

*A FAMILY TALE*

or

History of American Watch Making  
in five chapters

by

W. H. Keith

1883



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W. H. Keith

## Editorial

The 269-page manuscript of *A Family Tale* was written when William Keith was 80 years old. In 1861, when he was 58 years old, he wrote the annual report for the American Watch Company,<sup>1</sup> and there is no doubt that this is in his own hand. Although the hand-writing is similar, one feature, the way the double-s as in *business* is written, strongly suggests *A Family Tale* is not in Keith's own hand. In addition, the manuscript contains a small number of words which are simply, and obviously, wrong in context. These features suggest that the manuscript is a "clean copy" written out by some other person.

The manuscript was transcribed by Ron Price, Charles Wallace and Jerrilynn De Kriek in 1999. About 2008 I obtained a copy of this transcript and a copy of the original manuscript. I checked the two documents and produced this version, which includes a few corrections. In addition, text that is underlined has been replaced by *italics* and quotations are given in *italics*. I returned the copy of the original manuscript in 2009.

For completeness I have added the original newspaper articles that prompted the writing of this document as appendixes.

Richard Watkins, 2017

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<sup>1</sup> Baker Library, Harvard Business School.

A Family Tale.  
or History of  
the efforts and incidents,  
discouragements and success  
of American Watch Making.  
To which is prefixed a synopsis  
of Foreign Inventions  
in perfecting  
Escapements for Horological Machines;  
and to which is added  
an examination of an Article  
published in the "Waltham Record" of  
April 6th, 1883.  
In Five Chapters.  
By  
William H. Keith.  
President of the American Watch Co.  
From 1861 to 1866 inclusive.

Dedicated

To the survivors of the Boston Watch company,  
and to the heirs at law of its deceased members,

and to the employees of said company,

And

to the original stockholders and employees

of the Waltham Improvement Company,

and to the past and present stockholders

of the American Watch Company,

and to its past and present employees;

by one who for many years participated in the  
promotion and advancement of an American  
industry in which the above were co-workers.

The Author.

## Introduction.

Under this heading little need be said. To the publication of an article in the "Waltham Record" of April 6th, 1883, is to be attributed the following pages.<sup>2</sup>

From the portrait heading that article, and from quotations from private correspondence, it is fair to conclude that the one therein proclaimed "The Father of American Watch Making" is the author of it, or that its publication has his sanction. But for the appearance of the claim and statements there in given, the whole subject matter here in considered would have slept till doomsday.

It is, doubtless, admissible, indeed justifiable and proper for one who is truly the author and founder of an important mechanical invention, whereby there is a great saving of labor to a people, or by which a great industry is introduced to a nation, that he, or his friends, should give his name to the public. But if untenable claims are set up tending to subvert the claims of others who are thought to be more or equally entitled to an honorable share in the distinctions of such services, it is certainly proper that the publication of exclusive claims should not be allowed to go down to posterity undisputed.

But it is not the purpose of this disputation unjustly to detract from the one, nor to extol the claims of others, but to give a true history in detail (even at the risk of prolixity) from documentary evidence principally, and retrospection, which are in possession of one only, by which all the family of watch makers, and such of the public as choose, can judge the true merits among all the claimants of the distinction of introducing, developing and establishing the present great business of American watch-making.

No effort has been made for literary composition in this writing, and if made it would prove a failure. And no attempt has been made to escape the charge of egotism, as such an attempt would, as in Carlyle's writing, require a redundancy of words.

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2 See Appendixes A and B.

## Chapter One: The Old Foreign Watch Makers.

Before entering upon the story of the origin and development of American watch-making, it seems proper to take at least a limited view of the struggles of its foreign predecessors, during more than two centuries, in bringing this art to its present perfection.

Astronomy, navigation, commerce, in short every department in social and business interests among civilized people own an immense debt of gratitude to those scientific, skillful, persevering, practical men who seemed to devote their lives, while generation after generation appeared and passed away before the great object of their efforts were crowned with complete success, in the discovery of an escapement for horological machines that would supersede the ingenious time-honored, but imperfect old crown wheel and verge escapement - an invention of which the name of the inventor and date of its perfection are alike in doubt.

The following synopsis is taken principally from Reid's "Treatise on Clock and Watch Making", Edenburg, 1826; and from some other casual writers.

Observing the swinging of a lamp in the cathedral of Pisa in 1582, Galileo inferred the isochronism of the vibrations of the pendulum and after 50 years elapsed applied his discovery to clock work. And Dr. Hooke and Huygens about 1656 applied Galileo's discovery as a substitute for a balance for the crown wheel and verge escapement. And here was the beginning of the numerous ingenious and varied contrivances which culminated in the perfect anchor escapement and the perfect detached lever. And this was not fully accomplished until nearly the close of the eighteenth century, but led Clement of London, who, in 1680 made an escapement which in place of the crown wheel and verge pallets had a remote resemblance to an anchor, and by which it acquired at that time the name of anchor escapement. And "*from the excellent time-keeping of this clock it was found to be a great improvement, and hence this escapement was afterwards generally adopted for clocks. It passed into Holland and Germany and was hardly known in France until the year 1695. Dr. Hooke claimed this invention as his and that in 1666 he had shown to the Royal Society a clock with this very escapement*", and it was generally conceded to him.

Huygens made a watch in 1665 which was taken on a voyage to the coast of Guinea and with it the longitude of the Island of Togo was obtained with tolerable precision. And in 1657 he had applied this pendulum to clock work and asked of Holland a patent. In 1764 he claimed the invention and application of the spiral spring to the balance of a watch. But Hooke having observed in 1658 the restorative force of springs charged Huygens with plagiarism and was very indignant, and accused the Secretary of the Royal Society of having communicated to strangers discoveries deposited in the society register. Hooke was involved in continual disputes concerning different inventions, generally pretending that they were all taken from his ideas. However, the "*Abbè Hautefeuille contested at law with Huygens the right of the invention and application of the pendulum spring to the balance of a watch*", and though he gained his case he failed to obtain a patent in France. William Clement, a clock maker in London, in about 1680 had the good fortune to correct the defects of the pendulum "*by giving it the finishing stroke; he being the real contriver of that kind of long pendulum which is to this day so universally in use among us. It is an invention that exceeds all others yet known*" - says Reid up to 1826 - "*as to the exactness and steadiness of its motion.* And here again many thought that Dr. Hooke had the best title to the merit of this invention.

Next the dead beat escapement of Graham's has continued to be generally used in regulators or astronomical clocks. But Lepaute in 1753, an ingenious watch maker of Paris, produced one founded on Graham's, and it was thought to be an improvement on his.

Next Hooke and Huygens, having applied the hair or pendulum spring without satisfaction to the old escapements, were induced to try other mechanisms, and Hooke's mechanical talents are said to have been eminently above Huygens. In that effort he constructed some watches or time-keepers larger than a box chronometer. And ingeniously contrived for his escapement to place the crown wheel as the contrate wheel usually stands, and the pallet staff or verge was placed horizontal and on the end of the staff next the verge in the common escapement was formed and cut like a contrate wheel and this drove a pinion fixed on the axis of the balance. This use of a pinion for the last action anticipated by many years the same in the patent lever of Hautefeuille.



## A Family Tale

About this time Dr. Hooke produced his new escapement on which he had been at work for 17 years. This differed much from the crown wheel one and as much from that of Huygens. *“It had two balances, on each was a toothed wheel pitching into one another. The verge or axis of these balances had each a pallet on it. The escape wheel<sup>3</sup> was flat, having a few ratchet or saw-like teeth: its arbor ran within the frame parallel to those of the balances, at a point equally distant from their centres; the three points forming as it were the angles of an equilateral triangle. When a tooth of the escape wheel gave impulse on one pallet the other, by the pitching of the two wheels, was brought about to meet another tooth after the wheel had escaped from the pallet on the opposite side, in order to receive impulse in its turn”*. But this effect did not give the satisfaction expected, and the old crown wheel and verge was resumed.

*“However years after, other artists among whom was Dutertre were attracted to this escapement of Hooke’s and were led in time to improve upon it; and from it originated the duplex escapement which obtained much repute”*.

The next new escapement was by Tompion of London which he made about 1695. The verge or axis<sup>4</sup> was *“a solid cylinder, cut across at the middle, and nearly half way down; in the longitudinal direction of the cylinder a deep angular notch was made, forming a sort of pallet on the left hand side. The escape wheel was flat, the spaces between the teeth sufficiently wide to allow the cylinder to turn freely between them. When a tooth of a wheel had impelled the pallet in escaping from it the following tooth dropped on the outside of the cylinder during this vibration”*. But difficulties were met with and this was given up.

Next, Graham, many years after set to work with the Tompion cylinder escapement and ultimately succeeded. *“In place of Tompion’s solid cylinder he made a hollow one”*. But this is so well known at the present time there is no need of a description of it. *“This escapement being the best of any preceding procured for Graham’s watches a very considerable reputation; their performance being much superior to the old”* crown wheel and verge escapements. But they were on the wane before the duplex was invented.

The next escapement invention was by Debaufre, a Frenchman settled in London. In this jewels are introduced to the pivot holes of the balance staff and the pinion pivots of the wheels. There were *“two escape wheels having ratchet sort of teeth on the same arbor”* set to act alternatively on queer shaped pallets which cannot be easily understood without the diagram. Sir Isaac Newton is said to have had one on trial of which he gave a good account of its performance. This is the escapement that Wheelock of Sutton, Massachusetts, copied.

The next escapement invention is in 1722. L’Abbè Hautefeuille devised three new escapements for watches. One of these was the anchor escapement and on the arbor of the pallets was fixed a steel toothed segment of a circle or rack working into a pinion which was also the balance staff. This was the first application of a lever proper to the escapement of a watch; and by the patentee are called *“lever watches”*. Although the motion of the balance is very limited and the rack works with much friction, a watch of this sort referred to on a subsequent page owned by Dr. Greer of Worcester performed very well.<sup>5</sup> But there has not been any change in it for the better nor has it been generally made. Yet Berthoud used the principle to some extent in marine time-keepers.

An ingenious artist at Paris M. Dutertre invented in 1724 a new escapement which was thought the best then known. It had two escape wheels and two balances and of it is said to be the nearest approach to the duplex escapement possible. But the description is too long to copy here — See Reid page 239.

In 1727 Peter le Roy made an escapement which Dutertre claimed as his; but as it was not satisfactory to le Roy he gave it up.

The duplex escapement was made about the beginning of this century: then called Tyrer’s. It is supposed that Tyrer made the last improvement on Dr Hook’s. The duplex seemed to have given more satisfaction than the horizontal cylinder escapement or anything that had preceded it.

3 Reid uses the term “balance wheel” which has been changed throughout.

4 The manuscript reads *“The last action”* whereas Reid reads *“The verge, or axis”*. This is an indication that the manuscript is a clean copy written by someone other than Keith (who would not have made such a ridiculous mistake).

5 See page 16.

While Dutertre was on Dr Hook's, an unknown artist in England produced a dead beat escapement which was then much sought for; and of this Julian le Roy had one which he thought very deserving of notice. Thiout mentions it as that of M. Flamenville, and it attracted much attention. Workmen gave it the name of escapement with tumbling pallets. After this had lain aside for some years it was taken up again by several persons, among them was Kendall, who transformed it into one having two crown wheels on the same arbor, the top of the teeth of the one pointing to the middle spaces in the other with only one pallet. Reid says *he* tried these and after a few years gave them up.

*"The free or detached escapement is that in which the greater part of the vibrations of the balance is free and independent of the wheels, the escape wheel being locked; when unlocked it gives impulse which only takes place at every second vibration. In Mudge's detached escapement the impulse is given at every vibration. The progress - says Reid - which has of late years been made in improving the detached escapements has been wonderful, when we consider that half a century ago (say 1775) the name of this escapement was unknown. The first rude draft of any thing like it appears to be that of Thiout's which he calls "an escapement of a watch the half of whose vibrations appear to be independent of the wheel work during the time they are made".*

*Peter Le Roy tries again in 1748. Yet neither this nor Thiout's would answer having too great recoil to the wheels before the escape wheel could be disengaged. Dutertre claims this as his invention and Le Roy gives it up as he says "My thought or invention was not so new to me as I had imagined". But his detached time-keeper which was tried at sea in 1768 was very different from that of 1748.*

Berthoud says he *"composed in 1754 an escapement upon a principle in which the balance makes two vibrations in the time that one tooth only of the wheel escapes, that is to say, the time in which the balance goes and comes back on itself; and, at the return, the wheel escapes and restores, in one vibration, the motion that the regulator or balance has lost in two"*. Reid says *"The principle of this escapement of Berthoud's is the same as that of the detached ones now made: but it had a variety of modifications under his hands"*.

Then in box chronometers Berthoud and Arnold, Earnshaw, Kendall, Mudge and Dent, each varied their plans of escapement somewhat, but all performed very well. One made by the former after doing service 28 years from Europe to India and in the China Sea the pallets of which showed not the least wear upon them.

*"The detached escapement of Mudge was contrived sometime previous to 1766. It is composed of a wheel and pallets like those made for a dead beat for a clock. On the arbor of the pallets is an arm a little longer than the pallets. The end of this arm is formed into a fork-like shape. On the axis of the balance is a short pallet, whose acting end may be of a small circular form, having the sharp part of the angles blunted, coming a little way within the prongs of the fork which alternately acts and is acted upon. There is also on the axis of the balance a small roller having a notch in it. On the end of the arm is attached a small steel piece or index, in a plane which may be either above or below the prongs of the fork; this index is on the outside of the roller, when the free part of the vibration is performing, and prevents the wheel teeth from getting away from the place of rest. On the return of the balance the index passes with the notch in the roller to the opposite side; meanwhile the short pallet gets into the fork, meeting with one of the prongs, pushes it on a very little way and thus disengages the teeth of the wheel from the circular part of the pallet, where they rest during the free excursions of the balance. When disengaged the teeth get upon the flanges of the pallet and give impulse, which causes the opposite prong of the fork to come forward on the short pallet and communicate impulse to it. There are two short pallets and the prongs lie in different planes. The impulse of this escapements is given at every vibration and its seems to have performed uncommonly well in the watch made for Queen Charlotte.*

*"In 1792 a very neat and ingenious sort of a detached escapement was contrived by the late Mr. Howell founded on that of Kendall's".* But it attracted no lasting attention.

Fashions change. Old things are re-produced. After a perfect escapement has been obtained ingenuity must again re-open the old crown wheel or rather two of them with one pallet. But Kendall had already exhausted a similar contrivance. And yet, Thomas Mudge Sen., after the accomplishment by himself of the perfection of the detached lever escapement, took up a crown wheel or wheels on the same principle which acted on what may be called a verge in two separate parts: but which cannot be understood without the diagram. This like everything from Mudge was a very ingenious, complicated and expensive machine, and so difficult of execution that when his son, in order to put this escapement to time-keepers, employed three or four of the ablest workmen that could be got, they were not able to produce one equal to the original.

## A Family Tale

Two distinguished geniuses who have not been noticed in their order of time were contemporaneous and each seemed to be specially striving for a given object. John Harrison and Sully. They were both Englishmen, the former operating in England and the other in France.

Phillip the Third of Spain proposed in 1598 a reward of 1000 crowns for a marine time keeper with which to ascertain the longitude at sea. The states of Holland soon after offered 100,000 florins. The British Parliament offered in 1714 prizes of 10,000 - 15,000 and 20,000 pounds sterling respectively for a method of ascertaining longitude within 60, 40 or 30 miles and the Duke of Orleans Regent of France in 1716 promised in the name of the King 100,000 livres.

Sully early and zealously set himself at work for one of these prizes. But he died too soon for him to get it and it is said he died literally a martyr in the cause, in his efforts to find a person occupied in the same pursuit, he got overheated and died a few days after at Paris October 1728.

John Harrison, born in 1693, was the son of a carpenter and worked in his father's shop. He was led to study the construction of clocks, and he made improvements which gave greater accuracy than any previous ones. He invented the gridiron pendulum for compensation in varied temperature. He made a chronometer in 1726 which was tested in voyage in 1736 and by further improvements secured the highest prize in 1767. He invented the going fusee or maintaining power and the compensation curb; and thereby probably gained the reward. The almost incredible statement is made that this time-keeper did not vary one second in 10 years! When sent to Lisbon in 1736 it corrected the reckoning on the voyage  $1\frac{1}{2}$  degrees.<sup>6</sup> In 1739, '58 and '61 he made three others, the last being so excellent the government sent it to the West Indies. The island of Jamaica was the point and the longitude by the time-keeper did not vary from astronomical observations more than  $1\frac{1}{4}$  minutes. Harrison's compensation curb was applied to marine time-keepers, but the first pocket watch with such a curb was made by F. Berthoud in 1764 and George the Third became the owner of it. This curb was effected by laminae of brass and steel pinned together.

Mr. Mudge made one in 1770 by soldering together in two long slips of brass and steel and dressed them up and coiled it into a spiral. Peter Le Roy in 1768 compensated with two glass tube thermometers bent nearly into a parallelogram. The acquisition of compensation to the detached lever was indispensable to their being brought to time and many methods were devised for its accomplishment. Berthoud, Arnold, Earnshaw, Robbinson and many others devised different modes of compensation before one could be found to afford complete satisfaction. But satisfaction was ultimately obtained by those skillful pioneers in watch-making, and a way prepared that made it easy and open for competing Americans to enter upon and make available their long continued labors.

Besides those whose names are known in history, collections of watch movements show a multitude of curious and ingenious contrivances, indicating great diversity of talent in the department of mechanics, made by those whose names are preserved only on their work. And they show withal varieties such as Americans have not yet attempted, and which if wanted must be supplied by foreigners.

I repeat: a great debt of gratitude is due to the memory of these patient persevering men who so assiduously sought for and ultimately attained: the spiral spring by which to regulate, the perfect anchor escapement, the free motion of the balance by the detached lever, and the indispensable compensation balance; the product of which in combination is a time-measurer almost in perfection. And although the description here given of their work may not be fully understood, even by experienced workmen, without the descriptive plates, yet the design of this part will be accomplished if this condensed collation shall tend to perpetuate the names of these eminent men in view of their distinguishing services to mankind.

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6 The first statement refers to Harrison's regulator clock, and the second to H1, two different timepieces.

## Chapter Two: Early Efforts at American Watch-Making.

In an article in the "New American Cyclopaedia" of 1859 a writer on modern manufacture says "*But it is to be regretted that the labor requisite to collect the facts relative to the early growth of the woolen business in this country and to determine the seats of the first, or the first successful enterprises in this direction has not yet been given to the subject. So that, as in the case of American wool raising also, a very large amount of information that could not fail to be of great interest, remains scattered in the original sources and as yet inaccessible.*" And so it will probably remain, unless some prying reporter shall be sent to hunt up the facts of the great majority of American inventions and industries. It will doubtless be left to the future historians to hunt up and report the wonderful progress in the arts, or to pick up piece-meal, that someone has heard his father or grandfather or perhaps his great-grandfather say that Mr. Somebody very many years ago invented such and such machinery, in such a place, and put it in successful operation.

And it is to be regretted that a book presumed to be eminent in laying before its readers the names of persons prominent in invention, skill, and the locality of their successful operations, and the names of the capitalists and other prominent in forwarding their enterprises, has not been more fully collated and published in cyclopedias.

The article "Cotton Manufacturers" is more tolerably satisfactory in that book. Due mention is made of the early mechanics engaged in this enterprise, though they were from Scotland and England, and of the names of their early patrons, and of several localities of their work. The capital, skill and enterprise of F. C. Lowell, P. T. Jackson and Paul Moody are noticed, but what is very desirable to the general public to know, is the machine productions of Moody whereby "Waltham Sheetings and Shirtings" were as famous in the thirteen states as "Waltham Watches" now are throughout this country, and perhaps the world. The name of "Moody" is honored at Waltham as it is given to one of its best streets on the south side of the river.

The article in said book on the city of Lowell, gives the number of cotton factories, capital invested, and the details of its growth and prosperity; and that, in 1821 a tract of about 400 acres, in what is now the heart of Lowell, was purchased and laid out by *several gentlemen* who were subsequently incorporated. But why not give the names of those who established this immense industry? Had not Kirk Boot something to do with it? When the present writer was young, he often heard of this man as having surveyed the Merrimac River from its source to its outlet, *incognito* in the garb of a huntsman, with his gun and fishing tackle, to fix upon the site of what is now Lowell. The only mention of him in that article is his name as the Boot cotton mills!

The article on wire in the book mentioned is full of foreign statistics, but no mention is made of the great American wire works originated by Ichabod Washburn of Worcester, Mass and located there, with buildings the flooring of which compactly covers eleven acres of ground. Some now living in Worcester probably remember him in his early manhood, at work with his leather apron and bare arms at his forge and anvil. His autobiography, however, supplies some information of his achievements, which the said book omits; but it has a full description of English wire works.

It would be tedious to mention more than a small fraction of the paucity of American names which were prominent as ingenious mechanics, and others who afforded essential aid in American enterprises.

