Mozart Watch Co. of Providence, Rhode Island, and five others that sprouted from its seed in other places, is typical of most of the American watchmaking enterprises.

Don J. Mozart invented first a clock meant to run a year with each winding, and started a factory to make it at Bristol, Connecticut, in 1860, which failed for reasons not of record. Next he invented a watch with only three wheels, which looked like a money-making opportunity to enough investors to build a factory for the business at Providence, R. I., in 1864. But the three-wheeled watches proved technically a failure, followed of course by a business failure, and the reorganization of the firm to form the New York Watch Co.; the engagement of L. W. Cushing of the Waltham factory to design a new watch and to build machinery to make it; and the moving of the plant to Springfield, Massachusetts. Against his vigorous opposition, Mozart was made to quit as superintendent, and went to Ann Arbor, Michigan, where he organized another Mozart Watch Co., which struggled on for four years. This concern, too, became bankrupt. Its plant was sold to a group of investors at Rock Island, Illinois, who moved it to Milan, Illinois, and started the Rock Island Watch Co. there. Frank Leman was persuaded to leave the Elgin, Illinois, factory to become superintendent, with a staff of other Elgin technical men. Mozart here disappears from the watchmaking scene. He was an example of a familiar type—a man of great mechanical ingenuity, but lacking in engineering ability and business sense. A stockholder of his Ann Arbor company had engraved on a watch: "Made at a cost of \$2500 for me by Mozart Watch Co. #7."

In the Rock Island Watch Co., differences soon arose among the stockholders and management about business policies, that resulted in factional litigation and caused the abandonment of the enterprise shortly before the plant would have been ready for production. The machinery was sold again to a hopeful group of citizens of Freeport, Illinois, who organized the Freeport Watch Manufacturing Co., built a factory and moved the Rock Island machinery into it. When the wheels were almost ready to begin turning, a fire destroyed the building and machinery. Insurance covered so little of the loss that the stockholders voted to quit.

But another scion of the original Mozart Watch Co. was still living, at Springfield, Massachusetts, where it had been moved from Providence, R. I., in 1867, shortly after Don Mozart was persuaded to quit as its superintendent. This was the New York Watch Co. The grit of its stockholders had a test shortly after its first watches were finished; a fire destroyed the buildings and most of the machinery just when the company was ready to begin to market product. The investors put in new money to rebuild everything on a larger scale than originally. In 1871, this second venture of the New York Watch Co. reached the point of having its watches actually on sale, being the first of the six firms of Mozart ancestry to get that far toward business success. For several years its operations were moderately profitable to the investors. Now entered its service two men whose many years of friendship and successful teamwork was a notably fine personal episode in the watch industry. John C. Perry became General Manager, and Henry J. Cain, Manufacturing Superintendent. The abilities of these men seemed to be supplemental, and they worked happily together, in a way not very often seen in the rivalries and shop-politics of factory life in any field. The ability of Cain in designing and making watches, and of Perry in selling them and managing factory personnel and purse-strings, had I think much to do with the initial success of our own Hamilton Watch Company, which was under their management during its earlier years. This same two-man team was in harness at the Springfield, Massachusetts, factory, between its fire disaster and the calamitous nation-wide business depression that closed the factory in 1875. But again the community ventured funds for a reorganization, this time as the New York Watch *Manufacturing* Company, which reopened the plant, to give local people employment, and to fill their vaults with watches to sell after the hoped-for end of the depression. After a year of production almost without sales, the factory had to close once more. But the faith and courage of local investors held good, and once more they came forward with subscriptions to form the Hampden Watch Company, and the factory was reopened. Before long came a nation-wide business revival, and the Springfield investors were rewarded then by many years of prosperity for their watchmaking industry. In this Hampden company, first appears in 1877 the name of Charles D. Rood of

Springfield, Massachusetts, as its Treasurer and Business Manager, later its President; and who in 1892 became a member of the original Board of Directors of the Hamilton Watch Company, and who was President of the Hamilton Company from 1894 to 1896, and again from 1900 to 1910.