In view of the preceding considerations, and a desire to save from oblivion the names of the persons and their work, who first and early engaged in the manufacture of American watches, at the age of four-score years, with its infirmities, I have reluctantly undertaken the task of placing on paper the knowledge and reminiscences of early life, of the persons, their doings, and also the details of facts of more recent watch-makers and watch-making; and when, and by whom this industry was successfully established in this country.

Of the early American manufacturers of watches, in the book already referred to, under the heading of "Clocks and Watches", the writer says truly that, "*until quite recently but few watches have been manufactured in the United States; confined chiefly to the period of the last war with Great Britain and to the manufacturer of a small number about 20 years ago*"; that is, about 1835 to '40. But neither the names of the makers nor the locality in which they were made are given. Probably no printed record could he find, and no personal knowledge had he on the subject.

## A Family Tale

When previous to the declaration of the war with Britain in 1812 - as early as 1807 - their armed vessels were ordered to leave the United States, and an embargo on American ships was laid by Congress, and in 1809 when commerce was interdicted by Congress, our capitalists and artisans could not but foresee that a declaration of war could not long be delayed. They also saw that the necessities of our people would require the manufacture of many goods hitherto imported.

Worcester county, it is believed, was the first, in the year above referred to, to manufacture wooden clocks. The name of one maker was Terry, and the town of Worcester was his residence. And Shrewsbury, a town six miles easterly from Worcester, was the birth place of the first watch-maker, and the place of his residence and manufacture.

So far as any record has been preserved, and so far as the recollection of a long life is available, I take little hazard in asserting that Luther Goddard, of Shrewsbury, Massachusetts was the first projector and progenitor of American watch-making.

The older people of his native town can well remember his humble shop. It was a one story, hip-roof building, some 18 or 20 feet square, with a small addition in the rear for a forge room. It was situated on the declivity of Shrewsbury Hill. This was his manufactory of watches.

His outfit for tools, machinery and material was in keeping with his shop. Punching machines for coinage had been in use for centuries but it is believed that neither the power, nor even the foot punching machines, were introduced into general mechanical operations for metals until after the second decade of this century. The rolling mills and power punching machines of Waterbury, Connecticut, were then non-existent. The sheet metal of nice varieties of thickness, and the machines, dies and punches by which the watch-makers of today can obtain all grades of blanks - as they are called - from which to shape the various parts of brass for their watches, had not then been produced. So, Mr. Goddard had to cast his potences and pillar plates, and the barrel, fusee and cock, and potences, and very good castings they were. The hands, dial, round and dovetail brass and steel wire, the main and hair springs, balance, fusee chain, and pinion wire, were all imported material, picked up among importers at war prices. His tools consisted mainly of a tooth cutting engine, a common foot lathe, brass pivot-turns, an upright tool, and sinking, depthing, grooving and hair spring tools; and the usual variety of pliers, tweezers, files and other appliances in use by watch-repairers. All of which were of English manufacture. The cock and plates were frosted and engraved by an engraver in the adjoining town of Marlborough, and very well done. His plates and cock were gilded by the old process of fire gilding, the electro not being perfected till he was laid at rest. But the gilding compared favorably with the English of that day. His pinions were notched with a file down to the bottom of the leaves, and the leaves broken off to form the arbor; with a portion left standing of proper length to be finished with bottoming and rounding up files, while held between the thumb and finger, and polished with hard wood polishers and oil stone dust and rouge. The movements were put in double cases, such as were in use at that time, and were made at his shop. Thus he and his son made about six hundred watches. Mr. Goddard made no pretence to inventive genius; but was a good workman on watches. There is no date of the beginning of his manufacture; but, doubtless, seeing the probability of the suppression of the foreign watch trade, he must, to accomplish what he did, have commenced his preparation as early as 1809 or '10.

So Mr. Goddard made watches, and so foreigners made watches then and now; but with greatly enlarged tools, and instruments improved for their work. And a much greater supply and variety of brass and other material than he had. But if foreign makers had punched their blanks from their brass, it would probably have led them to go further and invent the present American system of watch-making.

The old bulls-eye watches of previous centuries had gone by, many of which measured from an inch and a quarter to an inch and three quarters in thickness, and a thinner and better shaped watch had been introduced.

His style of watch was the common English model and train, with the common verge escapement and fusee and chain. His watch gave as good satisfaction to purchasers as the best English watches of such quality and escapement. Two samples of his movements are in my possession, bearing the names of Luther Goddard & Son, Shrewsbury, No's 323 and 525. And one by P. Goddard, Shrewsbury, No 530, the son advancing the number from that his father had left, and he increased it to about six hundred. But he also had to succumb about 1818 or '20.

Though this last number seems very insignificant compared with the 2,000,000 which the American Watch Company, of Waltham, passed many months ago, yet, considering the time and difficulties to be surmounted, it was very respectable.

Luther Goddard had two sons, Parley and Daniel, who were taught watch-making. Parley, the elder, was admitted a partner at Shrewsbury, between 1812 and '15. But the Treaty of Peace at Ghent December 24, 1814 sounded the knell for American watch-making in the near future.

News of peace arrived in January 1815, and by autumn of that year our country was flooded by all sorts of miserable watches; and the poorest were in the greatest abundance. This told on the Goddards, although their watches were so satisfactory that they commanded a higher price than the foreign of the same grade, but their business soon became seriously crippled. Although they owned a pretty good farm, bounding on the main street, and their shop directly opposite to their dwelling, yet their means of living were seriously curtailed. Something else must be done.

About this time, or perhaps in 1816, Mr. Terry the wooden clock maker contemplated removal to Connecticut. He had a very pretty estate in about the best location for business in Worcester, opposite the large hardware store of Daniel Waldo, Esq., which was very well arranged and adapted to a watch-maker's needs; and Mr. Goddard became the purchaser of the Terry house and connected shop. Here the Goddards might well feel, under the very high reputation they possessed all over Worcester county as skillful workmen, that they should ensure a living at watch repairing. Accordingly, after this purchase, Mr. Goddard left the farm to his son Parley, and removed to Worcester in the latter part of 1816, or early in '17; and with his son Daniel as partner commenced the business of watch repairing without fear of serious interruption in times of war or peace.

In the last year above mentioned, I was bound to the Goddards by indenture as their first apprentice at Worcester. Not then as now-a-days, a boy going to learn a trade was generally bound for *seven years* and no 8 or 10 hours service per day for a day's work. We all worked from the 20th of October to the 20th of March from sunrise to 9 o'clock p.m.; and in the summer from sunrise as long as day light served at evening. Many and many were the days when 14 to 15 hours were devoted to their service, and much money to them was the result, and the magnificent sum of 20 dollars per year, with board and washing, was the compensation! The indenture did not stipulate, as was usual in the valley of the Connecticut river, that boys should not be fed on salmon more than twice a week. Our agreement, however, was fairly and honorably executed.

Elder Goddard, for by this title he was best known throughout Worcester county, was a good man. He had a profession, so he properly esteemed it, highly above his secular vocation. He was of the Baptist denomination and an evangelist. He supplied pulpits of churches without a pastor, without fee or reward except the usual hospitalities, for himself and horse from Saturday night to Monday morning; and, if compensation was urged, his reply was, in the language of Paul, "*These hands minister to my necessities*". He had a stentorian voice, ample flow of extemporaneous words, and great endurance of lungs, and could be distinctly heard in his preaching and prayers a great distance from their utterance. But unfortunately he seldom knew when to stop. So prolific was he of thought, and so full of scriptural quotations that, although he was acceptable to the country people as an occasional preacher, they could not suppress their impatience under his prolixity. It was the general practice to stand or kneel in prayers, but after an half hour or more of their spout, as he would approach his close by telling the Lord "*That we are not heard for our much speaking or long entreaty*", the welcome amen would find many of his hearers had dropped into their seats.

He would mount his horse on Saturday and go out in various directions, from six to twenty miles or more, with his messages to the people, and on Monday return at times with his pockets well filled with watches which were pressed upon him for repair, so that some vile sinners, finding such the case, at times charged upon him that that was the object of his preaching. The charge was foreign from the fact. Much offers of work he would decline, but the parties were so importunate he could not well persist in refusal. He was fond of anecdote, and would often tell his customers of the Quaker, who having repaired the watch of a physician, received it back again with a sharp reproof for its ill performance. The watch was corrected and returned with this couplet in the outer case:

*"The sun discovers my faults,  
And the earth covers thine".*

## A Family Tale

And another, of a pious watch maker who, having repaired the watch of a friend, enclosed in the case the following:

*"I serve the here with all my might,  
To tell the hours by day and night,  
See thou, example take from me  
To serve thy God as I serve thee".*

But if his watch was of the worthless trash with which the English, French, Germans and Swiss watch-makers supplied this country, the copy of such an example would be very poor service to his God.

These watches exhausted the patience and the pockets of the owners, and in a ten-fold greater degree the patience of the watch repairer.

At this time the "*Massachusetts Spy*" and the "*National Aegis*" were printed at Worcester. Post riders were established at almost every cardinal and semi-cardinal point. They centered there as the principal business and shire town of the county. Besides the weekly mail, they supplied customers with these papers, and they picked up on their several routes a great amount of bundle business, and received orders for purchasing goods. And among their various errands was that of taking watches for repair to Worcester. These riders would come to the Goddard's shop weekly with their packets filled with watches to be repaired. The firm was constantly crowded with work from 1816 to 1830. And with four at work from early to late there were often 50, 60 or 70 watches on the hooks awaiting manipulation. And can it be supposed that the envious or malicious story that the good old man went out to preach to gather in watch work had a word of truth in it? It was altogether false.

The old gentleman, for at this time he was well advanced, who said he well remembered Paul Revere's horseman who galloped past his early home sounding the alarm the British troops occasioned, was subject to the infirmity of other mortals. Impatient under the torment the generality of watches of that day occasioned the repairer, he would lay down his work and with a groan rise and say that "Job was not a watch maker", and go out and cross the street to Mr. Waldo's counting-room, where he seemed to be a welcome caller, and after a chat for half an hour would, with equanimity restored, return to his work.

But that torment to watch-makers at length was approaching an end. That foreign trash has been pretty fully picked up all over the country by Jews within the last 25 or 30 years and stripped of the gold and silver, which was melted down and the movements shipped to Europe, where the best of them are fitted up in cases for mantle ornaments and sent to India; but the poorer movements are melted for the gold used in gilding and, as Mr. Myers of Boston said some 20 years ago "*I shall do just so with your American watches by and by*".

The dawn of relief to the patience of watch-makers and wearers came first by that of a "lever watch", so called by L'Abbè Hautefeuille the inventor. The first that appeared in the shop of the Goddards was one bought by Dr. John Green, of Worcester, in about 1820. It was a silver, double-cased English watch appearing like the best of the English style, with cream colored or stone dial and cost him \$60. This watch performed more perfectly and with less trouble than any that preceded it. But these were superceded by the detached lever of the present day.

Other watch-makers contemporary with the Goddards deserve to be mentioned. One living in Oakham, in Worcester County, whose name is not remembered, was thus engaged in a limited way. It was said of him that, having made a very small watch without a suitable optical aid, he ruined his eyes, and thus closed his labor in this direction. A Mr. Wheelock of Sutton, Massachusetts, also made watches. How many he made I have no means of knowing. One only which I saw and which the Goddards pronounced a "*non-descript*" had an escapement, so far as is remembered, on the principle of Debaufre's as described by Reid on page 234 of his work. There were also two apprentices of Mr. Goddard at Shrewsbury, who made a number of watches. James Hamilton, who it is believe was located at Framingham, made as high a number as 77, which I have, and probably many more were made by him. And Jubal Howe located at Medway, as is believed, made several watches, only one of which have I seen and his full number is not now known. The watches of the last two were of the same style of the Goddards.

All these watchmakers operated in Worcester county, Massachusetts, and that county has the distinction of being the first field of watch-making in the United States.

W. H. Keith

The writer referred to in the cyclopedia says "Besides those watches made during our War with Great Britain a small number were made about 20 years ago."

No information is given where the last referred to were made. But it was probably New York. I have a movement with anchor escapement, without jewels to the pallets, with rack and pinion, a going barrel, and of course without fusee chain. The balance is sunk below the level of the plate and it is of fair workmanship; and marked "Julien Montandon" New York, Patent No 24. This escapement is that described as owned by Dr. Green of Worcester and was probably made about 1835. This was the last known effort at American Watch-making until the company in Roxbury commenced watch-making twelve or fifteen years after Montandon, and thirty after the Goddards.

Thus ends my story of the early watch makers in this country.



## Chapter Three: The Boston Watch Company.

The interval between the watch-making of the Goddards at Shrewsbury, and the effort of four gentlemen who engaged in its resuscitation at Roxbury, was a blank in this industry in this country, except the little intermediate attempt of Montandon, at New York.

A generation had passed away in thorough disbelief of successful American competition in the manufacture of watches against the experience and prestige of foreign manufacturers. But the gentlemen at Roxbury took a different view of the matter. They probably considered that every department of American industry, vigorously entered upon with capital and skill, had triumphed over the cheap labor of Europe.

By the statistics of the last decade, we see the wonderful growth of American manufactures. The year when these gentlemen commenced operation on watches at Roxbury, in 1850, according to Mulhall's *Dictionary of Statistics*, the value of American manufacturers was \$1,060,000,000; in 1860, \$1,970,000,000; in 1870, \$4,230,000,000; in 1880, \$5,560,000,000. And at the present time the United States turns out more manufactured products than any other nation in the world; the total in 1880 being \$5,560,000,000, while those of Great-Britain were valued in 1882 at \$4,091,500,000; France, Germany and Russia being much in the rear. This shows an increase in 30 years of \$4,500,000,000! And this was accomplished during the period of *one natural life* notwithstanding the mulish attitude of George the Third, and his minions.

Since the birth of two Massachusetts boys in the last century - that of Amos Whittemore, of Cambridge, in 1759, and of Eli Whitney, of Westborough, in 1765 - to the time of Elias Howe and Morse, of Edison and Bell, American genius has led the world in mechanical arts.

The former engaged in the manufacture of cotton and wool cards, at a time when the leathers were punctured, and the wires bent and set by hand. In the early part of this century the leathers were distributed to families, and women and children had to finger them by thousands. But this occupation was soon lost to them. Whittemore invented a machine to supplant the fingers; but he met with so great difficulties in bending the wire to a given angle, he was about giving up the attempt when in a dream he discovered the method of effecting it. And now, with the great improvements made, this wonderful machine is almost of human intelligence; and is daily accomplishing the labor of thousands of fingers. His machine was patented here but England refused him.

Of the latter, after the invention of the cotton gin, he engaged in the manufacture of fire arms, and "*was the first who divided his labor so that each workman should perform by machinery but one or two operations on a single portion of the gun; and rendered all the parts adapted to any one of the thousands of arms in process of manufacture at the same time*". So that the genius of Eli Whitney may be remotely, if not directly, the foundation of the effective methods adopted not only at Springfield in the government arsenal, but also by the clock makers of Connecticut, and by the watch-makers at Roxbury; whereby successful competition in these arts is assured, and enables us to antagonize<sup>7</sup> the various other advantages Europeans possess.

An Englishman, who was an English agent some half a century ago, used to tell of a rich man in Boston who was about to build an expensive house, who called on him to know what kind of trimmings, such as door knobs, locks, fastenings etc., were in use by the lords and gentry of England. The answer being given, he gave an order for such goods to be made especially for him. The goods were ordered, and in due time arrived. Mr. Trimmings, the agent, examined the goods, and put them out of sight, and would not allow the one for whom they were ordered to see them, and told him he had better give his order to American manufacturers. Subsequently a hardware importer in Boston said, complainingly, that the Americans were cutting up his importing business, not only in edged tools and building hardware, but hardware in general, and, with more selfishness than patriotism, got one of the best American balances as a pattern and sent it to England to copy perfectly; and with it a large order was given for the goods. To his dismay, when they arrived he found that they bore scarcely a trace of the one he had sent, and said he must get rid of them with considerable loss, and give his orders to those at home who had the machines and the skill to manufacture them, and be satisfied with a commission on his goods.

<sup>7</sup> The uncommon meaning of "*to counteract*".

Early in this century, a considerable industry was growing up in Massachusetts and Connecticut, in making wooden clocks. But soon the Germans, Dutch and Swiss got hold of the business and nearly silenced that industry. After the peace with England in 1815, for twenty years, this foreign trash for clocks was to be found in nearly every hamlet and hut in the country, with their winding cord and pendulum outside used with their noisy alarm and foolish cuckoo. But they were dispensed with from their places as by magic, and Connecticut clocks succeeded them.

The writer in the cyclopedia quoted before says, *"Americans have sought to produce good serviceable clocks at the least possible cost ... The cheap American clocks made without pretence to finish ... were several years ago admitted by the English themselves to run a week with smaller weights and a shorter fall than the English clocks ... The parts are rapidly made and cut out by machinery, and so the brass wheels are stamped from plates, all the similar parts being made alike for thousands of clocks"*. Hence it appears that Connecticut, many years before 1850, foreshadowed, in a nearly identical business, the future of American watch-making. And if the clock makers will publish a "Family Tale", and give the name of the one who first applied Eli Whitney's method in the manufacture of fire-arms, by punching out and multiplying the parts of the clocks, the country can better judge whose "idea" has priority of claim in the American method of clock and watch-making.

As early as about the year 1845, there were *"Three or four hundred thousand dollars invested in clock-making in Bristol, Connecticut. Brass, mahogany-cased clocks were there made at the low price of three, four and five dollars each. More than ten thousand had been sent to England within the 18 months then previous, and two persons had then lately gone to China with a goodly number of these clocks for that market. Who will question Yankee enterprise"!*

And why could not our early watch makers, when they saw their business prospectively doomed, and when forming their wheels and pinions, have conceived the feasibility of dies and punches for the one, and wire cutting engines for the other. Or in cutting the teeth to a single wheel think that an engine could be made to cut 12, 50 or more wheels with one revolution of the plate; and thus not only forestall the clock-makers, but do as they did and push their time-keepers into England?

But no! Those thoughts were to be dormant until some Connecticut brain or brains could develop them; and it was not until some thirty years after the first American watch makers had been driven from their occupation by the competition of the low-priced labor of England, which in its turn, has lost the markets of the world for monopoly in watches.

It is recently stated that *"Sir Eardly Wilmot M.P., in a pamphlet just published, gives ten articles of manufacture which has cost England \$1,400,000,000, while the operatives in these lines have been on the verge of starvation. The sugar refineries on the Thames have decreased to one, while those of Bristol have gone out of existence. The watch-making trade is gone because 250,000 were imported from the Continent and 30,000 from the United States. The silk industry has declined 50 percent in 20 years while England's furniture production has been crippled by the free competition of Germany and Belgium. Over a million acres of land have gone out of wheat cultivation within a few years. Cattle and sheep have decreased. The wool clip has decreased 50 percent in fifteen years"*. Thus, while we may not rejoice at England's loss, we may congratulate America for its prosperity. We must increase, while England and probably Europe will according to the law of change decrease. Empires rise and fall, as families and individuals do.

The writer in said cyclopedia says further that, *"Until quite recently but few watches have been made in the United States ... There are now two establishments, the principal one at Waltham and the other at Roxbury, Massachusetts, engaged in construction and arranging all parts upon the principle so successfully applied to the making of clocks"*. Though the establishment at Waltham is by far the largest in the world, priority and originality of manufacture must be conceded to the Boston Watch Company, in the town of Roxbury, and state of Massachusetts. The partners of this company were Samuel Curtis, of Boston, Edward Howard and David P. Davis, of the firm of Howard & Davis, and Aaron L. Dennison. The shop and machinery of Howard and Davis, clock-makers, was available for a time for the early starting of this enterprise. In 1850 these four persons organized a company, which at first was called the American Horologe Company, but for good reasons changed it to the Warren Manufacturing Company, in honor of General Joseph Warren, a name well chosen for an American company engaged in a manufacture which England seventy five years before would fain have suppressed. But Warren, who was born at Roxbury, in 1741, near the locality of this company,

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and killed on Bunker's Hill in 1775, early embraced the cause of the colonies, and maintained for his country-men, among all other privileges, just such as this company had entered upon. *"Among the dead"*, says an official account of the battle of Bunker's Hill by the Massachusetts Congress, *"was Major General Joseph Warren, a man whose memory will be endeared to his countrymen and to the worthy in every part and age of the world, so long as virtue and valor shall be esteemed among men"*. But for purposes designating the character of this manufacture and the locality of their works the name was again changed to the Boston Watch Company and the locality afterwards became a part of the city of Boston. So though this company had three different names they are identical, and consisted of the same persons.

Mr. Curtis, who made no claim to mechanical skill in the business, was the capitalist who brought \$20,000 to the concern; which, at first, was though ample for its complete success. But this sum, though considered by those in possession of it as much at that time, and was a comfortable fortune, was very soon exhausted. And Mr. Curtis and Howard & Davis supplied \$20,000 more, which in a few months was also engulfed. Thus \$40,000 were expended without success, and at this point the discouragements were so great that the parties felt, as well they might feel, that their enterprise had miscarried. To go on more money was indispensable, but how was it to be obtained? Pluck decided that point, and \$20,000 more was supplied conditionally by parties in New York. But in a few months this also was absorbed; and the business not yet paying, but at every step a losing one, and when if ever a favorable turn would come was in the vague future. Thus in the first three years, or less, \$60,000 had been invested in the Roxbury plant; and yet its demand was for more. Nothing discouraged, the indefatigable treasurer exerted his talents at ways and means, and provided through friends, whose names, though it would be to their honor, cannot be given in these pages, and by loan of money and credit kept the works in motion until the money panic of 1857, brought not only this company bankruptcy, but some others who had aided it. So that when it finally yielded to the unavoidable, the company estimated their investments at \$150,000 and their shrinkage at \$90,000.

While the company was contending against the complicated troubles of their hitherto losing enterprise, during the year 1853, the last year of its operations at Roxbury, the public papers gave information of a communication to Congress, of the recommendations by President Pierce that duties on all articles not produced in the United States and all those not likely to be produced be abolished; and among the articles enumerated were watches. Mr. Howard mentioned the fact to me and said that, though he did not want a very high duty on watches, for he feared home competition more than foreign, but requested, as I was a resident of the District represented in Congress by Hon. A. P. Banks, I should write him and mention the error of the President in regard to the article of watches; and request our Representative to appear before the Committee having charge of the matter, and endeavor to prevent the repeal of the duty.

Accordingly, in January 1854, I wrote Hon. A. P. Banks as follows:

*"I should have addressed you earlier on the subject I mentioned when I last saw you, but have delayed for the purpose of sending at the same time the pamphlet<sup>8</sup> I now forward. By a reference to the proposals therein, and to the articles of agreement, you will perceive that the manufacture of watches and watch materials, or parts of watches, has commenced in good earnest among our people.*

*"I have but little to add to what evidence is presented in those pages in reference to this subject. I will, however, say that I know the parties engaged in this manufacture, and that they are men of character and capital, and I have full confidence in their declarations. They inform me that they manufacture watches whole and entire, the only exceptions being the enameled dials, and those they are about to manufacture. The various parts of watches, or as technically called watch material, they manufacture and dispose of in considerable quantities to dealers and workmen in their profession.*

*"The repeal of the law authorizing a duty on watches and watch-material would, especially in the infancy of the manufacture, be onerous to those enterprising projectors, and might put the manufacture back for a long period.*

*"I have no pecuniary interest in the matter, but any effort I can make to prevent the repeal of that law shall be done; and I esteem the interest you manifest in the matter not only a personal favor but a public good.*

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8 This is the pamphlet produced by Keith as a prospectus for the Waltham Improvement Company, discussed in the next chapter.

W. H. Keith

*“If you deem it necessary that one of the parties pecuniarily interested should appear before the committee of Congress, with samples of their work, if you will inform me I will notify them accordingly.*

*“As to getting the establishment out to Waltham, it is yet a matter of uncertainty. It is a time of year unfavorable for land operations, but yet I am not without strong expectation of such a result.”*

The services of our representative were timely and successful. The law remained on the statute book and the duty not only continued, but ultimately increased.

And shortly after the foregoing letter was written, the watch company, located in Roxbury, decided to remove their works to Waltham, provided there could be a land company organized to their liking. Then the pamphlet referred to was circulated, and in a short time the stock book filled and closed; and application was made to the Legislature for a charter for *“The Waltham Improvement Company for the purpose of establishing the manufacture of watches in Waltham”*.

The committee on manufactures to whom the petition was referred, manifested some surprise and doubt as to this petition; it being altogether novel in this country, and the general distrust of making watches in this country, and the aversion of the Legislature to corporations, especially to land companies, by most of the members, seemed to be serious impediments to the success of our petition. But a package of the goods being exhibited, the gentlemen were convinced they really were home made, and very little explanation or argument was required. The committee was satisfied and a bill was reported and enacted; and as soon as the charter was obtained and the deeds of land from Mr. Brown and Mr. Lawton were delivered to the Waltham Improvement Company, the Boston Watch Company commenced the building of a watch factory, and in the fall of 1854 removed their machinery to Waltham.

The Boston Watch Company, then for more than three years, had been struggling to accomplish American watch-making at Roxbury, by new and untried processes. And it was a struggle the like of which but few mechanical attempts have equaled.

The time of its birth, in the near future, was most unpropitious. Unforeseen political and financial disaster was fast approaching. Those who looked upon its work as entered upon, who were experienced watch dealers and watch repairers, thought it a work of folly, never to be accomplished, and ruinous to those engaged in it even in less portentous times. And the great public who knew of the work in hand had no faith in its success. And it is believed that nothing but the energy, mechanical skill and steady perseverance of Mr. Edward Howard enabled that company to produce so much as the first watch. The mechanical perplexities and discouragements which were upon him were by no means all that would tend to his exhaustion. Those who had his acquaintance at that day cannot but remember his indomitable efforts to provide ways and means, under the strain of the financial embarrassments consequent on the diversified experiments which were considered indispensable to success.

And when arrangements were made with the Waltham Improvement Company, although that company was not strong enough to do much for the Boston Watch Company, it was hoped that the little aid it could render might enable the latter company to keep its factory in operation. But when the general crash came in 1857 on all business concerns, it was quite too much for the Improvement Company to make further advances without ruin to themselves. Many of its stockholders, and some directors, had been for some time entirely distrustful of the success of the enterprise, and the notes of the Boston Watch Company guaranteed by the Improvement Company had been effected without perfect unanimity by the Board of Directors. So, the Boston Watch Company, though the great prize was almost within its grasp, had to yield to the inevitable and miss that to which their skill and zeal so richly entitled them. But for the great financial crisis then upon the public, it is believed they would ultimately have reached the goal so ardently sought.

As to the division of honors between the gentlemen of the Boston Watch Company, it is a simple matter of fact that chiefly concerns themselves. Yet the future historian of American geniuses in mechanical arts may make it a question of some public interest. One of the two gentlemen appears to have made an open claim to the distinction of originating and developing this new American industry; and the other concedes to the former the “idea” and co-agency in its development, but not of personal success in the devise of the machinery.

But it is undeniable that Mr. Edward Howard and Aaron L. Dennison, and others employed by them, invented the machinery for the purpose and produced watches in general accordance with the processes as now applied to this industry in this country. But what each of the two gentlemen did, and which of them was most successful in invention

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and in producing the watch, cannot perhaps be known. There appears to be some conflict in their claims; and as the other two partners have long since deceased, it probably will still remain *exparte vs exparte*. But it is probable that neither one alone would have attempted what they together accomplished.

In a private communication, Mr. Howard refers to what seems to be reliable living testimony, from a prominent workman early in the employ of the Boston Watch Company, that "*the success of the watch was much more due to him (Howard) than to his partners*". However, the efforts of both are certainly worthy of high commendations, in that they should, assisted or unassisted, put forward measures to accomplish with or without the principles and practices being known to them which has been employed by Eli Whitney and subsequently practiced at the Arsenal at Springfield, and by the clock-makers in Connecticut, and apply the same to the manufacture of watches, and produced goods by this method that were so creditable to themselves, and acceptable to the public and to the trade, and that were in such fair demand, and gave such general satisfaction. But the great improvements since made by Mr. Howard, and by the American Watch Company, show plainly the progressive spirit of American mechanics.

In a private letter Mr. Howard says, "*When I look back and bring to mind what I went through physically and mentally, to start and perfect the watch business, I am astonished at the endurance with which I stuck to the task; and my friends were more astonished at the time than myself. Could I have seen before hand the trials and tribulations ahead, I never should have made the first movement. Millions would not tempt me to go over the same ground again*".

As evidence of the foregoing statement, the following communication for this "Tale" has been prepared expressly by Mr. Edward Howard. And as it appears that the claim of one party has been made public by the press, it seems but fair that the claim of the other should be dealt with in a similar manner.

*"William H. Keith, Esq.*

*"St. Augustine, Fla.*

*"Dear Sir,*

*"I have by me a copy of the article, published in a Waltham paper a few months since, in reference to Aaron L. Dennison as being the father of American watch-making. You take exception to the article as a whole as well as myself. Having been one of the most prominent actors in starting and perfecting the manufacture of watches in this country, I think a statement of facts connected therewith will be of interest to you, and you may choose to embody them in some communication that you intend to make.*

*"During my minority, I served an apprenticeship with Mr. Aaron Willard, clock-maker, on Boston Neck, so called. A few years after I became of age I commenced business as a clock maker and, about the year 1842, I became acquainted with Mr. Aaron L. Dennison. He was then in the business of repairing watches and dealing in watch materials.*

*"About the year 1845, Mr. Dennison commenced to talk with me about the feasibility of making watches in this country. I did not think much of the matter at the beginning, but being much given to taking an interest in new things I finally gave my mind to the subject, and after carefully looking over his reasons for a belief that by a proper system and proper machinery adapted to such a system, I consented to take an active part and see what could be done.*

*"Before any organization of a company had been formed, a few tools were made to test some ideas of Mr. Dennison's. Those tools were made and used in the old clock factory of Howard & Davis. The first tool was for the purpose of forming the watch plate with all its different cuts and cavities at one movement, and the tool was in the form of an upright lathe. The other tool was a framework of dies and punches whereby all the holes in the plate, even the smallest pivot holes, were punched at one time, as it was supposed all the holes in all the plates if they could be punched at all, would be alike and in the same places. We were all so anxious to have those tools a success, in order to organize and begin at once, that we made only a few trials, pronounced the experiments a success and laid the tools aside for future use.*

*"The next thing was to find the capital to start on such a wild enterprise. Every dealer and every watch repairer said it was a very foolish undertaking and never could succeed. Well, they came pretty near being right, as nothing but the circumstance of the coming together of Aaron L. Dennison and Edward Howard would have produced successful results. I do not think there would have been the slightest chance for Mr. Dennison to have started a watch factory without my assistance financially and mechanically, neither should I ever have dreamed of making watches if Mr. Dennison had not led the way.*

*“After a good deal of talking and explanation, Mr. Samuel Curtis, of Boston, was induced to put in \$20,000 as the capital that was then thought to be necessary to perfect and carry on the business.*

*“A brick building was built on East Street, Roxbury, Massachusetts (now a part of Boston) expressly designed for the business, as near as we could guess what the business required. The whole internal arrangements were torn out within one or two years and rearranged. While the building was being put up, Mr. Dennison visited England for such information as he thought would be useful in forwarding and perfecting the business. One of the most important things to be learned was the frosting and gilding the parts of the movement. No one could be found in the United States who understood the process. Several would pretend to tell us how but they could not do it; neither could we by following any directions that we could get. So it seemed imperative that Mr. Dennison should go to England to get instruction on that one point if for nothing else. Mr. Dennison returned with the belief that he had learned the art of frosting and gilding the parts of a watch movement.*

*“The business was first started in 1850, under the name of the “American Horologe Company” and was composed of three parties: the firm of Howard & Davis, Samuel Curtis and A. L. Dennison. It was thought after a few months trial that the name of the company was somewhat an indication of the nature of the business, so the name was changed to the Warren Manufacturing Company. We had certain information and certain kinds of material that we had to send to England for, while we were establishing the business; and, as we supposed, had the parties there known what the articles were wanted for we should have been unable to get them. Therefore we changed the name to the Warren Manufacturing Company as that did not indicate the nature of the business.*

*“After the business was fairly established so we could make movements, the style of the company was changed to the Boston Watch Company and remained so until its business ceased in 1857.*

*“We will now return to the time when the building at Roxbury was finished. Mr. Dennison had returned from England, and he and myself went to the task before us. Mr. Dennison devoted all his time and his best thoughts to the enterprise. He was a thorough watch repairer, and knew when a watch was properly made as well as any man in the country; but he was not a success in designing or making machinery adapted to the work to be accomplished. On a further trial of the tools made at the clock factory, as a test of some of Mr. Dennison’s plans, they proved to be useless and were laid aside. The most important tool, although a simple one, and which has been of more service than any other one tool in developing and carrying forward watch-making was the spring chuck.<sup>9</sup> That chuck was invented by Mr. Edward Howard, and was used in the clock factory of Howard & Davis sometime prior to any attempt to watch-making. As the business progressed we found that most of the plans tried for doing the work at first were not successful, and other machines had to be devised and constructed before we arrived to any degree of satisfaction.*

*“The company kept on building tools, trying them, laying them aside and making others better adapted to the end sought. At that time a wheel cutting engine was made from designs of Mr. Dennison’s. It was to be automatic in its operations and the expense was about \$500. After many trials and alterations it proved to be worthless and was laid aside. The plan of it was such that it was found impossible to cut two wheels that would be of the same diameter.*

*“At this time an improved lathe was designed and made by Mr. Charles E. Mosely (then in the company’s employ) called the three bearing lathe. That was an important tool for many purposes where accurate length and distance in turning a shoulder were required. The ratchet lever was added to the above lathe by Mr. E. Howard, in order to apply more force in closing the chuck on the material to be turned; and proved to be an important addition.*

*“The plan of the first watches made were intended to run a week with one winding. They did not prove to be good time keepers as they would not keep the same time at the first and last parts of the week. Less than 50 of those watches were made, and then the usual 36 hour watch was made. The first watch made by the company (No. 1) is now in the possession of Mr. E. Howard. The plan proposed was to make the movements and parts so that any movement would fit any case, and any part of one movement could be interchanged with any other.*

*“The same plan for interchanging of parts Mr. Dennison knew was being practiced at the Springfield Armory, in the manufacture of fire arms; and to a large extent in the Connecticut clock factories. The interchangeability of parts, however, was found not to be practicable in the finer parts. It never has been to this day, and never will be, as the fine pivots, jewels and*

9 “check” in the manuscript.

## A Family Tale

*parts of the escapement have to be selected and properly matched. It was found impossible to make the fine parts near enough alike to dispense with selecting and matching.*

*“At an early stage of the business, when we had arrived at the point where the parts of the watches were to be gilded, we met with an unexpected obstacle which cost a great deal of time and money to overcome. As has been stated before, Mr. Dennison went to England for information, and particularly to learn the art of frosting and gilding watch movements. He reported on his return that he had succeeded, and no further attention was given the matter till the time came for doing that work. When he (Dennison) attempted to do the gilding he found himself unable. He and some others worked according to the knowledge he had, and all the reasoning that could be brought to bear on the subject for a long time, without success. We then began enquiring all over the country for some one who could gild a watch movement or show us how to do it, but no such person could be found. If we could not gild a movement properly we might as well give up the enterprise at that point and spend no more money.*

*“On a short deliberation we selected Mr. N. P. Stratton (then in our employ and since well known in connection with the watch business) to go to England expressly to learn the art of gilding; and he was not to return until he was sure he had mastered the work. He went to Coventry, a watch manufacturing centre, and with time, patience, shrewdness and money, he became acquainted with a watch gilder who secretly taught him the art. The fact that Mr. Stratton had been taught how to gild a watch soon became known, and Mr. Stratton had to leave the next day under the threat of being mobbed.*

*“What was done with Mr. Stratton’s instructor was never known, but it was supposed at the time that he had to suffer for giving this information.*

*“Mr. Stratton returned in due season, commenced gilding at once, and there was a good deal of rejoicing for such an important success.*

*“We continued experimenting to facilitate the work and improve the quality until the \$20,000 put in by Mr. Curtis was used up. Then \$20,000 was put in by Howard & Davis. In a few months that was also worked into the business with no satisfactory results. It began to look as if the whole thing would be a failure so far as its being a business success. More money we must have, and an arrangement was made with an importing house of Maiden Lane, New York, to advance us \$20,000 at the rate of \$1,500 a month; they having the exclusive sale of the movements, invoiced at a net price, they fixing a price above that to give them a sufficient profit. The agreement was so drawn that either party, by giving six months notice, could close the contract, and the balance due to be paid back as received at the rate of \$1,500 per month. It was not many months before the whole \$20,000 was received and used up in the business, and still it was a long way from being on a paying basis. There seemed to be a terrible vacuum and money could not be found to fill it. It was certain that we were losing money on every movement we made. We could get no more advance from the parties contracted with, and if we could it would have made the matter worse, bankrupted the company, and inflicted a large loss on the parties loaning the money.*

*“As the acting treasurer of the company, all the trouble of raising money to put into a losing concern fell upon me; and it was a very hard task to find money to put into the business that had swallowed \$60,000; three times as much as the estimate and nobody could tell how much more would be required.”*

Thus far extends Mr. Howard’s communication. More was expected and more was contemplated, but no more received. And though it ends abruptly, it probably covers the essential features of the first three years conflict of the company at its birth place in Roxbury.

Though it would have added interest to his narrative, had he covered the two to three years of mechanical disappointments and successes while located at Waltham, it would be, if the financial vicissitudes of the company were also given, a painful rehearsal of the lack of means similar to what they had suffered in the earlier stages of their operations.

With the increased facilities of manufacture at Waltham, and a greater number of workmen, the greater was the requisition for capital; and if the production and profits were not in proportion to the facilities, the more rapid would be their exhaustion. Under the pressing emergencies of 1856, so great was that vacuum (as Mr. Howard has it) various expedients were thought of to bridge it over. In the fall of the year referred to, in view of the threatening disaster which finally overtook the company, some plans were devised by the firm which it was hoped would be effective to accomplish relief. But the parties were not perfectly united as to the method for its accomplishment. One proposed

certain arrangements with a prominent creditor by which the sum of \$30,000 would be put at rest. Another proposed to organize a sort of joint interest among subscribers to a fund of \$50,000, as special partners in shares of \$1,000 and upwards for the term of five years, under the promise of one third of net profits, or 8% interest in any event, with a prospective benefit of twenty percent annually on the sums subscribed for. And efforts were put forth in both directions. But oh, the cowardice of capital. Not a dollar could be obtained by either method! So the Boston Watch Company was not to be sustained in its infantile struggles. Had it been, judging by the ultimate results of this industry, the investors would have reaped a larger reward.

But capitalists are often blind. And the problem is yet unsolved, whether is greater the number of those who miss a fortune by the omission to seize a golden opportunity, or those who miss by too great credulity in untried enterprises. For instance, and this is one only among millions, there is one gentleman in Boston, now in ordinary circumstances, and probably many other like him, to whom Mr. Harnden of Harnden's Express applied for aid. About 1840, Harnden was ticket master for the Boston and Worcester Rail Road, and while in that office conceived a plan of establishing an express between Boston and New York by sending messengers daily both ways. But he was without funds sufficient for the purpose, and applied to this gentleman for \$500, with the promise of a proportionate part or interest in the business; and was refused. But when obtained, this sum was the foundation of "Harnden's Express"; and on his death it became the great Adam's Express Company, whose routes pervade every section of this country, and whose dividends have made many rich.

And so of the Waltham Improvement Company. Among the first stockholders, the mourners who stepped out and missed their opportunity exceed by more than two to one the beneficiaries who are now reaping the fruits of their confidence. So would it have been had those whose aid had been solicited come forward to sustain the Boston Watch Company, and by certain conditions which might have been made with the company, also have reaped a larger reward. But though the times were stringent, there was idle capital enough; but by timidity or lack of confidence it was unavailable. So the Boston Watch Company with all its high expectations and good prospects ceased to be in the year 1857.

But there is some satisfaction under nearly all afflictive circumstances. One of the partners, soon after the downfall of this company, rallied, and like the fabled bird arose from the ruins. And turning his trying experience to advantage, re-established himself at Roxbury. There, with others, he reproduced his goods, has succeeded, and his friends' trust has prospered, and founded successfully the "E. Howard Clock and Watch Company", whose manufactures are a credit to the enterprise and talents of its projector. And may he, like the ancient emblem of that fabled bird, enjoy immortality.



## Chapter Four: The Waltham Improvement Company.

The health of my family requiring country air, I left the city in the spring of 1852 and took a lease of the Bemis farm in Waltham. It was a part of six hundred acres then recently set off from Newton to Waltham. The farm had long been owned by Hon. Seth Bemis, of Watertown. But at this time it was owned by Dr. J. W. Bemis, of Charlestown, and possessed by inheritance. Its situation was beautiful and salubrious on the northerly and southerly winding bank of the Charles River which separated it from the village. The prospective value of the property for building purposes was recognized by more than one person, and could be predicted by many.

The land to the north of the main street was held largely by gentlemen of wealth, who cultivated it for pleasure rather than profit; and instead of selling chose to purchase more land. One of the owners had some four hundred acres. So building lots in that direction were not to be had.

The next most available and accessible land for the improvement of the town was but a few minutes walk from the Post Office and stores, and was on the south side of the river.

At the time of the lease, there were but eight or ten dwellings in that section of Waltham, though land there had begun to attract purchasers.

During the term of the lease, the relations between the lessor and lessee were disturbed by some trivial affair, so that the lease was not renewed; and I took a cottage contiguous to the farm, to await further development of that property. It was considered as a safe investment to hold for a rise. But under the state of feeling between us I could not approach the owner for negotiation. It was not advertised by the owner as for sale, nor was it generally understood to be "in the market". But in the month of October, 1853, negotiations were opened between the owner and James Brown, Esq., of the firm of Little & Brown of Boston, and on the first day of November following, the sale was accomplished and a deed executed and delivered.