Meanwhile, one of the most picturesque and stormy characters ever in the watch industry, John C. Dueber, had built up a successful watch case manufacturing business at Newport, Kentucky. By 1886, he had bought in enough of the capital stock of the Hampden Watch Company to hold a controlling interest. Then he disclosed his plan, to build new factories in Canton, Ohio, in which to house together his watch-case plant from Newport, Kentucky, and the Hampden watch-movement plant from Springfield, Massachusetts. In 1888, the merged businesses were incorporated as The Dueber-Hampden Watch Company, which grew to be one of the largest in America. After John C. Dueber's death, the plant but not the real estate was sold in 1925 to a group of investors of Cleveland, Ohio, who operated it until 1927, when the corporation went into receivership and discontinued operation. In 1930 the machinery was sold to the Russian government and shipped, in charge of twenty-three foremen and toolmakers of the former Dueber-Hampden factory, to be set up as the present state-owned watch industry of Russia. Checkered histories like the above would be the stories of dozens of other American watchmaking enterprises. After the pioneer one at Waltham had passed through its first ten heartbreaking years, and showed that the industry had profit possibilities, there was a remarkable spread of similar enterprises all over the country, the first successful one at Elgin.

### **Adams, "The Great American Starter"**

Here appears a man seemingly born for the times, John C. Adams, who became known in time as "The Great American Starter;" a promoter and organizer, who seems to have been the very embodiment of the spirit of American enterprise in the lusty days following the close of the Civil War, when self-reliant, creative individualism spread railroads, farms and factories beyond our frontiers at a marvelous pace; when Greeley's "Go West, Young Man!" was a watchword that thrilled not only youth, but people of riper years as well. Adams lived in Chicago and became convinced that the success that had been achieved by the middle 'sixties at



Waltham could be duplicated elsewhere. So he not only sold enough in shares of stock to Chicagoans to build and equip the Elgin, Illinois, watch factory, but went to Waltham and persuaded a group of technical men there to move to Elgin to plan and build the plant and then operate it. That company was a business success right from its start in 1867, and is now the largest factory making jeweled watches in the entire world. J. C. Adams was the promoter of six watch companies in all, that were spread over the country from Pennsylvania to California, among them the first one here in Lancaster, the Adams & Perry Watch Manufacturing Co., which was the first company of his promotion in which his own name appears. Its building formed the nucleus of the present great structure that houses the Hamilton Watch Company.

### **American vs. Swiss Watch Industry**

At this point, before taking up fully our local history, I think it important to say a little about the competitive relation, now and in the past, between the Swiss and the American watch industries. Switzerland's is, in point of magnitude, the greatest in the world; more than a thousand watch factories, of all types and sizes, produce watches there for all countries, including many for the U. S. A., especially since the war began, when our watch factories turned almost exclusively to making many things for the army and navy, sacrificing for the time their normal civilian business. But what about in normal times; does the relative immensity of the Swiss industry now, or did it ever, argue some intrinsic superiority in Swiss methods or product? That this is not so can be proved by the record of an intensely dramatic meeting of representatives of the Swiss watch factories, at the Primary College of LaChaux de Fonds, on November 14, 1876. There Monsieur M. Favre-Perret, a member of the International Jury on Watches at the Centennial Exhibition at Philadelphia that year, reported on what he had seen of the then new watchmaking industry in the U. S. A., and of its product.

By 1850 Switzerland had achieved the topmost place in watchmaking in the world. She naturally took scant notice of the infant Waltham industry born that year, nor of its frail growth during the following ten years. Switzerland's watch exports to the United States had increased heavily annually until 1872, and there seemed no reason for her to fear competition from anywhere. Thus

the situation, when Favre-Perret shattered her complacency at the meeting at La Chaux de Fonds. The following quotations from his very long address tell the story of American leadership unquestionably:

*"We have heard here in Switzerland of an American competition, without believing it. The skeptics denied the possibility of a competition so rapid and important. Today, we are FORCED to believe. I have seen the American factories, and their power. Today, we must prepare to struggle with the Americans on the fields where hitherto we have been the masters. I confess I have doubted that competition. But now I have seen it, and am terrified by the danger to our industry . . . . We must organize to reconquer the lost ground. . . . Had the Philadelphia exhibition taken place five years later, we should have been totally annihilated without knowing how we received the terrible blow."*

Favre-Perret then told of carrying an American-made watch, and turning it and its rate-record over for inspection to a noted Swiss technician, who reported: *"I am completely overwhelmed; the result is incredible. One would not find such a watch among fifty thousand of our manufacture."* Switzerland's watchmakers awoke to this historic alarm, and sent men here to study the American system, which they adapted to their manufacture of commercial grade watches; so their industry survived and grew. Although the Swiss never resumed their domination of the American market, their intelligent merging of American methods with Swiss conditions otherwise, which include much lower labor costs, has made the Swiss the leading suppliers of watches for the rest of the world, and still an important factor in our own domestic trade.

Europeans formerly were in the habit of criticizing Americans for boastfulness about our achievements. While the spread-eagleism of old times, as in Fourth of July orations, is out of fashion now, haven't we swung too much toward the opposite extreme to-day? There is surely nothing wrong with national self-esteem insofar as it is supported by the truths of history. In the field of watchmaking, we have reason to be proud of the truth established in the foregoing, that Americans created the modern system for manufacturing watches. Later in this history we shall see another reason to honor an American firm, the Hamilton Watch Company, for an epochal achievement in revolutionizing the manufac-

ture and improving the quality of the timepieces called chronometers, for the navigation of ships at sea.

Now I must choose the places in this chronicle to tell about the various watchmaking and closely related enterprises that had their homes in Lancaster. Since the most important of them all is the Hamilton Watch Company, to avoid anti-climax, its story should be the last one told, beginning that one then with mention of the—believe it or not—five successive corporations formed here during twelve years that were predecessors of the Hamilton Company, and that operated on its present site. And so, to the others.

The earliest horological industry in Lancaster was making long case or grandfather clocks. Its history is well told in one of the publications of our Historical Society, "Grandfathers' Clocks: Their Making and Their Makers in Lancaster County," by the late David F. Magee, Esq. The Hoffs, Shreiners, Ebermans and others were famous in their day, and made Lancaster a center of not only superior clockmaking, but also for apprentice-training of workmen who went far and wide as journeymen and established the industry in many towns in the west and south, before the Connecticut-made shelf-clocks had pushed long-case clocks out of market between 1840 and 1850. As far as I have been able to find, there is no personal connection between this Lancaster clockmaking and the watchmaking period that began a quarter-century after the making of clocks here had practically ceased; so no more need be said about it in this story of watchmaking in Lancaster.

#### **Ezra F. Bowman, Pioneering Genius**

To speak of my father, Ezra F. Bowman, first, in the pre-Hamilton part of this history is consistent with its chronology, because he was connected with the earliest of the Lancaster watch factories, having worked there on the model of the first watch made by the Adams & Perry Watch Manufacturing Company; then he manufactured the Bowman watch in his own shop; next he engaged in improving and making watchmakers' tools which had world-wide adoption on their merits; and finally founded the Bowman Technical School for teaching watchmaking, which is now in its 58th year. For the school's fiftieth anniversary, it was favored with some notes on its history by the late Dr. Daniel W. Hering, past Dean of the Graduate Faculty of New York University, who was interested in the history of vocational education, and in horology.

I will take advantage of this and make some quotations concerning the history of the Bowman watchmakers' school. Among other things, Dr. Hering wrote: "A brief glance at the state of education in America fifty years ago brings into strong-relief the significance of Bowman Technical School. It was in this period that nearly all the achievements of which we boast to-day had their beginning; that means that it was distinctly a period of initiative. Universities and colleges were then enclosed in a lethargic envelope of conservatism that would not have been pierced, but for certain far-sighted men of vision who here and there appeared . . . . on the list should be placed the name of Ezra Bowman, with his conviction that society and the individual would benefit if his trade could be given the character and dignity of an art.