Near the close of that month Mr. Aaron L. Dennison, of Roxbury, who I had well known for fifteen years or more, called at my house in Waltham. He failed to inform me that any gentleman had told him that "*the Bemis farm was in the market*". But proceeded to inform me of the difficulties he and his associates of the Boston Watch Company experienced from the dust and confusions around their present factory. He said his company desired to find some country location where there was land enough for the buildings of a factory, and for dwellings for their work people; the same to be easily accessible to Boston, by sail, and a pleasant and salubrious location. I understood his call to be not only as a friend, but as a representative of his company, and any aid I could render them in the accomplishment of their wishes would be acceptable.

He said he had been attracted to a place at Stony Brook, a few miles further by sail, which he admired very much, but he saw no prospect of making any arrangement with its owner.

Mr. Dennison knew as well as myself there were fine locations in Waltham, Weston and Newton. But whether there were any within a short distance of Boston, by sail, satisfactory and available, and attainable, I hardly knew. The farm there open before us would be a good property for their purposes. But it had been sold on the first day of that month, and I thought the purchase of it now very doubtful. I knew Mr. Brown held the farm in high estimation, for he had said to me that, as he walked up and down the river bank for nearly a mile, and he saw by the lay of the land and beauty of the river sites that they must become quite valuable. But I told Mr. Dennison I thought it would be best to see Mr. Brown and listen to any proposition he might offer.

Then Mr. Dennison, who was as usual fertile in suggestions, opened his views further on the subject and intimated that his associates might like that I should, in case that Bemis farm could be bought at a price such as, with improvements, would afford inducements to those who might venture on a scheme of speculation to double the sum they might invest, that I should engage in the enterprise and suggested the formation of a land company; and, provided the company would supply the wants of the watch company for building their factory, and dwellings for their work people, equal to the assessments on their stock, the watch company would take a considerable part of the stock when the books should be opened.

I told him that my engagements were then of a kind which afforded me much leisure, and that I would think of the matter, and perhaps see Mr. Brown, and inform him of the result.

After sleeping on it, I saw that the suggestions were worthy of attention, and thought I knew that watches made after the system of Connecticut clock-making would be likely to succeed, and enable Americans to expel competition in foreign watches, as the clock-makers had done with the cheap clocks of Holland, Germany, and Switzerland.

I soon made up my mind that it was a duty we owe to the reputation and industry of this country, and I would take the effort upon myself to encourage this work, and make it my future business.

Little time elapsed before I called on Mr. Brown, at his book store in Boston. He was an excellent business gentleman, very affable and easily approached. He listened patiently to my errand and promptly replied that he looked upon the property as very valuable. That he had bought it on very easy terms of payment, no cash immediately required, and that the notes given with the mortgage would not fully mature until the expiration of the next ten years. He said that he was not anxious to sell. Yet, as he thought the object to be accomplished by the formation of a company for the achievement of an industry so important to this country so commendable in itself, that he would give to such a company a deed of said property, if it would assume the prompt payment of his notes, and in addition give him a bonus of five thousand dollars; which might be put in two notes, payable one in eleven and the other in twelve years; and that he and his father-in-law would probably take some shares of the company stock.

I thought the offer worthy of acceptance, but stated that it would be a matter of time to organize such a company. He proposed for that three months from the 1st of January 1854. Without further consultation with any one, I accepted his offer provided he would give a bond for a deed on the first of April following, to William H. Keith and Aaron L. Dennison, and their associates. Accordingly the bond was drawn by F. E. Parker, Esq., William Brown's trusted and trust-worthy counsel, and executed and delivered to me. Then the work had begun in earnest, to open a subscription book and place the stock in hands willing and able to meet the assessments when due, was the next work to be done.

Previous to my call on Mr. Brown, on December 1st 1853, Mr. Dennison wrote me as follows:

*"From what I know of our wants, and the disposition of the other members of our company, I have no doubt we shall be disposed to take hold of the said farm. I would suggest for your consideration to fix upon the sum of one hundred thousand dollars as the capital stock of the company, and divide it into one hundred shares of one thousand dollars each ... We should probably take 20 or 30 shares, provided we could direct the investment for improvements for the first three years, in favor of ourselves and persons in our employ, making the improvements for our party, and that party being largely interested in the land company."*

To all of which I full assented and wrote him accordingly.

There was also a lot of about four and a half acres situated on Moody Street, which so cut into the farm that we thought it would be an important acquisition to the other purchase, which was owned by Mr. George Lawton, of Waltham. By this purchase we should get an uninterrupted line, on the principal thoroughfare to West Newton, of about 1500 feet. This lot Mr. Lawton bought in 1841, according to the Registry of Deeds, for three hundred and thirty dollars. I called on him and told him the purpose for which I wanted to purchase it. He said he would sell it for five thousand dollars on easy terms of payment. A pretty large advance on the cost, as I thought. Still, in consideration of its location, I thought it best to secure it, and inquired if he would give a bond for a deed in three months; to which he consented. It was executed in favor of the same obligees as those in William Brown's bond. To satisfy the conditions of these bonds would require \$32,500.

Thus provided, I was prepared to set myself at work to write up the value of the Bemis farm and the Lawton lot as worth very largely in excess of the figures here given. Those were appended to the estimates of value of the land in the pamphlet, articles of agreement, so that if we could not obtain an Act of Incorporation in the time our bond allowed, we could legally organize a company under those articles and secure the deeds of the lands.

The written statements I took to a printer in Boston for a pamphlet. It was paid for from my pocket, and personally distributed at dwellings and otherwise to persons in Waltham, Watertown, Boston, Charlestown, Roxbury, and Cambridge, who I thought able to engage in such an adventure.

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The pamphlet set forth, that certain tracts of land in Waltham, containing upwards of one hundred acres, could be purchased, *“and that it was very favorably located for a rapid and respectable settlement. The Bemis farm consists of 100 acres. The deed says 97 acres besides a lot of flowed land not measured; which at the price of \$27,500 is a fraction less than two thirds on one cent or 6 ¼ mills per foot<sup>10</sup> or \$283.50 per acre for the upland. The price demanded for the Lawton lot is over \$1,000 per acre, or a fraction over 2 ½ cents per foot ...”*

Land contiguous to the farm had been sold for \$260 a quarter acre, and the town paid for land for a school house on Moody Street, in 1852 \$350 for a quarter acre. And one lot of this land had been sold at the rate of but little less than \$2000 per acre or 43 1/2 mills per foot. It set forth the great profit many stockholders received from land companies around Boston, and that these lands in Waltham were more favorably located in reference to their accessibility to the metropolis than the Cary farm, the Edgeworth, Winnisimmet and even East Boston, which if one minute late for the boat half an hour was lost in waiting, in which time a Waltham man would reach his business in Boston. All these companies had paid very largely, especially the last mentioned. Persons who invested a comparatively small sum for shares in purchasing “Noddles Island”, afterwards East Boston, in a few years became rich for the times. Reference was made to the South Cove Company in Boston, which, with a paid up capital of \$414,300 from sales and land remaining unsold in 1852, according to assessors valuation amounted to \$3,122,240.60 as the sum produced on the investment. It shows further that at the price the late owner sold one lot for, and that not the most eligible, the whole farm would give a surplus of \$112,066.24. Also, that large as this advance is over the cost, there are those who believe the future owners thereof will with judicious management realize very much larger profits than we have indicated.” With one more quotation the pamphlet may go to rest, where it has been for the last thirty years. Referring to the Boston Watch Company, that proposes to be with us, and of us, it is added,

*“Yankee ingenuity, skill and enterprise have accomplished wonders during their short history; and this manufacture, though not the least, is surely about the last with which we could expect to compete with Europe. But the fact is, that in this article competition has commenced and many years may not elapse before American watches may supply our own and vie with Europe in their own markets.”*

This pamphlet produced a marked sensation among real estate owners in Waltham. The price of land was seen to be proportionately low compared with the prices of land locally much inferior in every respect. Prices were generally advanced. Mr. Lawton told me after his deed to us was executed and delivered, that if we had not come to time for the deed the price for his lot would have been \$10,000! What Mr. Brown's farm would have been was not stated.

With all preliminaries settled, I made a hasty rough stock book - which, with the pamphlet, is now among the old papers of the company - and I sought for subscribers to this stock. But finding almost universal distrust of the success of any attempt to compete with the long experience of cheap labor in Europe, engaged in watch-making, excited doubts of getting stockholders. And but for the stimulus of the Range prospective returns from the sales of land, probably it could not have been done in that locality. Mr. Lawton, who, after the change of name of the company bought stock as he could find it, and became the next largest stockholder to Mr. R. E. Robbins, gave as his opinion to the directors, more than once, and addressing me said *“but for that pamphlet you put out you never could have organized this company here”*. But to my surprise the one hundred shares were subscribed for within ten days. What ever may have influenced these subscribers, it seems proper their names should be known as memorial of their early action to establish by money and influence this now splendid American industry.

There were sixty one subscribers to the stock and forty of them resided in Waltham.

The next effort to complete the organization of the company was to obtain an Act of Incorporation. To this there was a lion in the way. And hence the precaution of drafting articles of agreement which would stand us instead for a time, at least, so we might not lose the benefit of our bonds for deeds of the lands. Some two or three years previous to our petition for a charter, there had been two or more land companies incorporated, located near Boston, under professions of great local improvement, which turned out to be mere stock-jobbing concerns. This occasioned very great prejudice in the Legislature against more land companies. But the advantages of a charter were well worth seeking.

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<sup>10</sup> “Mill” = 1/1000 of a dollar. “Foot” is a square foot.

Boston Watch Co by Samuel Curtis, Edward Howard and Aaron L. Dennison	No. 1 to 25	Josiah Hastings	No. 59
Somerby & Rutter	26	W. A. Blaisdell	60
John P. Tolman	27	J. M. S. Williams	61
R. W. Shattrick	28	Eban Hobbs	62, 63
Rufus Stickney	29	David P. Davis	64
R. P. Davis	30, 31	Ann L. Holden	65
Brown Bro.	32	Jon D. Fiske, Trustee	66, 67
James P. Tolman	33	Wm. H. Keith	68 - 72
E. Barnes & Son	34	E. W. Dennison	73
S. P. Emerson	35	Wm Spard	74
Francis Buttrick	36	Chas D. Foster	75
Thos. J. Marsh	37	Geo E. Porter	76
Pope & Whitney	38	Wm B. Fessenden	77 - 79
F. M. Stone	39	Chas M. Foss	80
J. & W. Pike	40	D. W. Wilder	81
Wm. Gibbs	41	D.W Rogers	82
E. W. Fiske	42	Andrew Dennison	83
Josiah Beard	43	B. G. Dennison	84
J. W. Mulliken	44	Matilda D. Dennison	85
W. Simonds, Jr.	45	A. L Dennison	86 - 90
Elijah Emerson	46	Geo Hastings	91
Upham & Clark	47	John S. Moor	92
Geo M. Thompson	48	Oliver A. Richardson	93
Horatio Adams	49, 50	Chas S. Moseley	94
T. R. Plympton	51	John Harris	95
Saml B. Whitney	52	Horatio Moore	96
Jona D. Fiske	53	M. L. Bickford	97
James Brown	54, 55	Steven C. Kendall	98
Geo M. Thompson, Trustee	56	Wm H. Keith, Trustee	99
Fred J. Foss	57	Thos J. Marsh, Jr.	100
J. W. Parmenter	58		

Accordingly, I drafted a petition and procured a suitable number of signatures to it, and presented it to the General Court then in session, adopting the title "*The Waltham Improvement Company*". The petition set forth distinctly and honestly the designs and wishes of the petitioners. On getting into a car with it, I saw Horatio Moore, Esq., who was then a representative from Waltham in the Legislature. Mr. Moore had been an early and firm friend to this enterprise and a subscriber to the stock of the company, and withal, was very popular in the "House". To better hands it could not be committed. He took the petition and presented it on that day and moved its reference to the committee on manufactures. Some objected and sneered at the committal of a petition of a land company to that committee; but there it was sent, and when read the committee notified the petitioners of their readiness to give us a hearing. Mr. Aaron L. Dennison and myself went before the gentlemen of whom Horatio Moore, Esq., was chairman. Mr. Dennison presented to them samples of the watches of the Boston Watch Company, then of Roxbury, Massachusetts. He explained to them the process of their manufacture which differed from all other systems, and this exhibit had a marked influence on the committee. I presented such arguments as occurred to me in support of our petition. The committee was satisfied and all, without dissent, voted to report a bill for an Act of Incorporation. With the efficient aid of Mr. Moore we drafted a Bill which would cover all our wishes. The Act is as follows:

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*“Section 1. Edward Howard, James Brown and William H. Keith, and their associates, successors and assigns, are hereby made a corporation, by the name of the “Waltham Improvement Company”, in the town of Waltham, for the purpose of establishing the manufacture of watches, and the finer articles of brass, steel and iron &c.*

*“Section 2. Said corporation shall have power to purchase, hold and possess, in fee simple or otherwise,” ... certain lands ... “And said corporation shall have power to grant, sell and convey, in fee simple or otherwise, the said property, or any part thereof, and to lease, mortgage, improve or otherwise manage the same ...*

*“Section 3. The stock and property of said corporation shall be divided into shares not exceeding three hundred in number and shall not be liable to assessment exceeding the sum of one thousand dollars on each share” etc.*

The Bill was reported to the House and when called it met with ardent advocates and bitter opposers. It was debated day after day and put over. The petitioners were charged with all sorts of deception as covering up their stock jobbing designs with the doubtful pretense of watch-making. At last, on the day of its passage, it occupied about the whole session. We had a firm friend in Mr. Wiggin, of Boston, to advocate the Bill, who, in a set speech of considerable length ardently and eloquently advocated our cause. And while under this sharp contest, a wag in the House took an old House document, and on a blank space with pen and ink drew the form of a watch, with its pendant and bow, with heavy hands and prominent eyes and nose, together with the following couplet:

*“A Waltham patent lever watch, which eer it goes,  
Besides the hands, must have the ayes & noes”.*

It was laughable, but under the circumstances, as it implied a doubt, was vexatious. It had been sent to Mr. Moore; he handed it to me and I have it now as memento.

At length, after thoroughly debated, General Whitney, a member from Conway who had been home during the previous debates and who was the democratic leader of the House, having returned to his seat, arose and in a few well chosen words expressed confidence in the petitioners, advocating the expediency of encouraging all new mechanical enterprises, and of course advocating the passing of this Bill. The question was then taken, and the Act passed with a very fair majority, and was sent to the Senate.

But our perplexities were not yet at an end. In the Senate there was a resident of Somerville, who had then recently taken an interest in a considerable tract of land in Waltham. Whether that biased his mind or not he failed to inform us. When our bill was called, he rose and moved its postponement and repeated the same for many days, under the promise to make a speech on the subject. Senators yielded under such a promise. The time was fast approaching when the bonds we had taken would become void, and our impatience at this delay was nearly unbounded. He had, if memory serves, but one sympathizer in the Senate; he was from the western part of the state and of little account. The promised speech came at last and with but few words. With some pomposity he took the document up and said that *“He would withdraw his objections to its passing as it appears to be a fair proceeding; and, as the shares were placed at \$1,000 each, he judged the petitioners were responsible and honorable men”*. The question was put and the Act was passed. And when it was sent to the governor for approval we well knew it was safe. The Act was engraced, fully signed, and became a law of the Commonwealth.

A meeting of the stockholders was immediately called. They met at the hall of the Waltham Bank, on Thursday, March 30th, 1854. Horatio Adams, Esq., was chosen moderator, and William H. Keith, secretary. The stockholders accepted the Act of Incorporation. The capital was fixed at \$100,000. A President and Treasurer, Board of Directors and Clerk were chosen. Dr. Horatio Adams, for president; William H. Keith, treasurer and superintendent; Thomas J. Marsh, Clerk; and Reuben P. Davis, James Brown, Samuel Curtis, Edward Howard, William B. Fessendon, as directors. The president and treasurer were ex-officio directors. A code of by-laws was adopted, and the first meeting of the company dissolved.

The corporation was then legally prepared to enter upon the duties and privileges granted by its charter.

The bonds for deeds of the lands were yet valid. But the next day was the last day of grace in our bonds, and that lost their validity would cease, and Waltham would probably lose the prize.

At its organization, the company was without a dollar of capital. But it had a Board of Directors who were responsible for our immediate need. Two thousand dollars, and interest on a mortgage note given by Mr. Brown, had matured on the first of the month; and that and \$1000 was to be paid to Mr. Lawton which were easily provided for. The credit of the company was good and unimpaired throughout all its discouragements and the money panic of 1857, which soon followed its organization, and has continued good for the whole period of its existence.

During the first year the company received from assessments and the products of the farm \$16,204.32 all of which was paid in as capital, which sum provided for the liabilities matured and maturing, and as aid to the Boston Watch Company as had been prearranged.

The only real improvement attempted this season was an appropriation of land for a site for the watch factory, which was set apart by a committee of directors for the Boston Watch Company, for factory buildings. The situation of the lot was beautiful, on the south-south-easterly bank of the Charles River and facing east-south-easterly on Crescent Street, as afterward named, and extended from the northerly to the southerly line about 640 feet and contained about 61,000 feet. The price for which was \$1,000 per acre. The surveyors were to conform to the lines of this lot in their future survey and plans. But liberal as this lot was in extent, additional land has been repurchased to provide for the growing necessities of the American Watch Company.

The other improvements the first season were the extension of a street which had been called Nelson Street, but which was changed to Chestnut Street, and the opening or extension of Crescent Street to the factory buildings. Other improvements were not this first year admissible, as no other lots could be located without a survey and plan.

The report of the treasurer submitted to the company at its annual meeting in March, 1855, says:

*“There has been indication of uneasiness on the part of some few of the proprietors in the company at the delay of sales of the company land. It is not surprising that such should be the fact with those who are not familiar with the amount of preparation necessary in getting everything in order for such a desirable result. It was some days into April before the whole arrangements of our purchase were fully settled. An assessment had to be laid immediately and collected to meet immediate wants, and much time was necessary for the directors to determine upon the operations needful. A committee was chosen to determine upon the matter of laying out the land, and the availability of the Bemis survey, which was set aside as worthless, and a surveyor visited the grounds with the committee, and a plan of operation agreed on. It was not until the spring was well advanced that the surveyors commenced, and the upland was completed. But upon urging for the survey and a full outline to be finished, the reply was that at the those high stages of the river it was not possible to do it. A delay consequently was indispensable until the water retired, and not until the last of August could it be finished. The plan was completed in October, 1854, ready for conveyances, and it had then become late in the season for landed operations. There was also another serious obstacle to making sales at an earlier period than the time the plan was finished, which was to make instruments of conveyance. It is an easy matter for one to take those instruments and read them in a few minutes, and all appears easy and simple, but for one to undertake to draft and perfect them, none but those who have proceeded in such work can estimate the amount of work therein.*

*“Plans were made and submitted to the board, and alterations made and accepted and rejected; and other plans accepted. Drafts of the instruments were made and alterations suggested, and re-drafted repeatedly, and finally submitted to counsel. And these alterations and re-alterations time and again were made, until they became as we thought faultless; and not until then could we with propriety make conveyances. And this was not until December. Nine months of the twelve had gone in preparation prior to our first annual meeting in 1855”.*

The report further says that:

*“Applications or conversations had been made by and with parties for the purchase of land. But if in this immature condition conveyances had been made, we should have started wrong and probably continued wrong throughout our whole history. And the plan having been finished so late, and the new streets opened not until winter had set in, and the lots not having been marked, it would have been impossible and then even difficult to fix the lines without the aid of the surveyors, so as to make an intelligible conveyance. But as soon as the ground is free from frost a little additional labor only will be needed by the surveyors, and with good instruments for measurements and suitable care, the lots may be designated, and in all future time the records of the Registry of Deeds may be clear and satisfactory in reference to all deeds of the company. As well might*

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*a mariner enter upon his voyage without chart and instruments, as a land company upon the sale of lands without its plans and instruments of conveyance complete.”*

It says further:

*“By agreement with the Boston Watch Company, this corporation was to erect the buildings for them and to convey etc. But the watch company having made arrangement for building, and having commenced immediately after the corporation had received its deeds, the parties of that company preferred that we should advance the money to expend on the buildings, and build as they should deem best. To which proposition our directors acceded.”*

But the material used in the building was unfortunate, if not an experimental folly, being of poorly prepared concrete; every vestige of which is now, in 1883, demolished.

*“Shortly before the Improvement Co. was organized, the Fitchburg Rail Road came into the hands of new managers. The fare to and from Boston was much increased and the accommodation lessened. This operated sadly for our enterprise. People bought and built on the line of other roads.”*

This concludes the report of the first year's proceedings of this company.

For the information of, and as a remembrance - or to those who first put their hands to our plow and looked *not* back - this detail is given, as well as for a pretty large proportionate part who *did* look back to their severe discomfiture and loss. Besides this, there is no more reliable way to get at the facts of the doings of a company, as they transpired, then from the directors' Reports.

Therefore, I take up the second report and quote only what is needed to make it intelligible. This is of March 28th, 1856:

*“The business operations of the company during the year that has now passed have been moderate, yet pretty satisfactory. No liabilities have been incurred other than that of erecting the store, offices and hall building on Moody Street, and a boarding house for the factory people ... In the last year, about 1800 feet of streets were opened. 1000 feet on Crescent Street, 300 feet on Spruce Street and about 500 feet on Adams Street; at a cost for labor and land of \$450.14. The expense of survey and plans up to March 1st, was \$626.26. The Boston Watch Company took land for a double house, and twelve other parties bought land and, with the assistance of some money, erected comfortable dwellings.*

*“Our indebtedness to the mortgager of the farm has been reduced to \$14,000, and to Mr. Lawton \$3000. The notes receivable secured were \$16,445.11. The notes and bills payable are in excess of the last sum but \$11,160.89 and the interest account, which has been our heaviest expense, has been reduced to \$666.30 ...”*

It says further:

*“Expense is an unavoidable draw back, and we must take our share in common with others. Yet it has been our aim to economize to the utmost verge of expediency. It has been said by some stockholders, that our interest will eat out our substance. From the small showing we thus far have been able to make, it is no marvel such expressions obtain. But an examination of our statistics will disprove such a conclusion. Our landed possession alone, to say nothing of what is thereon, though we add all the interest paid, and the surveys and plans, and the expense of opening and grading of streets, salaries, labor, and every conceivable expense, only amounts to eleven and one half mills per foot; while the average price for land sold thus far is within a very small fraction of four cents per foot; while 61,000 feet of it was sold to Boston Watch Company at a large concession on the fixed prices.”*

Yet some even now faltered, and disposed of their stock. The report says:

*“That of the sixty two original shareholders but forty nine now remained. Forty eight shares are held by the then present Board of Directors. One quarter part of the stock had now changed ownership. No great sacrifice was made on the shares sold, but not a small prospective sacrifice was made” - according to the judgment of many at the time - “some shares sold for the par and interest. Of these only three shares were sold to new parties.”*

Some impetus was given to sales of land in 1855 by loans of money by the company to those who would buy and build.

Reference is again made to the untoward management of the Rail Road Company, also, to the stringency of the money market. The report concludes with the prediction that *“Stockholders will get more than compound interest from their investments”*.

About the time of this annual meeting in 1856, the company, and especially the directors, felt severely their loss in the death of James Brown, Esq., of whom we had purchased the farm and who was one of the most efficient of the board. A most worthy and able business gentleman. The directors noted his loss on the records, and a feeling letter of condolence was sent to his family.

In the late fall or early winter of 1856, one, or perhaps two, gentlemen called upon the treasurer at the office of the company with a proposition for pecuniary aid. The answer was peremptory, that it could not be granted. When the door of the office closed on that occasion it closed, for a time at least, on the hitherto friendly relations subsisting between the parties.

As the winter business languidly passed away under the near approach of the periodical panic among business concerns, the passage of which is generally indicated by the depression of real estate, the time was near for the annual meeting for the choice of officers. And there seemed to be among the stockholders some unusual excitement about the company affairs. It was said that a rumor was in circulation, that the treasurer and agent repelled rather than invited or attracted improvements, and did not push things. And that he charged unreasonable prices for the company lands and would make no concession in terms.

Though late in the day, this is believed to be the first attempt to confute any of the assaults then made. Yet as it is a family affair, known in Waltham, anyone who can consult the record book of the directors will find that Horatio Adams, James Brown, Edward Howard and William H. Keith were appointed a committee of directors to fix upon the price of the lands. They visited all sections of land of the company, and unanimously reported the price according to locality, at from 4 to 10 cents per foot. The report was accepted and the prices so fixed, and no instructions given to anyone to vary the price.

At a meeting of directors held February 24th, 1857:

*"information was given them from the Waltham Bank of the non-payment of notes of the Boston Watch Company due January 9/12th for \$2000 - also, one due February 13/16 for \$2000 - both guaranteed by the Waltham Improvement Company, with request of payment of the same. Another like note for \$2000 would be due in March 2/7. Notice was given directors that the insurance on the watch factory had run out, and that the taxes on the mortgaged property had not been paid.*

*"The treasurer was instructed to advertise the shares of delinquent stockholders for sale on the 23rd of March, excepting those of the Boston Watch Company, which the mortgagee had promised to pay in a short time. The meeting was adjourned to February 28th at 3 o'clock p.m."*

February 28th:

*"The board met according to adjournment. The treasurer was directed to take possession of the property described in the several mortgages made by the Boston Watch Company for the purpose of foreclosure of the same on account of breach of conditions; and that he cause a schedule of all the personal property included in said mortgages to be made at the time of taking possession. And if the said mortgagees will give peaceable possession, under said mortgages, the treasurer was authorized to make such arrangements for their use of the property as he may deem proper."*

The annual meeting of the company, March 26th, 1857, being near at hand, the President called at the office and gave the first definite information of what was in the wind for the following day. My reply to him was that I had some information of the kind before, and that if another treasurer and agent was wanted I should not attempt to stand in the way; and that as soon as the report for the last year was read I should resign.

The company meeting was fully attended. Each share was entitled to a vote and every share was represented in person or by proxy. There was an unusual buzz among the stockholders and it was very evident how the twenty five shares on which the Boston Watch Company voted would be cast.

When the meeting had been called to order the report was read. It stated that:

*"Circumstances beyond the control of the officers had tended to check the prosperity of the operations of the Improvement Company. That the Rail Road Company had not changed its illiberal policy. And that the manufacturing company located in our midst was laboring under very great embarrassment. In regard to the latter, in our dealing with the concern, it may be said that the Improvement Company had aided them not only to the fullest extent originally agreed upon, but quite beyond that point. Yet we were not intermixed at all in its affairs, and for the assistance which has been rendered we have mortgages*



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*which are deemed ample security for its indebtedness to us. But its embarrassments have seriously affected the business for which our company was established.*

*“The business of our company for the last year, although small, compares favorably with most land companies. But only 77,966 feet of land has been sold, that yielding \$3,099.79. The cost of the land including all outgo was \$752.27, giving a profit of \$2,347.52 ...*

*“Our whole purchase was 106 acres of upland. If we deduct 1/5 for streets we have 3,707,328 square feet remaining at a cost of less than one cent per foot. We have sold in all six acres, which cost \$2,779.39, for cash and securities, which, deducted from the sum of \$11,447.83 received for the land should show a profit of \$8,662.02.*

*“The liabilities of the company are stated as being \$32,858.45 and the assets, aside from the land remaining shows a balance in our favor of \$2,940.70, thus placing the balance of interest account in favor of the company. If to the assets as stated we add interest and rent accrued due but not paid, interest and rent accrued not due, and about 25 acres of standing wood worth \$1,200.00, and 3,420,351 feet of land unsold, at a valuation of one cent per foot, the aggregate of assets of the company is \$72,133.44. If to our liabilities we add interest and expense accrued not due, and capital stock \$35,000 the aggregate is \$68,526.78 showing a balance in favor of the company of \$3,611.66 ... There have been ten assessments laid amounting to \$350.00 per share, a part of which sum is unpaid ...*

*“Our third year is now matured, and until quite recently no resort to legal measure has been made to compel the payment of assessments.*

*“As to the value of the shares at present, it appears by the market they are very much depressed. But if these statements are correct - and it is easily proved so - that our assets amount to \$72,138.44 a deduction of our liabilities as shown to be \$32,855.45 from our assets gives \$39,280.09 as the product which divided by one hundred shares gives \$392.80 to each share.”*

To which I may add, in property much better than so much gold; for which the stockholders had paid in eleven assessments \$387.50, and for which subsequent results have produced a very large sum of money.

After the reading of the report, the treasurer thanked the president for his confidence and uniform courtesy and support, and the company for the confidence heretofore reposed in him, and resigned his office.

The next proceeding was the choice of officers. The old board were re-chosen except for the treasurer.

On the dissolution of the meeting the directors appointed a committee to examine the accounts, vouchers and securities owned by the company in the treasurer's hands. Soon as the necessary schedule could be prepared, the committee and treasurer-elect commenced upon their duty. Mortgages and notes to the amount of \$32,168.89 minus \$3,054.18 which had been paid on them. The ledger balance being \$29,114.71 were for delivery, also deeds with references to the folio of record as the delivery of the land, and cash in the sum of \$836.30, together with office furniture account and record books which had passed examination and pronounced by the committee as correct. The books of accounts were the last to present and as laid out on the table a slight change was noticed in the appearance of the new officer. He said he was not quite ready to receive the transfer and said to the committee he wanted more time to consider the acceptance of the trust; but perhaps, in the afternoon of the day he might accept it.

The gentlemen left the office in my charge, but I saw nothing more of them for that day.

Early on the morrow, the president called at the office and said that the treasurer elect had notified the board that he had examined the affairs of the company, and would accept the office to which he was elected, provided the directors would consent to his keeping the accounts in his own way; but if he must follow the system as heretofore practiced he could not accept it. As the directors declined his proposal, they had requested him (the president) to communicate their wishes that I would remain at the post I had resigned, until after their next meeting.

I felt that I had not been fairly treated by a majority of stockholders, and thought they had no right to complain if I made my resignation perpetual. Yet I had my own, and the property and interest of many other whom I had been instrumental in bringing into our present dilemma, and their interest demanded of me the acceptance of this invitation. The answer given was I will remain. His response was, *“I can now breathe more freely”*.

The directors at their next meeting re-elected the old treasurer and agent for the year then current. So, in fact, he was in the official service of the company from March 1854, to May 1856<sup>11</sup> without break.

The period is now nearly reached when the trials and tribulations of this company seemed almost insurmountable. And with such a prospect in the near future, the time for the annual meeting arrived on the 25th of March, 1858, at which the directors authorized the following report:

*"In submitting the fourth annual report to this company nothing can be said of its business except in relation to its financial transactions.*

*"No sales of land have been effected since the last meeting. In the early part of the season the prospect of sales appeared favorable, several parties having had it in contemplation to purchase, but the stress of the times coming on before they were matured put a full stop to nearly all transactions in real estate.*

*"Not withstanding nothing has been done by way of sales, there is some satisfaction that, amid the tempest which overturned so many powerful corporations and business concerns, we have been able to meet nearly all our engagements at maturity, and postpone the payment upon the only assessment laid during the year, to such as found it impossible to make up their quota.*

*"All expense by way of improvements has been deferred to more prosperous times, and that account kept at its lowest possible point.*

*".. At the last meeting, our indebtedness amounted to \$32,858.45, the present amount is \$22,000, it having been reduced \$10,858.45. There is remaining due on assessments, and for interest and penalty on the delinquents \$3,224.28 which had it been possible to collect, our present indebtedness would have been less than \$19,000.*

*"In view of the total absence of sales, and the unavoidable accumulation of expense which another year has brought, the questions naturally arise: How does the company stand? What is the amount of our investment? What property have we and what is it worth? Our capital stock assessed is \$38,750. Our debts \$22,000. Interest and expense accrued to February 28th not due is \$535 making our assessments, or capital and debts amount to \$61,285. This sum constitutes our whole liability. Our landed property as originally purchased ... was about 106 acres, and cost \$35,776.45. ... Deducting streets, the original cost was \$420.90 per acre. By throwing out 21 acres for present and future streets as our plan contemplates, and deducting the land we have sold, there is remaining 3,420,351 square feet, or 78 ½ acres, which, at the average original cost amounts to \$33,006.34. We have notes receivable secured by mortgage amounting to \$21,462.97. Assessments due the company \$9,235.64. The store building and stable on Moody Street \$2,924.43. Interest accrued not due \$962.90. Permanent improvements in streets \$1,365.78. Surveys and plans \$636.26. Other items, amounting to \$2,181.16 which constitutes our assets. The whole amount of investment is \$61,285. This valuation is at the cost of the land deducting streets, and notwithstanding the accumulation of interest and expense, the figures show a gain of \$4,490.48, or what is the same, the cost of the land now on hand is reduced from \$420.90 per acre to \$362.00 per acre.*

*"Now the question, what is the property worth? The lowest price at which we have sold land is 2 ¼ cent per foot or \$1000 per acre. The highest price 7 cents per foot or \$3,049 per acre. The average price about 4 cents per foot or \$1700 per acre. It would seem that a landed property, so favorably situated in a village like Waltham, of which sales have been made to parties generally reliable at the above prices, might fairly be valued at \$435.60 per acre, especially as 21 acres of land for streets go freely with it, at the price of one cent for the square foot.*

*"If this valuation is accepted as fair, we have this land, which is the basis of all real value, perfectly reliable and safe as to title, worth \$34,194.60. Therefore, the answer to the last question, until a better one can be given, is that by adding to the land at this valuation the other assets of the company, our property is worth \$66,963.74 against \$61,285. which it cost; giving a balance of \$5,678.74. At the cost valuation it divides \$434.90, and at one cent per foot valuation \$446.78 to each share against \$387.50 paid."*

This was the final report to the corporation known as "The Waltham Improvement Company".

To the general reader, if such should chance to look over these pages, these abstracts from reports - and in fact, this whole record - would be prolix. But it is a family affair; and there are many now on the stage of life, who were among the first-engaged in this business, who may take a different view of them.

11 An error for 1866.

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*“The vicissitude and vexation to which this company was subjected in its early history, caused more than one fifth of the original shareholders to drop off before the second year had expired. This reduced the number of shareholders from sixty two to forty nine persons. Forty eight shares of stock were held by the then present directors. No sales were made at any great loss, and some obtained the full amount they paid and interest. There were but three new names added to our number by these transfers of shares.”*

Of the names first forming this company, eighteen are known to be numbered with the dead. And four of the seven of the first Board of Directors are known to have departed, and two only, Edward Howard and myself, are known to me as now living.

After the reading of the foregoing report the same directors were unanimously chosen, including the old treasurer and agent.

The company was now laboring with its severest crisis. Not only the general doubt of the success of American watch-making, under the sharp competition of Europe, had caused distrust of the success of the land company as a watch-making settlement; but worse than that, the downfall of the Boston Watch Company, which the stress of the times and the great expense incurred in experiments in their works had occasioned, tended to prevent the sale of land rather than any maladministration of the directors or the agent.

It was an unfortunate time to start a doubtful enterprise with a destructive money panic so near at hand; and the wonder is that the fall of the Boston Watch Company was so long delayed. Here the troubles of the whole concern seemed to culminate. But the directors of our company, *“though cast down were not destroyed”*. Yet, very many stock-holders thought it was involved in the general ruin.

In April, 1857, an assignee was appointed for the insolvent company. The party or parties who were to become the purchaser of the right of redemption of its real estate and machinery in the factory building, was of course uncertain. Inquiries of the treasurer of the Improvement Company for a lease of the factory had been made by parties who thought of purchasing the machinery. So the directors indulged the hope that the manufacturing of watches in Waltham was yet probable and would be under better auspices. But under any circumstances likely to occur, the Board of Directors of our company, being composed of competent business men, were undismayed. They knew their company to be solvent, and they knew that all its liabilities could easily be provided for at their maturity. They knew they had a valuable landed property, and that those who had invested in it, whether local manufacturing should prosper or fail, stock-holders who remained steadfast would reap a handsome reward.

The promises of Mr. Brown we had assumed were to be inviolably kept, and all had been and continued to be from the first to the last honored promptly on or before the day of their maturity. And all other of the company promises were paid promptly except one note given Mr. Lawton. The directors wished to appropriate money for the encouragement of building and, previously to an engagement to supply fully for that purpose, application to Mr. Lawton to allow those notes becoming due to him to remain. He expressed himself satisfied with his security, considered his money - \$3000 - safe and well invested, and consented to the notes remaining in his hands indefinitely; and agreed to give ample notice in case he should wish to realize on them.

Notwithstanding the ability of the directors to manage the affairs of the company, and their confidence in its soundness, there were nine residents of Waltham who sold their stock, and transferred their interest to others; and probably congratulated themselves for their shrewdness in leaving thus timely a sinking ship. But the end was not yet. If either of them had continued to hold but a single share up to the present time - twenty five years - and had kept a dividend and profit and loss account, such a one would now conclude that the sagacity of his fellows was sadly at fault.

At this epoch, the operations of our company were to repose indefinitely; only taking care of the debts.

On the morning of the day of the assignees sale of the estate of the Boston Watch Company, in 1857, the managers of the sale, and several gentlemen from New York and Philadelphia, and from Boston and vicinity, appeared at the watch factory in Waltham. The terms of the sale were stated. The purchaser was to advance \$5000 as earnest. The bidding was prompt and spirited. The factory estate was first offered, which consisted of several buildings in a group, a small cottage and sixty one thousand feet of land beautifully situated, on which there was a mortgage for \$7000. For this estate the highest bid was \$8500 subject to the mortgage; and Royal E. Robbins, of New York city, was the bidder.

The next property offered for sale was the steam engine, machinery, tools and fixtures contained in the factory building. The bidding was rapid and the highest bid was \$35,000 over the mortgages, and Mr. Robbins was the bidder.

As soon as the papers could be executed, Mr. R. E. Robbins was the sole proprietor of machinery for the manufacture of watches, the like of which the wide world could not produce a parallel.

After the arrangement of his purchase, Mr. Robbins immediately organized a firm styled Appleton Tracy & Company. The factory and machinery were now put in working condition, with about seventy five male and female employees. The first productions by the new firm appeared in the summer of 1857. Mr. Robbins found the watch-dealers throughout the country in total ignorance of American made watches. It is true they knew of rough movements being imported and finished up here, and of the frequent orders given by dealers to importers to supply a given number of foreign watches with their names engraved thereon. But the Roxbury and Waltham watches were but little known; so the new firm expended during their first year \$2500 in advertising.

In justice to the old watch company, it should be said that they had hardly got the concern into a paying position, so that the more they produced and the greater the expense of selling, the worse was their condition.

But the new company was not exempt from trial. In a few months after they had produced their goods, the financial screws were being brought to a tension equal to that of 1837, when a general downfall of everything not on the most substantial basis pervaded the country. Under the circumstances of the times, Mr. Robbins thought of shutting down the works. The sale of his goods could not be affected in such tempestuous times, and if they were kept until the storm had passed they would deteriorate. He finally determined to propose to the work-people to take one half pay on three fourths time, or close the works. They accepted his offer and the machinery was kept running daily at this rate until the panic had passed.

But it was a severe strain, notwithstanding the concession of the work-people, on his resources, which were ample in ordinary times. Securities, generally considered satisfactory collateral heretofore, were of little account; good today, worthless tomorrow. Capitalists had more confidence in a man with a fair show of responsibility, a good character, with energy and perseverance, than in most other collateral. But it was at a tremendous depletion of profits on production. Money was a cash article, and for a loan of it a high price was to be paid. Thus it continued until after the metamorphosis of the Waltham Improvement Company.

The treasurer of this latter company was situated so as to perceive the first impacts of disturbance in its affairs, and with what he now perceived he was greatly disturbed. There was evidence, conclusive to his mind, that the chief owner and manager of the new watch company was not satisfied with the location of his works. Waltham was a clever little town, with a population not quite enough to form a city; but to him it was very dull. He would often change his temporary home from there to other places, and finally to the Parker house in Boston. But it seemed to him there was no resting place, excepting, as he said, in going to and from the factory by rail. This was not surprising, for his associations in college and in Birmingham, England, with a population of 200 - 300,000, and one of the great workshops of the world; and of the city of New York, in the bustle of which he had made a fortune, and where were his relatives, partners and friends; from there to Waltham was like dropping from activity to solitude. All this was noticed with regret.

Though Mr. Robbins had bought the factory and personal property of the late Boston Watch Company, situated on the lands of the Waltham Improvement Company, he was not under the least obligation to do aught to sustain the latter company except to cancel the mortgages he had assumed.

It was perceived that he and his associates could probably dispose of the factory building, for some rough employment, to which it was much better adapted by its ill judged plan and the miserable material of which it was constructed, than for a watch factory. It was also seen that their machinery could be removed with but little loss, and their manufactory established wheresoever they might elect without the least stain on their integrity or honor.

Should they remove the concern to the immediate neighborhood of New York, it would be easily accessible to all the partners there, and to those in Philadelphia.

Was there not danger that the years of labor expended in planting this industry in Massachusetts, where it was born, and at Waltham where it had been nursed, would be lost to us?

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In view of these considerations it was perceived that there were influences that might be brought to bear in offset to this foreboded result.

The Waltham Improvement Company was a corporation in good standing and credit; composed of respectable business gentlemen, who were in possession of a very liberal and valuable charter, granted by law in Massachusetts. It was located *“by law in the town of Waltham for the purpose of establishing the manufacture of watches”*. Such a charter would seem to be worthy of the possession of any gentlemen engaged in watch-making, and it was thought it might have weight in the mind of business men, and with this charter, a larger capital could be brought to the manufacture. Another consideration of weight was the notoriety Waltham had obtained, not only by its three years' struggles in this manufacture, but by the notoriety the new watch company had given it all over this country; and yet further of its being the seat of the new enterprise which would be lost to them in the case of removal.