"So the story of the founding of Bowman Technical School is of interest far broader than just to the craft served by horological schools to-day. The fact that this school has served humankind for over a half-century by training more than three thousand young men for careers of usefulness and leadership, in work of vital necessity to civilization, is important. And the way in which Ezra Bowman secured training for his own mastery of the watchmaker's craft is part of the whole history of pioneer vocational education in America.

"As early as 1867, Ezra Bowman's father pre-visionsed the modern use of schools for vocational education. He conceived that the apprenticeship system then prevailing was wasteful instead of economical. His keen analysis was that in seven years' apprenticeship, only about two years could be credited to actual instruction; that the balance of five years of a boy's routine labor was too high a price to pay for two years' instruction; that to pay a thousand dollars or more for two years' instruction and living, instead of paying seven years' labor, would *gain* five years of journeymen wage-earning ability, that would amount to several times the money paid for tuition and living.

"So the elder Bowman cut loose from the apprenticeship tradition of centuries, and in 1868 contracted with a European master watchmaker to teach his son on the plan he had conceived as an improvement on the older system. It was the experience of the efficiency of this method of his own training that was the seed which later grew into Bowman's establishment of the school that bears his name today. . . . .

“The Fiftieth Anniversary of a school seems to call for a review of its accomplishments; but for brevity’s sake, I shall mention only what seems most noteworthy. The outstanding thing is of course that over three thousand persons have, through their training at Bowman Technical School achieved a high average of success in their chosen vocation. Among these are many of the leaders in the business and technical fields of horology to-day. Their influence no doubt exceeds even what might be measured by their numbers, because of their missionary spirit, of masters who love their work as well as earn bread by it. . . .

“A useful vocation needs no apology. What it needs is well-rounded ability—knowledge and skill—of those pursuing it. Ezra Bowman brilliantly verified his idea in connection with one vocation. His principles could surely be applied to others. A mechanic with well-rounded ability is much more to be admired than an indifferent doctor or preacher, and is much harder to find; but Ezra Bowman has blazed a trail to his kind, as plain as any that were opened by the pathfinders of the woods—the pioneers of other days. This pioneer has done his work, and has done it well.”

Ezra Bowman’s children knew him as a Christian gentleman; they saw him sorely tried by hurt from others without abandoning his own principles or his faith in humanity.

My father was what I may venture to call a realistic idealist. He loved to see excellent work of any kind; and loved to see excellence succeed in practical ways; he was not an impractical dreamer, but a willing contributor to what had a fair chance for practical success. Later on will be told how he figured in an example of extraordinary employer-employee relations, when he was working for the first of the Lancaster watch companies, and contributed and lost his wages to try to help the business, in its final attempt to stretch its funds to keep going. What a story for these days!

But that earliest of the Lancaster watchmaking enterprises, the Adams & Perry company, had to go into receivership on June 10, 1876; and as months passed by without a reopening, Ezra Bowman opened a retail watch and clock business at 106 East King Street, in 1877. There, in 1879, he began manufacturing the Bowman watch. He told me that part of his motive was to show that as fine watches could be made in America as abroad; and some

of his watches, now in the Smithsonian and other collections, are evidence that he did accomplish that aim; their workmanship in many respects is superior to that of the other American-made watches of the same period. This early watchmaking part of his business did gratify his love for fine work in his craft; but after completing fifty movements, which were sold for \$125 each, he found that he had put more into making the watches than he sold them for; and as his business was expanding largely into the wholesaling of watches of American and imported makes, and of watchmakers and jewelers tools, some of his own invention and manufacture, he sold the watch manufacturing plant to J. C. Stevens, at Atlanta, Georgia, in 1882. But his continued desire to promote high craft-standards for watchmakers, led him to found the Bowman Technical School, with that aim, in 1887. When he died in 1901, the school and his other activities were housed at 32 and 34 East Chestnut Street. Then his sons succeeded him, John J. Bowman as Director of the school, and Charles Ezra Bowman in charge of the mercantile business. In 1912, the Bowman brothers bought the site at the southeast corner of Duke and Chestnut streets, on which was standing the house that was the home of Henry E. Slaymaker, Postmaster of Lancaster from 1886 to 1889. That house had been built in 1849, by Jacob Albright, and was his home when he was Mayor of Lancaster in 1855. On the site, the present Bowman Building was built in 1912-'13. Into it were moved the Bowman Technical School on the second and third floors, and on the ground floor the retail watch and jewelry business of Ezra F. Bowman's Sons, which is now serving the people of Lancaster and many distant places, in the sixty-eighth year from the establishment of the business by Ezra Bowman. The north wall of the Bowman building rests on the foundations that were built for the home of Lancaster's Mayor Jacob Albright, nearly a century ago.