The whisper in the winter had, in the early spring, become a rumor, that Appleton, Tracy & Company had under serious consideration the removal of their watch machinery to Newark, New Jersey. The treasurer of the improvement company was prepared for this revelation and on his personal responsibility, without consulting anyone, immediately took a copy of our charter and by-laws to the watch factory and there saw Mr. Robbins. In a very few words he informed him of the current rumor, which Mr. Robbins neither admitted nor denied, and told him he had brought for his notice a copy of the Act of Incorporation of the Waltham Improvement Company, and its by-laws. And that he thought it a charter that any watch company would like to make available for their operations. And that if he and his associates should deem it advisable to organize under our charter, I thought capital in excess of what they and our company were employing could be obtained. To this was added, without any approach to a threat, that if his company chose to vacate this locality, others would supply their place. His reply was *“Then that would be your plan”*. And in answer *“Certainly; our efforts have been to make Waltham a watch manufacturing place; and it shall be accomplished”*. He kindly received the copy saying he would think of the matter, and we parted.

In a few days after this subject was introduced to him, Mr. Robbins left for New York, as supposed, to consult with his partners. Soon after he left I wrote him a long letter dated April 1858, from which a few extracts are taken:

*“This letter is merely suggestive ... And let me say in the outset that is my own simple statement, no one else having any knowledge of the fact ... Upon a topic you introduced at our first interview I have thought much and believe I have looked at it from your standpoint instead of my own. That topic is the location of the works. Here was its origin. The old company broke down and yours has sprung from its ruin. Though quantities of goods have been manufactured, I have no doubt nine tenths of the people, even in this state, are altogether skeptical of its success. If it is so here, it is more so in other states. Besides, we are here, remote from New York, the great seat of capital and enterprise. While the business is fixed in a humble village in Massachusetts, it will not attract that envious notice of capitalists, notwithstanding they may see its productions, that it would if located in your immediate vicinity. Competition would be slow to act here, while it might be very soon if located in your neighborhood. And a strong company here, well harmonized, might in a few successful years defy the world against competition in its manufactures.*

*“Our company consists of forty five stockholders, thirty two of whom hold but one share each. Forty seven shares are held in this town, the rest in Boston and elsewhere. The members are as respectable and responsible men as the like number of any company within my knowledge, and the directors are in my judgment as good as any other company can produce. Should the suggestions which have passed between us mature to an arrangement I should propose etc”*.

In answer to this there came a letter from Mr. Robbins dated May 4th, prox, in which he said:

*“I have had the pleasure to receive you letter of the 28th ult., to which, although an answer is not expected, I will briefly reply with a view of contributing something to an adequate understanding of each other's position and something perhaps to the progress of negotiation.*

*“Several days reflection upon the topics of your conversations with me, and of your letter included, I will admit to regard more favorable the project ... If it can be accomplished on satisfactory terms. The advantages of increased capital and a divided responsibility are obvious enough to me, even in the present condition of the business, and perhaps equivalent to those we may resign. While forecasting the future of watch-making as far as I can, it is impossible not to see that it is wise to establish the concern on as broad a base as with such a prospect it ought to occupy ... I will say here that if it is best for me to make any*

*similar change to the one proposed at all, I could not probably choose for partners gentlemen for whom I have a higher respect than those of your direction. I shall feel full confidence they would always regard my interest with honor and fairness ... I will only add that if we were agreed upon these larger matters, the arrangement of details and the putting the transaction into shape would not be difficult."*

Having given his reply my personal approval, I sent a rejoinder on the 8th inst., in which is the following sentence: "*Yours of the 4th and 5th inst. were duly received. Of the former, presuming it would meet your approbation, I have submitted it*" - the subject matter of our interviews and correspondence - "*to each of the gentlemen of our board preparatively to their meeting. The tacit arrangement is to choose a committee to confer with you at such time as may suit your convenience and to call a meeting of the board etc.*".

Monday May 10th he writes me "*I have yours of the 8th and I cannot say certainly when I may be in Waltham but probably next week*".

May 18th he writes "*I expect to be in Waltham on Thursday, May 20th, and shall be happy to meet on Friday at any hour and place convenient to you and any committee of your board that may be appointed*".

The preceding correspondence was during Mr. Robbins absence in New York.

Before the last letter was written, the Board of Directors had convened on the 17th of May. I made a carefully detailed statement to this meeting of the interview and correspondence with Mr. Robbins, and of the general plan on which to proceed if the proposition shall be sustained by the directors. A bare quorum was then present, but of that small number one was incredulous and, addressing himself to the treasurer, said he would be glad if the project could be carried on to success, "*but it cannot be done*". My reply was certainly not without effort. He finally maintained his position, sold his share and left the board, not however until the proposition was unanimously approved. As he was a popular man in town his influence was quite unfavorable to our speedy action, and seemed to be very detrimental to many other stockholders in town, who followed his example and sold their stocks.

At this meeting it was voted "*That a committee be chosen to confer with Mr. Robbins on the purchase of the watch factory estate, including buildings, machinery, tools and stock material; and the committee consist of Messrs. Adams, Mulliken and Keith*".

Mr. Robbins returned to the factory on or about the 20th of May, and was at once prepared to open negotiations with said committee. It was not until the first day of June prox. that the parties could reconcile all differences of views; but by mutual concessions the committee were now prepared to report.

A meeting of the Board of Directors of the Waltham Improvement Company was held at the rooms of the Select-Men of Waltham June 1st, 1858: "*Present Messrs. Adams, Mulliken, Whitney, Stone and Keith. The clerk being absent, Keith was chosen clerk pro-tem, and qualified by Adams. The board not being full it was voted to adjourn the meeting to 8 o'clock this evening at this place*".

Evening session: "*Board met agreeably to adjournment. Present Messrs. Adams, Mulliken, Rutter, Stone, Whitney and Keith. The committee chosen at the meeting held May 17th, to confer with Mr. R. E. Robbins and to consider and report upon the subject of the purchase of the establishment for the manufacture of watches, submitted to them the report as follows:*

*"The committee have had repeated conferences with Mr. Royal E. Robbins ... and have received statements of its cost and of its furnishment and capacity for the manufacture of watches. The total of which, deducting mortgages our company holds is \$105,250. Its rate of annual manufacture at the present time is in total \$221,500. Expenses, commissions and interest on capital is \$164,150. Net profit is \$57,350. The basis of valuation is upon the watch manufacturing establishment exclusive of goods now manufactured. The committee recommend the purchase, and suggest the methods of procedure for the consummation of the negotiation.*

*Signed Wm H. Keith*

*H. Adams*

*I. W. Mulliken.*

*Waltham June 14th 1858."*

*"After the reading of the report the discussion and consideration of the same having occupied the board to a late hour, on motion it was voted to adjourn to the next evening June 2nd at 8 o'clock p.m. at this place"*.

## A Family Tale

June 2nd: *“The full board met agreeably to adjournment. The subject of the committee’s report being in order and under consideration it was voted unanimously on motion of Horatio Moore that the report be accepted. On motion of H. Moore it was voted that the report be laid on the table. It was voted on motion of Josiah Rutter that the treasurer be authorized to purchase thirty one shares of stock, standing in the name of parties who held them as collateral, at a given price. Voted to adjourn this meeting to 3 o’clock on Monday June 7th at this place.”*

Monday June 7th 3 o’clock p.m.: *“Present Messrs. Adams, Whitney, Mulliken, Rutter, Moore and Keith. Motion of J. Rutter that the doings of the treasurer in relation to the purchase of shares of \_\_\_\_\_ be ratified, and of \_\_\_\_\_ on the same terms was passed. On motion of H. Moore voted, that the report in relation to the purchase of the watch establishment be now taken from the table. After further discussion upon the report it was voted that this meeting be adjourned to Wednesday next at 3 o’clock. p.m.”*

Wednesday June 9th: *“Board met according to adjournment. Present Messrs. Mulliken, Stone, Whitney, Rutter and Keith. In the absence of the president, chose J. W. Mulliken president pro-tem. Mr. Royal E. Robbins was present by invitation. He stated certain facts of the cost of the watch establishment, its capacity of manufacture, and answered the various questions of the board. Voted to adjourn to Saturday next at 3 o’clock, p.m.”*

Saturday June 12th: *“Board met agreeably to adjournment. Present Messrs. Adams, Whitney, Stone, Mulliken, Rutter and Keith. Report of committee being in order after having been very fully discussed, on motion of F. M. Stone, voted to adjourn to Monday next June 14th at 3 o’clock. p.m.”*

Monday June 14th 1858: *“Board met agreeably to adjournment. Present full board. Motion by H. Moore to re-commit the report of the committee. The committee reported back their report amended and it was moved by Josiah Rutter that the report be accepted and adopted. The question was taken by ayes and nays with the following result:*

<i>Horatio Adams.</i>	<i>Aye</i>
<i>J. W. Mulliken.</i>	<i>"</i>
<i>Horatio Moore.</i>	<i>"</i>
<i>Fred M. Stone</i>	<i>"</i>
<i>Sam. B. Whitney</i>	<i>"</i>
<i>Wm H. Keith</i>	<i>"</i>
<i>Josiah Rutter</i>	<i>"</i>

*“On motion voted, that the treasurer be a committee to inform Mr. R. E. Robbins of the action of the directors in regard to the purchase of the watch establishment, and on his assent thereto to solicit from the stockholders of the Waltham Improvement Company their assent to assess their shares to the amount of \$1000 each the present year; which was adopted. Voted, that the treasurer be authorized to issue a company note for a sum not exceeding \$12,000 on three months. Motion to adjourn to Monday next at 3 o’clock, at this place.”*

Monday June 21 1858: *“The board met agreeably to adjournment. Present Messrs. Adams, Whitney, Moore and Keith. The general subject of arrangement with Mr. Robbins was under consideration but the board not being full no further definite action was had. It was voted to adjourn to next Monday at 3 o’clock at this place.”*

Mr. Robbins, under these frequent meetings and adjournment, very reasonably and properly became uneasy. He said to me one morning, shortly before the last adjournment which was for another week of indecision, *“That he had just passed a sleepless night, and regretted much that these negotiations had been entered upon”*.

On the day of the last adjournment he wrote to the president as follows:

*“I do not wish unduly to hasten the conclusion of your board in the matter before them in which I am concerned, but I wish respectfully to represent that it effects your interests very materially that I should know at the earliest day possible the result at which you arrive.*

*“The autumn season of trade is now close upon us, and I wish to anticipate it by advertising and other efforts to facilitate the country trade and direct it to ourselves. And the character of the advertisement, and notices too, would much depend on whether the factory were mine or yours. A great deal of needless and useless expense will be saved by my knowing at once in whose name to begin. Then the work at the factory should not be allowed to go on with the present names upon it any longer than absolutely necessary. We are every day putting new watches in hand without reference to the change in ownership, and*

*these will only serve to embarrass both you and me in sales hereafter. There are weighty reasons beside these arising out of my own relations to my partners, employees too, which make it desirable that I should know before the first of July your conclusions; but I will not trouble you with them. It will not be necessary that the transfer itself should be made so early. There would be no objection to leaving that, if you prefer, until August first. It is important only, for the better regulation of the factory business and promotion of sales, that I should know certainly before the first of July that the change either will or will not be made.*

*“If it will aid you in coming to an immediate conclusion about it, I will agree to buy or find buyers for at least fifteen of the shares your company now hold, conditional on the change being made, and on your agreeing to sell me, if I want them, the whole lot of thirty two shares upon the terms you made with the sellers.”*

The impatience manifested in the foregoing letter is not surprising. The president and the treasurer sympathized with him fully, but he did not realize the difficulties of the situation. The board was beset with many doubters outside their number, and with one of their number. Several thousand dollars of protested paper of the Boston Watch Company guaranteed by our company, though secured by mortgage, must be provided for. The liabilities of our company fast maturing, and of the ninth and tenth assessment laid in August and October 1856, a large sum remained unpaid and which was collected only by a threat of sale of the shares, some of which were sold to get the assessments due. Thirty two of these shares were held by parties as collateral, who, rather than pay assessments and go on with them, chose to make a small sacrifice and the company had bought them; and this was an additional embarrassment for the board to provide for until other parties would venture to purchase them. Beside these troubles, it was difficult to get a full meeting of the directors. One, two and at times three of them were absent. But at the adjourned meeting on the 14th the board was full, and at this meeting the first definite action to purchase was carried.

Thus far very well and satisfactory to Mr. Robbins. But to postpone the ways and means to make the vote effective was very unsatisfactory. At the next adjournment there was a bare quorum present and no further action. But at the next adjournment, on Monday, June 28th 1858, though only four directors, consisting of Adams, Mulliken, Whitney and Keith were present, under the influence of Mr. Robbins' proposition by himself and powerful friends in New York, to assume provision of a part or all the shares of stock which were weighing upon the company, it was voted that the board agree to sell Mr. Robbins fifteen shares recently purchased of \_\_\_\_\_ by the company for \_\_\_\_\_ dollars and give him refusal, for one month, for fifteen other shares recently purchased. This put the company in a position to close up definitely the negotiations and put the affair in motion.

Now it devolved on the treasurer under the directors' instructions at the meeting on the 14th of June, to perform the most irksome and disagreeable duty that had presented itself to him in the history of the company up to that time. It was *“That he should be a committee to solicit from the shareholders of the Improvement Company their assent to assess their shares to the amount of \$1000 each the present year”*. The treasurer thought he knew the temper of a large majority of the number of those of whom he must solicit the payment of the sum necessary to carry their shares up to par, instead of doing it out in sums of \$150 a year.

As soon as possible after the vote to purchase was passed, papers were prepared, one for stockholders who would agree to pay up to par in six monthly installments, and one for those who would agree to sell at a given price within two months, provided the watch factory should be purchased by the company, and other written agreements were prepared to sell within that time at such price as they would name.

The company had bought thirty two shares of parties who would not carry them to maturity, forty three shares would go on under an agreement for the purchase of the watch factory property and pay up fully in six monthly installments, and twenty five shares more must be bought in by the company; thus making fifty seven hundredths of its shares purchased.

Although the individuals constituting the Waltham Improvement Company held severally but a minority of its stock, it was indispensable that they should collectively, in order to secure to the town of Waltham this great watch-making enterprise, buy in a majority of the shares and trust to future effort to place them in hands able and willing to carry them to final success.



## A Family Tale

The treasurer, in approaching the shareholders on his errand, encountered all he had foreboded. He was received by the majority of them with anything but cordiality. They seemed to feel that the projectors or managers of the company had done them a great injury, and now they wanted to extort more money from them. They were as a whole morose, and answered his questions accordingly; one said he would sooner lose all he had invested than pay another dollar. Yet the task was pursued and every stockholder called upon with the question if he would carry his stock and pay up the assessments as proposed in monthly installments. The holders of these twenty five shares last bought gave answer peremptorily *No*. Some gave a reason. One of the pillars of the town said "*he was too old to engage in watch-making*". On receiving the answer the next question was, will you sell your stock to the company and sign an agreement to transfer it within two months? If so, what is the price for which you will sell? Some, sensing we were making an effort yet to carry out our plans, agreed to sell and sign an agreement to sell to us for \$300 each, provided we should purchase the watch factory, on which they had paid \$387.50. Others sold for \$350 and several demanded the full amount of assessments paid and interest, for which they received \$450. The company bought them for the sums agreed upon. Nineteen of the owners of these twenty five shares were "well to do" inhabitants of Waltham!

At this juncture there were sixty one stockholders who held, individually, but twenty seven shares.

As the names of the original subscribers have been given it seems fit to hold in remembrance those who remained steadfast; some of whom increased their holdings.

The names are here given in the order in which they stand on the record:

Josiah Rutter	of Waltham	No	26, 42	two	shares
Francis Buttrick	"	"	36	one	"
Wm Gibbs	"	"	41, 50	two	"
J. W. Mulliken	"	"	44	one	"
Geo M. Thompson	"	"	48	one	"
Horatio Adams	"	"	49, 50	two	"
Jona D. Fiske	"	"	53	one	"
J.W. Parmenter	"	"	37, 58	two	"
Grace Fiske	"	"	66	one	"
Abby Fiske	"	"	67	one	"
Wm H. Keith	"	"	68 - 72	five	"
Wm Sparrell	Boston	"	74	one	"
Geo E. Porter	"	"	76	one	"
David Wilder	Brookline	"	81	one	"
D.H. Rogers	"	"	82	one	"
Andrew Dennison	Brunswick ME	"	83	one	"
John S. Moor	Waltham	"	92	one	"
Horatio Moore	"	"	96	one	"
B.G. Dennison	Brunswick ME	"	84	one	"

The debit side of our stock account looked large, but parties soon came to the rescue. Mr. Robbins and the treasurer put themselves to the work. Before the year 1858 closed, we had in Waltham, besides the fifteen shares taken by Mr. Robbins, seven taken by some of the directors, four by other stockholders and five by Mr. George Lawton. One gentleman of Waltham to whom we applied, quite as able to help us on as the preceding, answered our call as peremptorily as though we were attempting to deplete his purse. But he afterwards found we should not hurt him much if he had viewed the matter more favorably.

We had, before the end of the year, the addition of ten new members and forty seven of the accumulated shares were taken. Besides those taken in Waltham, many were bought by able friends of Mr. Robbins in New York City and in England. The stock account was balanced early in 1859, by crediting profit and loss account with \$662.28 gained by the purchase and sale of the rejected shares.

The remaining incidents of the year to be noticed were the resignation of one of the directors, in August, and the election of Mr. Lawton to his place. Also the resignation of Mr. George M. Thompson who had ably and gratuitously served this company for some years as clerk.

Dr. Adams, the president, was delegated to receive, in behalf of the company, possession of the real and personal estate of the watch manufacturing establishment.

August 23rd. The directors ordered that: *"A special meeting of proprietors of shares in the capital stock of the Waltham Improvement Company be held at their building corner of Moody and Spruce streets, in Waltham, on Thursday, August 26th, at 3 o'clock p.m., and notice given for the purpose of action on the following subjects, to wit: For the increase of capital stock of the company; for the purchase of the watch factory now owned by Mr. Royal E. Robbins, both real and personal estate; for the revision of the company's by-laws and for the change of the corporate name"*. All of which were acted on and passed, and the meeting dissolved.

September 2nd: *"In consequence of the resignation of the late clerk, William H. Keith was chosen by ballot for the office of clerk of the corporation and qualified by H. Adams Esq."*

By mutual arrangement, in the early stage of conversations between the treasurer and Mr. Robbins, it was agreed that the former should, at the consummation of negotiations with our company, resign the treasuryship, and that the latter should succeed him. Accordingly the committee to whom was referred the auditing of accounts of the treasurer, and for transferring the property to the treasurer about to be chosen, made their report and at a meeting of directors held September 29th, 1858, William H. Keith resigned the office and Royal E. Robbins was chosen treasurer and manager of the Waltham Improvement Company; and the books and property according to schedule were transferred to him.

It was voted that the president of the company be authorized to sign the petition to the Legislature to amend the charter of the Waltham Improvement Company. The petition was presented in January 1859 and it set forth that:

*"Whereas by a law of the Commonwealth approved March 23rd, 1854, a corporation was established under the title of the Waltham Improvement Company, in the town of Waltham, with authority to issue shares not exceeding three hundred in number, and liable to assessments not exceeding one thousand dollars on each share. Now therefore, the undersigned respectfully represents that the said corporation, by vote of its proprietors, has declared that its convenience and interests will be promoted by a changed of title to that of the "American Watch Company," with permission to issue shares not exceeding three thousand in number and to be assessed not exceeding one hundred dollars on each share."*

The late treasurer, having resigned, left him off the board. Mr. Robbins being a director, and now chosen treasurer and a director *Ex Officio*, left a vacancy. At the request of the late treasurer one who had a greater weight of purse than he had, Mr. Wm. B. Richards of Boston, was chosen to fill the vacancy; which he accepted on the 5th of October prox.

The year now near its close had been the most eventful in our history hitherto. The new order in our affairs was harmonious and in good working condition, and we looked forward to prosperous operations.

There are but few incidents in the affairs of this company which need be noticed in the record of 1859.

The first treasurer, but at that time the clerk of the company, had concluded to offer his resignation. He had been for nearly five years contending with difficulties in urging on this enterprise, and had, to use a vulgar but expressive phrase, received more kicks than coppers. No one of those years had his compensation afforded him a moderate support for an inexpensive family. He had to draw on other resources for his living, and he thought it time to attend to his personal interests. He stated in his letter to the directors, that about the last of April or early in May 1858, he had suggested to the board (Mr. Robbins having previously listened favorably to it) that our company purchase the watch factory and machinery and carry on the business of watch-making under our charter. The difficulties appearing so great to be a part of the directors, that it was not until the 14th of June that a vote was taken on the matter, when it was approved by them and voted for unanimously; and a vote on the 28th of June authorizing the purchase and sale of shares of the company was passed.

Upon authority, he had purchased fifty seven of the original one hundred shares of stock on the company account, and that they had all been disposed of at a small advance on the priced paid. Also, an Act changing the corporate name

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etc, of which he had a copy, and so far as he could judge, all, or nearly all had been accomplished on which there seemed a reasonable claim on his personal effort. He therefore respectfully resigned his position, official and unofficial, to take effect as soon as the board could determine.

This resignation resulted as one previously made; the board declined its acceptance. At its next meeting my friend, Mr. Robbins, moved to advance my salary, which motion was sustained by vote. This afforded a moderate but comfortable support for my family without drawing on other means.