### **The Dudley Company**

An ambitious effort to establish a watch factory in Lancaster, apart from the Hamilton Watch Company and its forerunners, was the Dudley Watch Company. Mr. W. W. Dudley had been Superintendent of the Hamilton factory, and somewhere around 1920 conceived the idea that a watch that he designed, with the *movement bridges and cocks in the form of Masonic symbols, could*

be sold in great numbers to members of the Masonic fraternity. He left the Hamilton Company's employ, and started making watches on a very limited scale. Soon, however, he succeeded in interesting some business men in the possibilities of his idea, and after a vigorous stock-selling campaign in 1922, the stockholders met about the middle of February, 1923, and elected as their board of directors W. W. Dudley, John D. Wood, George W. Adams, A. J. Dudley, Charles J. Lebzelter, G. R. Miles, R. T. Norment, J. Wade Gayley, C. A. Ross, and J. B. Sechrist. A lot of ground was bought on South West End Avenue, and a well-designed building erected on it. Machines and tools were bought and built, and making parts of the watches was gotten under way, with the usual miscalculations and delays of watch manufacturing enterprises. After some of the watches were at last ready for marketing, the buyer-response was found to be disappointing. Then followed a series of reorganizations, experiments in selling methods, and changes in management personnel, with no permanent betterment of business results. Finally at a receiver's sale the property was bought in by two of the stockholders, who made various experiments in using the plant to produce watches other than the original Masonic watch. In the last of these attempts, the plant operated under the name Fulton Watch Company, making a bracelet watch of cheap construction of a Swiss type, with pin-pallet escapement, which was not acceptable to American trade. The business was finally dropped by its last owner, and the building sold to J. F. Apple Mfg. Co., Inc., who are occupying it now for their business of manufacturing school and college jewelry.

### **Predecessors to the Hamilton Company**

This brings us to the culmination of the chronicle of Lancaster watchmaking, which is the story of the Hamilton Watch Company, an institution of which our community has many reasons to be proud. The first chapter is the organization of the Adams & Perry Watch Manufacturing Co., in 1874. John C. Adams of Chicago, whom we have earlier noted as the promoter of watch factories in six different localities from the Atlantic to the Pacific, who thereby won the nickname of "The Great American Starter," came here and fascinated some of our solid citizens into subscribing \$78,000 toward a capitalization of \$100,000 to start a factory.

Adams put in \$5000 of his own, surely a proof of his own good faith in his rosy predictions, although they were not fulfilled, no doubt because of the long business slump that began about the time of the organization of this company. The seventy stockholders elected E. J. Zahm, a Lancaster retail jeweler, to be President; John Best, of Best's Engine and Boiler works on Fulton Street, Vice President; John C. Adams, Business Manager and Secretary; E. H. Perry (not to be confused with John C. Perry), Superintendent; and John B. Roth, Treasurer. In a small building at Best's boiler plant, machinery was built pending the completion of a building for the watch factory, which was started in September on a tract of three acres of ground donated by C. A. Bitner, a stockholder, who owned a large farm on the Columbia turnpike west of the city, and wished to develop the land as building lots. A row of mansard-roofed houses still stands opposite the Hamilton factory, part of that project which years ago was called Bitnerville until the city grew to surround it.

From this point on, I have a historian's greatest advantage, of having known personally some of the actors in his story. John Best's children were schoolmates of mine; and later he was a patron of the watch repair shop of Ezra F. Bowman's Sons' jewelry store. About once each year he would bring in his Adams & Perry watch, attached to a massive chain made of links set with pieces of gold quartz; he had ventured in western gold-mining stocks besides in that first of Lancaster's watchmaking enterprises. His eyes would twinkle, above his great bushy beard, and he would usually say: "Put this watch in apple-pie order, and I won't mind what it costs; that watch and chain already cost me thirty-thousand dollars!"

The *Adams & Perry* factory building was finished in July, 1875, and the model for their watch, and most of the machinery to produce it, was finished by April of the following year. The watch was one size larger than the then customary 18 size; beautifully designed and finished, and an excellent time-keeper; in my opinion, the best watch made by any of the pre-Hamilton Lancaster companies. But scarcities of working capital kept coming at closer intervals. I have a diary of my father's, of the time when he was employed helping to make the model for this first Lancaster watch. Numerous entries run like this: "Pay-day to-



day; Mr. Perry came through the shop asking who would be willing to charge up his wages until they can pay." Father evidently often said "yes," because when the factory quit business in the spring of 1876, it owed him \$800 in wages that he had let stand, because he wanted to see the company succeed, and get fine watches, like the model, into people's pockets. Father never got his arrears in wages; the Adams & Perry Co. went into bankruptcy, and the factory was idle for a year. During that time, many schemes were hatched and plans offered for reorganization; out of it all came a new corporation, *The Lancaster, Pa., Watch Company*, which started the factory again in September, 1877. The payroll included only 45 names; this grew in nine months to 63. Financial troubles persisted; frequent changes were made in ownership of bonds and notes, and in company personnel. In October, 1878, a new corporation became owner: *The Lancaster, Pa., Watch Company, Limited*. The record of never-ending feverish financing is pitiful and too long and complex to tell; in May, 1879, still another company took over, this one *The Lancaster Watch Co.* by which time the payroll shows 125 names, but still no dividends were paid. In 1883, after a brief closing of the factory, a company was formed with new shifts of bonds and notes, but without changing the name. Finally, Abram Bitner, one of the early stockholders, seems to have been the only man with faith enough left to go on, and he made an offer of ten cents on the dollar for stock, which was so largely accepted that he became the virtual owner of the business in 1884. In 1886, an entirely new company of Lancaster men of means, was organized, *The Keystone Standard Watch Co.*, with full-paid capital of a half-million dollars, who bought the Lancaster plant and real estate, lowered the quality of the watches in general, and introduced various unorthodox methods of marketing that created hostility for the Lancaster watches in the regular watch trade. This company went into bankruptcy in 1890, and its assets were sold at Sheriff's sale in 1892, to a group of Lancaster citizens who also in that year bought the plant of the Aurora Watch Company, at Aurora, Illinois, which, too, had fallen into business difficulties and bankruptcy.

### **The Hamilton Watch Company**

The seventeen men whose vision blessed Lancaster eventually with one of its greatest industrial assets—the Hamilton Watch

Company—were J. W. B. Bausman, John F. Brimmer, Harry B. Cochran, Frank P. Coho, C. A. Fondersmith, George M. Franklin, John C. Hager, J. P. McCaskey, H. M. North, Martin Ringwalt, J. Frederick Sener, William Z. Sener, James Shand, Peter T. Watt, H. S. Williamson, Charles D. Rood and Henry J. Cain. These original subscribers to the Hamilton Company's stock met October 18, 1892, and elected five of their number Directors, and J. W. B. Bausman, President.

An addition was built to the Keystone plant on Columbia Avenue and the best of its machinery was combined with the best of the Aurora equipment, to fit up the factory for making the new watch. The collaborative work of Henry J. Cain and John C. Perry, whom we have noticed first working together for the New York Watch Co. twenty years earlier, was soon at the service of the Hamilton Company. Cain designed the 18 size #936 movement, later modified to the famous #940; and Perry set the early policy of the company to stress sales of watches to railroad men, because the then recent adoption of watch-inspection rules by railroads made, for highly accurate watches, a market that would need no costly general advertising, and the quick response of the railroaders to the superior accuracy of Hamiltons, provided in itself a most effective propaganda to the public, taken advantage of in the company's early advertising slogan: "Hamilton—The Railroad Timekeeper of America," and a later one, "The Watch of Railroad Accuracy."