At a meeting of the board held February 12th, 1858, a certified copy of an *“Act amending the company charter”* being presented by the President, it was voted to call a special meeting of the company for the acceptance of said Act, to be held on Thursday February 17, 1859, at 3 o'clock p.m. A copy of which is here transcribed:

*“Commonwealth of Massachusetts.*

*In the year one thousand eight hundred & fifty-nine*

*An Act*

*To amend the charter of the Waltham Improvement company*

*“Be it enacted etc.*

*“Section 1: The “Waltham Improvement Company”, in the town of Waltham, may take the name of the “American Watch Company”.*

*“Section 2: The said company may issue shares, not exceeding three thousand in number, which shall not be liable to assessment exceeding one hundred dollars on each share.*

*“Section 3: The liabilities and privileges of said corporation shall remain unaltered except to conform to the provisions of this act.*

*“Section 4 : This Act shall take effect from and after its passage.*

*In the House passed to be enacted February 2nd 1859.*

*Chas. Hale, Speaker*

*In the Senate February 3rd 1859.*

*Passed to be enacted, Chas. A. Phelps, Pres.*

*February 4th 1859.*

*Approved Nathl. P. Banks.*

*Secretary's department,*

*Boston, February 8th, 1859.*

*A true copy Attested*

*Charles W. Sorett, Dep. Sec. Of State.”*

When the petition was received by the legislature it was referred to its appropriate committee. And when the committee were ready to give us a hearing, Mr. Robbins and myself attended to their call. Before the petition was taken up the old ghost of land company speculation again cropped out. One Senator of the committee, who was not unknown to our company, whispered to me that *“it was very doubtful if the gentlemen would do anything for us, as the General court was averse to all land companies”*. But his position was well understood, as he was an original subscriber to our stock, to the amount of one share, and he was one of the twenty five last doubters, and one of the number of whom I had bought his share for the company. When the chairman, who was a whole souled man - John H. Wilkins, Esq., who knew more of the company than did the former - took up the petition and had read it he asked if we had drawn up a bill? I handed him a rather illegible one taken in pencil on the cars going into the city. He said to the committee *“There can be no possible objection to reporting this bill”*. He led them as a shepherd leads his sheep. The bill was reported and passed both Houses and soon became a corporation law.

At a meeting of the board, held February 12th: *“A certified copy of the amended act of the charter of this corporation being presented by the president, it was voted to call a special meeting of the stockholders of the company for the acceptance of the said Act and for the revision of the by-laws, be held on Thursday February 17th, 1859, at 3 o'clock p.m.”*

At a meeting of the company held February 17th 1859: *“The president in the chair, one hundred and fifty two shares of the company stock were represented. The call for the meeting, which was under a vote of the directors, being read and also*

*the Act amending the charter of the corporation, on motion it was voted "That the company hereby accept the act amending its charter as passed by the General Court now in session, and approved February 4th 1859, and that hereafter this corporation shall be known and its whole business conducted under the title of the "American Watch Company", in the town of Waltham. Voted that the first clause of the second article in our by-laws be amended so as to read, "The capital stock of this company shall be two hundred thousand dollars, divided into two thousand shares of one hundred dollars each. Voted, to alter the company seal, so as to bear the words "American Watch Company Incorporated 1854". Voted, to alter the 7th article of our by-laws, and voted to dissolve this meeting."*

At a meeting of the directors held February 21st: *"It was voted, that the final assessment remaining due on the first one hundred shares of stock previous to increase of capital, as laid at a meeting of directors held August 25th 1858, be made payable on the fifteenth day of April 1859."*

The name, "The Waltham Improvement Company", was now to cease. But the company remains, and their work is not yet accomplished. The same stockholders, with others added, and the same officers proceed with a name better adapted to their future business.

The old name was significant and well chosen for its early purposes. The company produced a sensation in 1854, and certainly gave a new impulse to a rather quiet village. The manufacturing company of 1813 there located, was now overshadowed by Lowell and Lawrence, by Manchester and Fall River, and needed something to give it new life. The Improvement Company has accomplished all its name and charter demanded in the four years of its existence, and it inaugurated improvements which have now, at this time of writing, grown to wonderful and unexpected importance. The population and wealth of the town has been greatly promoted, and its reputation as a great watch-making center is such as no other locality in the world can present a parallel.

To the names already mentioned as corporators of the company, and those of Horatio Adams, Esq., its first president, and Horatio Moore, Esq., who was early chosen to the Board of Directors, and who has continued to be re-elected ever since, and who is now its veteran president - both of whom were constant and confident promoters of this enterprise, the town of Waltham is greatly indebted for its present prosperity.

At the present time, 1883, eighteen of the first subscribers forming the Improvement Company are known to be dead; and probably still more are gone. The president, and three others of the first Board of Directors are of that number; only two of that board are known to remain in life, and those are the first treasurer, and Mr. Edward Howard of Roxbury.

As the names of the original subscribers to our enterprise are herein before given, with the number of their shares, it seems proper to give the names and numbers of the shares of those who remained steadfast through evil as well as through good report, until a firm basis was found; together with those of the new parties who purchased the shares that the company had been compelled to buy in of those stockholders who refused to carry them to par. They are as follows:

May & Co.	Boston	Nos	1, 2.
Edward Tyler	"	"	3.
Noah Lincoln	"	"	4, 5.
Stephen N. Gifford.	Duxbury	"	6.
Royal E. Robbins.	Waltham	"	7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 51, 52, 59, 60, 61, 62, 63, 64, 65, 77, 78, 79, 94.
Proud & Owen.	Waltham	"	22.
Geo Lawton.	"	"	23, 24, 25, 28, 80.
Josiah Rutter.	"	"	26, 42.
Horatio Moore.	"	"	27, 29, 96.

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Horatio Adams.	"	"	35, 38, 39, 40, 43, 49, 50.
Wm B. Richards.	Brookline	"	30, 31, 32, 33, 34, 87, 88.
John Roberts.	Waltham	"	54, 55.
Francis Buttrick.	"	"	36.
J.W. Parmenter	"	"	37, 38.
Wm Gibbs	"	"	41, 56.
J.W. Mulliken.	"	"	44, 45.
Saml. B. Whitney.	"	"	46.
John J. May.	Boston	"	47.
Geo M. Thompson.	Waltham	"	48.
Jona. D. Fiske.	"	"	53, 57.
Grace Fiske.	"	"	66.
Abby Fiske.	"	"	67.
Wm H. Keith.	"	"	68, 69, 70, 71, 72.
B.G. Dennison.	Freeport, Me	"	73, 75, 85, 90.
Wm Sparrell.	Boston	"	74.
Geo E. Porter.	"	"	76.
David Wilder Jr.	Brookline	"	81.
D.H.Rogers.	"	"	82.
Andrew Dennison.	Brunswick, Me.	"	83.
B.G. Dennison.	"	"	84.
R.A. Richards.	Milton.	"	86, 97, 98, 99.
Lorenzo Burge.	Boston	"	89.
Robbins & Appleton.	New York	"	91, 93, 95.
John S. Moor.	Waltham	"	92.
Wm A. Weilman.	Boston	"	100.

This is the record just prior to the acceptance of the amended charter. Thirty five stockholders hold the first one hundred shares; and they held the two thousand shares when the capital was increased, and the par value reduced from one thousand to one hundred dollars per share.

There are fourteen names and firms here given in addition to those of the first corporators. Sixty seven shares are held in Waltham, nine in Boston, one in Duxbury, ten in Brookline, four in Milton, two in Brunswick Me, four in Freeport Me, and three in New York City.

There is little need be said of the affairs of the company business in 1860. But everything relating to the new order of things, as accomplished in 1858 and '59, was satisfactorily settled, and working well. The facilities in the way of buildings and machinery for manufacturing more extensively, and an increase of working force was provided, and there seemed nothing to interrupt an extensive business but the dark clouds arising in the South. An account of stock was taken beginning February 1st, and the books balanced with satisfactory results.

The company meeting was held Thursday, March 29th for choice of Officers etc. The incumbents of the preceding year were re-elected. The report of the treasurer which, not with standing the depressing influence of the curse of slavery, was satisfactory and a dividend was soon after declared.

In view of the terrible strain on the business of the country, Mr. Robbins, as early as September 1860, thought it best to take in sail and double reeve<sup>12</sup> what was spread. He proposed, as he had done before by his firm, to offer to

<sup>12</sup> "reeve" is a nautical term related to "reef", which is what is meant.

employees their choice: reduce the working hours to three fourths and their pay to one half, or shut down. The former was chosen and the machinery dragged on. So the year passed on without any domestic excitement in our family.

Our National affairs this year began with that atrocious letter to Jeff Davis - which has been imputed to Frank Pierce - in which is indicated that *"the fighting will not be along Mason and Dixon's line merely, it will be within our own borders, in our own streets"*. And when the year was nearly ended, December 20th, South Carolina threw up her cap and left the Union! Pretty hard prospect for successful business.

The year 1861 began with glorification in the South. Nine more states had followed the lead of South Carolina. But little did they realize the whirlwind they were raising nor the wide-spread desolation which must inevitably befall them. Business with us was a matter of little importance in view of the crumbling of our Union, provided by this sacrifice it could be stayed.

With the national troubles upon us, for what patriotic heart did not bleed, we had besides a serious domestic trouble. Early in the year I received the following note from our President.

*"Wednesday P.M.*

*W.H. Keith, Esq.*

*Dear Sir. I regret that a sudden indisposition (temporary in its character I trust) will prevent me from being present at the Meeting of the board this p.m. You will please proceed the same as if I was there.*

*Very truly yours,*

*Signed H. Adams."*

But no! Dr. Adams' work was nearly finished. He sent to the directors on the 16th day of February, 1861, his resignation of the office of president of the company.

At a meeting of the board held February 21st: *"Present Messrs. Rutter, Moore, Robbins, Mulliken, Lawton and Keith. It was voted, in the absence of the president, that Josiah Rutter occupy the chair.*

*"A note was received from Horatio Adams, Esq. resigning the office of the president of the company. On motion it was voted that the resignation of our President be accepted. In view of said letter of resignation it was voted, that the clerk prepare a reply expressive of the feelings of the directors on the acceptance of the resignation of our President, obtain their signatures thereto and forward the same to Dr. Adams.*

*"After attention to some other business the board adjourned."*

The following reply to this resignation is entered on the records of the company. But to give to the stockholders a more extended view of the merits of the first president of a corporation engaged in a new and extensive American industry, it is also copied here.

*"Waltham February 21st 1861.*

*Horatio Adams. Esq.*

*Dear Sir:*

*"At a meeting of the directors of the American Watch Company, held this day, a note from you was submitted to the board signifying your resignation of the office of President of said corporation. We deeply regret it.*

*"You have been with us from the beginning. You have befriended our enterprise as a public good not only by your influence but by your example and means. In times of trial and difficulty we required your counsel and have always found you equal to the demand.*

*"An association so agreeable, of so long standing as that between yourself and the Board of Directors, and the company over which you have so ably presided, cannot be sundered without an expression of emotion; especially so under the painful circumstances of loss of health as the moving cause.*

*"And now permit us, as we with sorrow accept your resignation, to express the hope and strong desire we each and all entertain for your own well being, and that of your family, for your full and speedy recovery to health, and for the continuance of that extended and general usefulness which has so marked your course in every department of life.*

*Signed by J.W. Mulliken.*

*Geo Lawton.*

*Josiah Rutter.*

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*H. Moore.*

*R.E. Robbins*

*Wm H. Keith.*”

Soon after this Dr. Mulliken informed us, if there was need of Dr. Adams signature to any papers we had better see to it early, as he much feared the doctor may never be able to attend to business again, and indeed, considers him still in great danger. Soon after this our lamented first President departed this life.

Within a few weeks of the death of Dr. Adams, Mr. Robbins was called to Kensington, Connecticut, for the discharge of filial duties to his father, who was suffering with his last sickness and which resulted fatally on the 26th of March.

The annual meeting of our corporation was to be held on the 28th. Mr. Robbins could not possibly attend it, and under the unprecedented pressure of the times, it was a cause of regret to him as well as to the directors and company, that he was unavoidably absent at its annual meeting in 1861.

But the stockholders convened on the day notified, and were called to order and chose Dr. Mulliken to occupy the chair. On account of the absence of the treasurer he had requested the clerk to stand his substitute for the time being.

March 28th 1861: *“The treasurer having been called away by the serious sickness of his father without having made up his report of the present condition of the company, in compliance with his request, I have, with rather short notice, prepared the following statement, as a substitute for a more full and satisfactory report which he would have made, but for the unfortunate circumstance, and probably fatal termination of the sickness, which now engrosses his attention.*

*“Our Manufactures.*

<i>During the fiscal years of 1860 and '61, the whole number of watch movements produced was:</i>	<i>12,055</i>
<i>number of watch cases:</i>	<i>3,768</i>
<i>Gross amount of manufactures:</i>	<i>\$271,352.53</i>
<i>Whole number of watch movements sold in the last year:</i>	<i>10,206</i>
<i>Whole number of cases:</i>	<i>5,041</i>
<i>Net amount of sales in that period:</i>	<i>\$164,546.13</i>
<i>Whole amount of land sales:</i>	<i>62,147 sq feet</i>
<i>Which at our valuation cost:</i>	<i>\$621.47</i>
<i>For which we received:</i>	<i>\$2,230.62</i>

*“The balance sheet is here omitted.*

*“After a thorough examination by account of stock, the annexed sheet exhibits the condition of the company, which, considering the extreme depression of business during the last quarter of the year, is as favorable as could reasonably be expected.*

*“The indebtedness of the company for the original land purchased is \$12,250, which will not fully mature for several years. Aside from a small amount of interest, which will be due to our shareholders on some scrip, and the payroll for the month then current, all the other debts amount to \$6,858.29, thus making about \$19,000 our entire indebtedness. The net profits of the year, after having deducted a dividend of 5% paid in 1860, are \$29,444 which, added to the reserve of the preceding year, amounts to \$33,100.25. Though this show of profits is respectable, the very unpropitious condition of the times seemed to the directors good cause to pass the February dividend.*

The report refers to some shares of our stock which it was understood had been taken by some of Mr. Robbins English friends, but for some cause were declined and were now on the books of the company. Although had it been reasonably known before these disastrous times commenced they would have commanded 10% advance.

*“Our treasurer desired me to say further, that the profits are less than usual from several causes. One was working with diminished forces, and another the time of valuable men was taken up in getting out a new style of watch, and in the general improvement of the quality of goods. And that the dividend was passed in view of the very dull times which have almost stopped our sales, and that the funds would be needed for regularly carrying on the works. And say that our watches stand higher than ever in the country, and assure the stockholders that we shall certainly do well again as soon as we can see our way clear of the political troubles.”*

After the foregoing report, a nominating committee was appointed, and their report presented and read. There was a vacancy in the board by the resignation of the President; and if one of the directors was to fill it, there would still be a vacancy to fill. And the all-powerful proxy of the treasurer, now in the hands of Dr. Mulliken, was suggestive of who should fill the vacant office of president, and the vacancy still remaining in the board. Of the latter a gentleman was nominated, who, during the mania to sell out, sold his share August 10th next preceding, and had bought in again November 20th. All the gentlemen nominated were elected and this closed the doings of the Annual Meeting of March 1861.

In memory of the stringency of the times, which had befallen not only this company but every business concern in the country except those supplying war material, I quote freely from Mr. Robbins letters to me from New York. April 29th 1861, he writes: *"A sense of duty to the company compels me to reduce my own salary from the present sum of three fourths to one half. And desire other officers to make such abatement as they feel able to."*

New York May 9th he writes: *"Enclosed is account of sales for April, nearly the whole was sold before the 20th. Since that time up to the present the sales are so small, and especially since May opened, that we are entirely hopeless of being able to dispose of goods enough to warrant us running even on our present force. I have taken pains too, to seek advise of my oldest and best friends and advisers, and without exception they counsel me to put no more money into watches, or at most the least money necessary, with the exception of the ladies watch. With this exception there is not a watch of which we have not several months supply in ordinary times, so there is none of which we should be in need before we could produce it, supposing the war were to be brought suddenly to a close. I cannot therefore resist the conclusion that it is my duty, as it is the interest of the company, to reduce the force of the factory to its very minimum That minimum should be about wholly devoted to the small watch ...*

*"There are some fifteen contract hands who must be asked to reduce to 3/4 time and pay, and some half dozen important hands he names without contract who must be discharged; and all others without exception ...*

*"I wish all this done in the most kind and considerate manner, and every word of interest and sympathy spoken that can alleviate at all so sad a business. For my own losses and disappointments, I have few or no regrets. All my feelings are with our people, and it is my duty to the company that compels me to request you will see this done, and done at once."*

One prominent in the mechanical work of the factory objected to this order. The writer of the published article before referred to, says *"Mr. Dennison afterwards produced a cheaper grade, the Bartlett. And when the war of rebellion began in 1861, he foresaw the immense demand which must ensue for cheap watches, and proposed the soldier's or army watch, the Ellery. In this proposal he was overruled, but his idea was afterwards adopted, and in connection with other events it proved the financial salvation of the company"*! From what financial ruin did Aaron L. Dennison save the American Watch Company? From none. Not the infinitesimal part of nothing. Let the inquirer consult the timely but distressing precautions of its able manager. Let him read the report to the company at its annual meeting at the time then passing, and judge who and what maintained its financial success.

Besides a factory building fully equipped with machinery for the extensive manufacturer of watches all paid for, and an ample supply of material for the purpose, and a large amount of valuable building land near the center of a live town very nearly paid for, and a surplus of earnings saved in better times of \$33,100.25, with liabilities of a land note of only \$2000 which matures not until the next November, and other debts amounting only to \$6,858.29, and then tell us the danger from which the man saved this company.

*"He foresaw the immense demand etc"*. Who can doubt that, in view of the large army about being called into the field of battle, there were any from the highest to the lowest connected with this company who did not foresee, intuitively, that in its affairs *"the tide if taken at its flood would lead to fortune"*. The *"boys in blue"* would have a watch with which to while away their weary hours in camp, and, if possible, their patriotism would lead them to seek an American one. But the foresight of the man was somewhat in advance of the full flow of the tide. The time was not yet.

In a letter I received from Mr. Robbins dated New York May 15th he says: *"I have yours of the 13th. The superintendent must not be allowed to oppose us in what we think best to do"*. He says *"I wrote him in answer to his letter that he must do as he was directed, with a slight modification of those employed, besides the contract hands, on the only goods of our watches which might sell in England. This must be done ... Be you good enough to interfere and see the policy of prudence*



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carried out. All merchants and men of sense would do the same thing. It must be done. The Boston office writes that \_\_\_\_\_ and \_\_\_\_\_ are all asking to be helped. It is just so here. There are very few firms in New York who have not virtually failed except Robbins & Appleton. Even the strong houses in Maiden Lane ask for six months. But this firm cannot be busted nor damaged by anything likely to happen in this war. They are I find strong and saucy, and in better credit than ever. I am determined however that their position shall not be weakened by any calls from the company not absolutely necessary, and that not a dollar shall be put into the manufacture which can be withheld. There can't be half a dozen financial managers, and no interference with finances on the part of anybody. I know exactly what I am about and I know everything will come out right with any one man's management of money matters." He "therefore must just do exactly as he is bid. If he don't there will be a row.

"I am planning to be away from Boston for most of the summer myself and I should not feel safe if you was to be absent also. Unless you must go I should much prefer you would stay by, etc".

In reply I wrote Mr. Robbins that: "The superintendent has shown me your reply to his letter. The whole subject is beset with difficulties. I cannot doubt his aim is to adopt a course which in his judgment is for the best interests of the company; and so far as myself and the other members of the board of Directors are concerned, we are not able to appreciate the difficulties as he can in culling out and interrupting the parts, all of which are indispensable in the production of a whole.

"This of course you understand and you will please take it only as preliminary to my remarks. The consultation at the meeting of directors last held had reference almost exclusively to this subject. One says we have funds in abundance in the hands of agents, why not keep the factory running, in as much as you can manufacture goods cheaper now than ever? Another answered that, it was useless to manufacture if there was no sale. I stated that it was worse than useless as the goods were becoming old stock at once by laying on hand and would depreciate; and but for the probability of sales being made of the small watch it would probably be the best course to close the works.

"On the last pay roll there were seventy eight hands. There are now seventy five on three fourths time and the monthly pay about \$2,200.

"The superintendent says that "on the 1st of June these seventy odd can mostly, and by the 1st of July they can be entirely employed on the ladies watches; and to break up the present force, except, perhaps, with a very few exceptions, would seriously interrupt the production of the said watch.

"If the fact is so the first question is, can these goods be sold? Mr. \_\_\_\_\_, of Boston, says, "hard as the times are the ladies watch will sell". If they will sell, will they sell for cash to the extent of our outlay? If so, in my judgment the works had better be kept running with its present force. Then a question whether we may not reduce the time to one half and be better for ourselves and better for our people than to discharge further? I am inclined to think that three days or four days in the week, with two thirds time and two thirds pay would be submitted to, if we can keep along without further discharges. \_\_\_\_\_ and \_\_\_\_\_, were in the office just now and are disturbed at the present uncertainty. I said that everybody is. Our company could not see further than others. It was an unprecedented time and we wanted to adopt the safest and best course for all concerned. It was intimated that the contract hands should come together and agree on some proposition to the company for three fourths times, or perhaps, half time, and understand so that they could rely on the future. I replied that it might be well for them to consult on the subject under these serious and embarrassing circumstances.