A question often asked is how the name "Hamilton" came to be chosen, and some odd guesses are on record; but the answer is, it honors the name of Andrew Hamilton, to whom William Penn's sons granted the land that is now the site of our city, and who with his son, James, founded Lancaster, formally, in 1730.

Of the first lot of watches that came through the factory, in 1893, #1 was kept by the company; and the first one sold, #2, which by courtesy of the company is on exhibition here tonight, went through trade channels and was bought by an employee of the Erie Railroad, John Clark, at Rochester, N. Y., and was used by him for forty-one years during his advancement finally to engineer; and in 1934 this watch was located and bought by the company, and returned after its many thousands of miles of travel, to

rest in its birthplace, to be venerated now with its brother watch #1, which had never left the old homestead.

I enjoy memories of many of those fine craftsmen of the early staff, some of them friends of my father, and still active when I entered the trade after completing training at father's school: Messrs. Cain, Hoffmeier, McKechnie, Guilford, Weise, Welchans, William Manby, father of Milton Manby the present Superintendent; and, not among the craftsmen, John C. Perry; since I recall that when father introduced me to him, I probably said something assuming that he was one of the technical men, because he answered: "Young man, any good I can do here, depends on realizing that I don't know a thing about the works of a watch; I must leave all that to Mr. Cain!" Mr. Perry was a man with a good heart, with all his bark on the outside; and the rank and file of the factory people knew this from experience with him; he never made flowery promises, but kept all that he did make, and more.

A glance through records of the Directors' meetings, and the figures of appropriations made for successive plant improvements, shows the modest scale of early operations, and their gradual increase through the years. In January, 1893, it was voted to have "a telephone" installed in the factory. In 1901, \$240 was voted for a "new oil house," and \$109 for "a new jewelers room." In 1904, \$994 for "pump and storehouse." In 1905, \$5897 for "a fourth story addition to the factory." In 1909, \$6566 for "erection of a center extension." In 1911, \$16,138 for "new office building and rear addition." In 1912, \$20,388 for "two new buildings," and so on in increasing magnitude, until we see an appropriation in 1941 of \$425,000 for a "factory wing running northward, and a four-story office building."

One policy fixed from the first was exclusive with Hamilton among all the American watch factories. This was to make only full-jeweled fine watches. This should be kept in mind in comparing output-volume with other factories; all but Hamilton include in theirs many cheaper watches not fully jeweled.

I wish we had time for speaking of many more of the men who during the later Hamilton history played important parts in its development; men whose value in this I know; but I cannot lengthen this writing to do more than list those who filled the office of President, who were: J. W. B. Bausman, 1892-'94; Charles D.

Rood, '94 to '96; George M. Franklin, '96 to '99; P. T. Watt, '99 to 1900; Charles D. Rood, 1900 to '10; Charles F. Miller, '10 to '31; Frank C. Beckwith, '31 to '39; Calvin M. Kendig, 1939 to the present time.

In 1928, the Hamilton Company and the Sangamo Electric Company of Springfield, Illinois, combined for manufacturing a line of fine electric clocks, which business, the Hamilton-Sangamo Corporation, was sold in 1931 to General Time Instruments, Inc., of New York.

Very radical fundamental technical improvements in watch construction have come out of the Hamilton research and engineering laboratories during the past decade. One of these is a new alloy metal for hairsprings that overcomes difficulties in timekeeping in varying temperatures, that were thought insurmountable by the watchmaking world before the results of Hamilton's work were published. Other improvements concern the work in the factory, like the "time microscope" for adjusting watches.

### **The Hamilton Company in War Work**

When the United States found itself involved in World War II, the American watch companies were asked by the military and naval authorities to turn as much as possible of their facilities over into making a great variety of small mechanisms for the services; time-fuses for artillery shells; highly special timepieces for aviation and naval navigation, these of many varieties; and numerous special instruments, too many to name, and some not to be named or described during the war, anyhow. I believe the Hamilton Watch Company accepted this challenge or plea and acted upon it more fully than any; certainly this is true when based upon a fair appraisal of the technical difficulties of the special work done by the several watch companies, and upon comparative qualities and strategic importance of the instruments that they all produced.

For specific reasons, to my mind the most thrilling, revolutionary achievement of them all is the creation outright in one year by Hamilton, of a new American industry—making marine chronometers.

A chronometer is a portable timepiece of extreme accuracy, used for navigation of ships at sea; for determining longitude, to know how far, on the vast oceans without landmarks, the ship has traveled eastward or westward, to find without blind guesswork

the way to its destination. Columbus had no chronometer, hence when he landed on an American island, he believed he was in Asia—an error of some eight thousand miles! Without chronometers, our navy and merchant marine would have been reduced to helplessness on the high seas.

When war struck, there was a sudden need here for thousands of chronometers. Both a huge expansion of naval and merchant shipping, and a tremendous toll of losses by German submarines, called for this. But where in the world could thousands of chronometers be found? Peculiar conditions in the chronometer-making trade seem to me to have made of this a more difficult problem than even the colossal one of quickly organizing to build thousands of ships.

Chronometer-making never had been an American industry; these instruments were always made in Europe, by a limited group of craftsmen, with hereditary trade-secrets, by slow and costly hand-work. All together, in all countries, these people could make not over 400 chronometers a year. Other maritime nations were calling on them for much more than they could produce. What could be done for America's desperate needs?

Navy authorities appealed to our American watch factories early in 1942. Although Hamilton was already up to the neck in making other war necessities instead of watches for civilians, they accepted the chronometer challenge. Starting from scratch, designing their chronometer with technical innovations, building machinery and organizing and training personnel for quantity production—a revolution in that field—in one year they delivered their first chronometer to the navy; and during the next year, had increased the quantity, to be turning out more chronometers per month, than the entire world had produced per year, before! An amazing achievement; a triumph of American enterprise of the old-fashioned individualistic kind.

But I think the most remarkable fact remains to be told. One might think that the emergency nature of the demand, and the need for doing suddenly here what had been built up abroad during nearly two centuries, would have made a great triumph out of producing unprecedented quantities of instruments even of only passable quality; perhaps less accurate than those made always with abundant time in much smaller numbers. But it is true in-

stead, that these Hamilton chronometers are actually setting new world-records for accurate timekeeping of instruments of their kind! The entire achievement must be seen to be proof of the high quality of personnel, and technical organization, at the Hamilton factory; and to point to its further success in meeting any competition the world may offer, when the war is over, when industries return to making the things that civilians need. And I hope that this story of the work of our Hamilton industry, and of what forged the earlier links in the chain of its growth, may add something to our understanding of all the things that make Lancaster a good community, for us, who should be happy to be her citizens.

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#### ABOUT THE AUTHOR

John J. Bowman, author of this history, son of Ezra F. Bowman and Anna Elizabeth Musser, born 1879, is a descendant of two families of the pioneers of Lancaster County; of Wendel Bowman, and on the maternal side of Rev. Hans Herr, who both came from Switzerland in 1710, and settled five miles south of the site of Lancaster. From Franklin & Marshall Academy, John Bowman entered Bowman Technical School in 1896; upon graduation was employed as a watchmaker in the shop of his father; became foreman in 1900; and after his father's death in 1901, became Director of Bowman Technical School. He is author of technical books and of many periodical articles, of importance in the American watch industry; technical editor and consultant for several leading trade-journals; officer of several national watch-trade and school organizations; and has been chairman of the Educational Committee of the Horological Institute of America since its founding in 1922. Married, 1915, Edna Moyer Ryder; children, John Jr., Julia R., and Luetta M.