"The superintendent says that "with \_\_\_\_\_, who has not a present force much exceeding the number you named, an advantageous contract may be made. But with a greater reduction it could not be done". About this I know nothing. But if there is any danger of lower quality of work, especially in his department, by contract, I should avoid it.

"On the whole, and under the circumstances, provided the present force can so soon be put on the small watch, cannot the company sustain itself with a pay-roll reduced to \$2000 or less?"

New York May 16th, Mr. Robbins wrote: "If I could depend at all that by June 1st our hands could mostly be at work on the small watch and wholly so by July 1st, I would consent to some plan of working so as to keep them. It is in fact just what I want. But it **won't be so**. There will be a promise and that will be all. It won't be **done**. I am not concerned but if we had those articles we should in dull times sell enough with the small sales of regular goods to keep the factory going. So then

*if you, or the superintendent, are prepared to guarantee to us that the hands shall be mostly on the 1st of June and wholly by the 1st of July on ladies watches, and the pay-roll not exceed \$2000 or \$2,200 exclusive of the case room, you had better by all means keep going and run the factory when you like and how you like except that I don't like running full time now and holiday in August. Run as proposed or as you can agree with contract hands (who had better get together and make as low a proposal as they can) and then when August comes we will see. In this case let \_\_\_\_\_ have his contract subject to our hours of working whatever they are.*

*"Things look no better. \_\_\_\_\_ a very able business man, of New York, who has fifty shares of our stock told me last night he thought almost everybody would have to fail or get extensions; and he decidedly approved our running on the lowest possible scale or closing."*

A reply to the foregoing shall close this unpleasant part of my "Tale":

*"Waltham May 17, 1861: Yours of the 16th and mine to you are in striking contrast. The difference is not so much between you and myself as between you and the position of the superintendent; who claims not only the correct view from his official stand-point, but claims to represent also the large interest he introduced into the company.*

*"It has long been known to our directors, and others, that I have placed implicit confidence in your business judgment, and that I have been willing to follow your lead.*

*"In the step of such moment as the one under consideration, however, if I am expected to take executive action, I doubt not you will appreciate my wishes to act understandingly.*

*"I do not differ from you in the wish to adopt a course for the best and safest interests of the company. But as I take the strict letter of your communication, on careful examination, I am not now prepared to say that I fully agree with you; and I certainly do not with the superintendent.*

*"Your letter of the 9th says "reduce to the very minimum." The difficulty lies with the contract hands. To the superintendent you say "discharge all those without contracts;" Such being the fact we should discharge all operatives excepting eight persons, for there are no written contracts except \_\_\_\_\_, the last being the superintendent. This is definite, but yet perhaps I do not understand it. If I do, I should say in such case compromise with the contract hands and close the works.*

*"Then you modify and say to the superintendent, "continue in employ those only besides the contract hands who can be employed on the small watch". This is indefinite altogether, so far as my judgment is concerned, and under it the superintendent says "he can employ all the hands now on it". Some, in his language "to whom we now pay three dollars per day will earn three cents". I told him that was not the kind you wished to retain. He makes out "nineteen who are positively and conditionally contract hands, and reluctantly admits that five or six others might be discharged. Now my position is embarrassing. I am not the business agent, have not authority under our by-laws in the case, and the superintendent knows it. Yet he appeals to me, occupying as I do the official position you have seen fit to assign to me, and any mistakes which may be made he would take care to award to me my full share. On the other hand you have desired me, in concurrence with a \_\_\_\_\_ superintendent to perform a duty which, from the absence of all care and familiarity of and with the matter in hand, I am not competent".*

The time had now come when the sacrifice must be made. An extensive discharge of workmen was now taking place. Intelligent, skillful men, among a number whose loss was less felt, we were under the extreme pressure of the times compelled to part with. They were scattered, some to the front to fight for the salvation of their country and others to seek such employment as they could find.

On the 25th of May 1861, Mr. Robbins wrote from New York: *"I have yours of the 24th and am glad to learn expenses are ever so far reduced. The dullness reigns supreme hereabout if it is not sinking into general ruin".*

A letter from him from Brattleboro, June 12th, said: *"Brother H writes "There is less trade this month than last, and wants the closest economy of funds at the factory"."*

Here correspondence must stop for the present.

To quote again from the article referred to. *"Mr. Dennison produced a cheaper grade, the Bartlett, and when **he foresaw** the immense demand for cheap watches proposed the soldier's watch".* A stranger might from this suppose him to be the head and front, the soul and substance of the American Watch Company, instead of a subaltern in its employ; except indeed, that he was overruled. But afterwards *his idea* was adopted which with other events *proved the financial*

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*salvation of the company!* This clause must be looked upon by those who know, as a declaration as dogmatic as impudent, and which seems to claim him as the leader and savior of this company; and it is considered as unworthy of a truthful mind.

Was it this man, or his ideas, or those indicated in the foregoing correspondence who preserved this company in a sound financial condition?

Dark as everything seemed in those times, there has never been a day, from that in 1854 when the Act of Incorporation was accepted to the present moment, when there was the least danger of the failure of this company.

Our agents in New York were large stockholders and they were at the most favorable point to witness the storm, and to raise cautionary signals. But suppose they had been carried down in its fury and not a dollar of their indebtedness recovered, this company would not have failed. We still possessed the means to save ourselves, though such a catastrophe at such a time might have been very embarrassing. We had the factory and a full supply of costly machinery, ready to coin money as soon as a favorable change should come. Suppose the elements turned against us and destroyed our factory and machinery. We had ample insurance, and a large amount of valuable building lands nearly all paid for. And what "*financial salvation*" could we require from Mr. Dennison?

But he had possibly an inkling of a circumstance which happened about this time, and may honestly thought the company was on the verge or ruin.

There was a note signed by the Improvement Company for \$5000, discounted by the Waltham Bank. This note was not due until after the new order in our affairs. On the day the note became due, while Mr. Robbins and myself were in the office, in came a protest for the non-payment of that note. Had a stroke of lightning entered the office it might not have occasioned more surprise than did that notice. I turned to the notes payable and cash books and found it entered as due on the last day of grace. Hence the protest.

Mr. Robbins was enraged at the unkindness and incivility of its author, and I was mortified for my gross blunder. The *gentleman* sending the protest probably knew, as did other directors of the bank, that the company was sound to the core, for one or two of them were on our board. But the man happening to be the director for the week, a notary public, seemed to see a fee to be grabbed, and immediately after the bank hour passed, instead of performing a neighborly act of sending notice that we had probably overlooked the payment of that note, hastened with his protest with the seeming view of impairing our credit. But possibly, it may have been to gratify revenge that the company had gone on and prospered without his leave or help, and against his prognostication; for he was one of the original subscribers on our stock book for share No 43, and becoming one of the faithless, on the 20th of August 1858, sold it as one among the rush to leave a doubtful enterprise. His act had not the redeeming trait to hold an endorser, for the company's notes were good without one. He knew the financial standing of the men composing it and their personal liability would protect the bank. But whatever his motive was, let his conscience at this late day answer.

On the morning after the protest came, I went into Boston and drew from our ample bank account \$5000 and before noon the note was in our possession. For this seeming act of malice, to so unnecessarily endanger the credit of the company, an action for damages was entered against him. Up to the time Mr. Robbins had left for Europe it had not been tried. Some weeks after he had left I received from our able counsel, F. E. Parker, Esq. of Boston, the following note:

*"Boston 16th November 1861.*

*"Dear Sir. The case of American Watch Co vs \_\_\_\_\_ has not been dismissed as Mr. Robbins did not consider the explanation or apology in Mr. \_\_\_\_\_'s letter (that of his attorney) sufficiently ample. If not disposed of it ought to be tried. Will you, in Mr. Robbins absence, give me instructions to dispose of the case in some way?"*

Having trials enough on my hands at that time in the factory, I replied requesting our counsel to dismiss the action. Thus that matter has rested.

The above statement gives a view of the nearest approach to our financial ruin hitherto reached; and methinks the nearest approach to Mr. Dennison's "*financial salvation*" of the American Watch Company.

The works at Waltham moved on for the rest of the year '61 with a pace much like a snail. But it is worthy of notice that, except Sundays, holidays and vacation in the months of August, not a day passed from the time South Carolina dropped out of the Union December 20th '61, to Lee's surrender April 13th '65, without the running of our machinery at least three fourths of the day.

Our company was now in its seventh year of trial, and every political and local thing looked portentous.

In the twenty nine years since nullification was in South Carolina there was ample time for shareholders to thoroughly prepare for war. And war had now begun in earnest. They had shaped their course. Polk became President in 1845, for the apparent extension of slavery in Texas. War was declared against Mexico in 1846, Gen Taylor became President in '49, and by his death Fillmore had the horrible opportunity to affix his signature to the fugitive slave law, and there it stands on record,

*Approved!*

*Millard Fillmore*

And it seems, in the language of another, "*he secured for himself a black inheritance of infamy*". Who that witnessed the extradition of Burns in Boston, carried off in chains under a battalion of soldiers of northern blood! can think of Fillmore without abhorrence.<sup>13</sup>

To follow out this beginning of disturbing scenes, I proceed, for the purpose of showing that the enterprise of American watch-making was begun, carried forward, and ultimately became a great success, during the period between 1850 and 1865, a period for political commotion and business fluctuation and discouragements, especially for an untried, and generally considered doubtful enterprise, which has ever transpired on this or any other continent.

In 1850, the Boston Watch Company began, when Fillmore was President. In 1853, Frank Pierce was elected. To learn how he would quiet business and political disaster, see the letter to Jeff Davis before quoted.

In 1854, the month when the Waltham Improvement Company was incorporated, the Kansas Nebraska bill was passed. By an act of Congress passed in May 1854, the territories of Kansas and Nebraska were organized; and in section 14 of this act it was declared that the constitution and all the laws of the United States should be in full force in those territories, except the Missouri Compromise Act of 1820.

Massachusetts had shortly before this, "*incorporated an emigrant aid company for the purpose of assisting them to settle in the new territories*". And in July following, the Legislature of Connecticut granted a charter for a similar company. Many emigrants from the north-westerly states had entered Kansas, many from the free states also, and some from slave states with their slaves. "*A defensive association was organized in Missouri, to assist in removing any and all emigrants who go there under the auspices of northern emigrant aid societies*".

The Missourians entered Kansas on the eve of an election, took the ballots into their hands, elected their officers as they chose, and returned. And at last civil war and much bloodshed resulted.

And these scenes were going on from 1854 to 1859 inclusive, convulsing the nation from its center to its outer limits, and shackling all kinds of business enterprise. And what a prospect for selling lands of our company, and of "*establishing the manufacture of watches*"!

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13 Anthony Burns (1834-1862) was born a slave in Virginia. As a young man, he converted to Baptism and became a "slave preacher". In 1850 the new Fugitive Slave Law was passed that said that all slaves must be returned to their master regardless of where they are discovered. Vigilante groups with members of both races sprang up in retaliation, attacking convoys leading fugitive slaves back into bondage in the Deep South where the hopes of escape were slim.

Burns fled from Richmond by ship to Boston in 1853. On May 24 of 1854, he was discovered and arrested. After a trial, the streets of Boston between the courthouse and the harbor were lined with federal troops holding back the waves of protesters, while Burns was escorted to the ship that would return him to his original master.

The abolitionist community in Boston raised \$1,200 in order to try to ransom Burns' freedom from his master. Leonard Grimes eventually managed to ransom Burns's freedom from his master, and Burns, once freed, returned to live in Boston.

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Land is the most sensitive substance in the world under any kind of panic, the first to fall the last to rise. And during these years of perplexity and doubt, the treasurer of this land company was subject to constant maneuverings because he did not find a hungry crowd of customers to take up the land of the company as they would “*hot muffins*”. Besides, what a fine chance to sell land or watches during the financial panic of 1857; compared with which nothing has appeared in the long life of an old man except that of 1837, which was severe enough but like a zephyr to a tornado.

Then, in 1860, came the secession of South Carolina from the Union; and then in January 1861 followed Missouri, Alabama, Georgia, Louisiana, Texas, Virginia, Arkansas, Florida, and North Carolina, which were led into the same folly. And February 4th the “*Southern Confederacy*” was formed at Alabama, and February 18th Jeff Davis was inaugurated President thereof. So we are booked for four more years of turmoil and terrible slaughter.

But our company had an able captain, with efficient advisors and co-workers in New York; all of whom have the whole field in view, who know every pulsation of trade, and who will neither be caught napping nor in ambush.

Our treasurer and manager, notwithstanding the dismal outlook for business, very wisely took to himself an amiable and accomplished lady for his wife, on the 2nd of October, and on the 3rd entered upon a voyage to Europe. He took care to arrange the affairs of the company, with a substitute as treasurer and agent in the general management of the business at Waltham during his absence; and by correspondence with him by every mail to Europe and by correspondence with his firm, our agents in New York, who were stockholders in the company, as co-managers in the general business of the company.

The duties of the superintendent were fixed and definite by a written contract.

The proceedings during the three months absence of the treasurer, which were the last three months of the first year of the war, may be known better from the correspondence of that day than from memory.

Our factory was a labyrinth, and at almost every turn there was a section where some one of the multiplied departments of our work could be found with a “*boss workman*” at its head. They were under the especial charge of the superintendent, and yet the substitute had a general supervision there. Although the substitute, in his official capacity, had, with his co-directors, the legal right in any event to decide delicate questions occurring in the business of the company, yet, as manager of the business of the factory, his authority was only delegated; and, knowing the men and things with which he must come in contact, he deemed his position far from Elysium.

My first correspondence was from one of our agents in New York, dated November 4th 1861. Its importance, in this connection is that it shows, under the extreme home depression of trade, the early outstretch of the managers of our company to enter foreign markets. Mr. H. A. Robbins wrote:

*“On the inside of this I have transcribed a portion of Mr. R. E. Robbins letter relating to the business, at his request. You will of course write him your views on the subject. I think it would be best to have the English business ... done as directly by the watch company as possible; in order that the prices may be put as **low** as possible to the English **public** ... what we want is to develop our system, and we can only do that by **large** sales and an extensive market etc”.*

The transcription from the letter of R. E. Robbins was dated from Birmingham, October 17th '61:

*“I stayed in Liverpool Monday, Tuesday and Wednesday, trying to introduce our goods to \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_. Every body **likes** them, owns they are **better** and as cheap as the English; but trade here is almost as bad as in the U.S. and nobody would buy out and out. \_\_\_\_\_ is a very nice man, and is going to take hold of them with a serious effort, intending to make a long pull of it. ... \_\_\_\_\_ says he will take deliberate measures to create demand here, and trade, if it is possible etc., etc.”*

My views on the matter of this letter are not necessary here to report.

On the 7th of October, I wrote a long letter to Mr. R. E. Robbins in which I find:

*“Your absence now abroad produces very different feelings in me than did you absence **here at home**. But we are afloat, and my purpose shall be that the company interests receives as little detriment as possible in this temporary change of helmsman. I have today account of sales for September ... Business generally is evidently improving and a more hopeful feeling prevails ...*

*Mr. \_\_\_\_\_ has just come in and says he has been to different machine shops today in Boston, and but one man could be found that would, perhaps, do for us; and it is doubtful if he can be had ... the war and government seems to demand all."*

I wrote to R. E. Robbins November 11th '61:

*"A circumstance has just happened which I regret, principally because it happened in your absence. Week before last a boss in the pinion room threw off his apron, took his coat and cap, and left the factory in a passion. Two minutes was probably the whole time occupied by the impulse. You doubtless remember at a time in May, when you were in New York, I advanced to him \$259 to save paper from protest, which had your endorsement, on the express condition to stop his pay till the amount was satisfied. That sum has never been paid up to the time of this affair ... In June he called on me for \$200 more. I referred him to you, and he received it, on which nothing has been paid. And September 5th he called on me for \$50 more, which I refused; but he said he would pay in one week on getting it from the savings bank. In the early part of October I dunned him for it and then he said it would come by the middle of the month. But it has never come. On the 22nd of October, Robbins & Appleton wrote me that they should have quite a heavy month in November, and wished me not to reduce the next application for a discount more than 5%, as they had recently had a large payment fall due which made them short; and we had an unusual call for payments on our land etc; and there would be but a small balance over what they would claim, and our drawer was kept very lean. Under these circumstances the boss told the book-keeper he wanted some money as one of his girls was going away. I told the book-keeper to say to him we had no money in the drawer, and if he would pay the \$50 we could supply him. He was told so but instead of providing the money he called on me for \$11. I said to him as I said to the book-keeper. He replied to me that it had nothing to do with it. I replied that it had much to do with it, for if he would pay the \$50 I should be in funds for his wants. When upon this he tore off his apron and left in a violent passion, and out he remains. I called for a statement of his account and find him in our debt \$400 for which we have no security ... I cannot reflect at all on my action, it was a simple duty I owed the company, and I think no one of any good principles would take the course he did without apology or restitution ... I considered myself as right, and in any event could not maintain the dignity of the company, the discipline of the establishment, nor my self respect to retrace my steps."*

October 22nd, I wrote Mr. Robbins that: *"things were proceeding much as when he left ... I may say that I think the business of the country is settling down on a war basis; and that with the immense crops and the call for them, unless some terrible disaster unlooked for comes we must soon have fair and even prosperous times"*.

*"Paris November 6th '61. I have your two obliging letters, the last October 22nd, and I am glad to learn so particular accounts of the factory matters. I hoped more ladies movements would have come along but am quite sure you do as much towards it, and perhaps more than I could. I am much encouraged by the tone of both your letters and of those of Robbins & Appleton, which speak of at least a little better trade ... Both English and Swiss watches are or could be bought for nothing almost and the trade of both markets are unhappily dull. Nothing was ever known like it ... When Robbins & Appleton feel like increasing the outlay and putting the factory on full time, with the present number of hands, it should be by giving the contract hands two thirds pay for full time ... I am debating with myself anxiously, whether or not to go to Italy for the winter, or face the winter voyage home ... If it is not imperatively my duty to the company, whose interests I can never neglect, I should certainly prefer to stay over winter. For my own part as a stockholder, I am perfectly content and sure that things will go on just as well under your care as under my own; and it would be only to satisfy other stockholders that I should return at once ... please let me have your views frankly"*.

In his letter of November 11th, he says of the one who had left so abruptly *"He always had to be treated in just such a way or he was apt to fly into a passion. I have had a good many similar troubles with him ... which would have resulted as this one did but he was a special favorite of mine as a workman, and I was always conciliatory ... Nevertheless, I cannot blame you in the least in the matter"*.

November 26th I wrote Mr. Robbins: *"It would give me great satisfaction if, after your severe labor and trial for years in our business, you could be privileged to remain abroad, in Italy or elsewhere at your pleasure, and for your health. And so far as my personal interests in the concern, or my personal care and responsibility are involved, you have my hearty approval to remain to your full satisfaction. The magnitude of your interests however, and that of your friends in our company, forbids that I should suppress any material facts in reference to our business affairs. In my last of November 12th, I mentioned the*

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*matter of the "boss" in the pinion department ... I esteem his loss but a trifle in comparison with other elements growing out of it. Complaints were made to the directors, one of whom gave an open ear, and moved that a committee of three be appointed to investigate the management and business affairs of the company. I named Messrs. Rutter, Whitney and Moore, for the committee. They have had two or three sittings at the factory and are to have more, and if I can understand from a little said by the last two on the committee, instead of you or myself mounting the gallows it will be another case like Haman<sup>14</sup> ... The committee never made a formal report to the board, though a majority reported approval and full satisfaction with the management. Do not be anxious under what you learn of our matters. I will be watchful of events and protect your interest as carefully as my own".*

My last letter to Mr. Robbins while abroad was December 3rd '61: *"Matters since my last of November 26th, have remained about the same as then. We are running much as when you left except more hands, with a small advance of pay in some cases ... Business is improving; and Robbins & Appleton write today that the improvement is such that the company will soon feel it.*

*"Our war seems now to be moving on pretty well. Great good is yet to result from this fray. Not only the south but the world were in ignorance of the immense power of these free states. We ourselves would never know it but under this effort. With more than half a million of men under arms, we do not feel it as one might expect; and Europe can be assured that if need be, five times that number of men would take the field, and carry on what we now have, and anything it can bring against us; and feed their starving Ireland besides".*

My correspondence with the agents at New York was frequent, but it chiefly relates to their wants or otherwise of the varieties of goods under the fluctuating pulse of trade.

Government having somewhat supplied the packets of the "boys in blue", watches are wanted and American ones too, and if the emblem of our glorious Flag is engraved on them as a shield so much the better.

November 29th '61. They wrote: *"Mentioning our goods and that the demand for them is increasing ..."* They said *"We are sorry your superintendent is unhappy, but we trust the rest of you believe that we are doing our best to sell goods and otherwise advance the interests of the company".*

December 13th: *"You will have to keep your case shop right along now at the rate of two or three hundred per month."*

December 21st, they said: *"We could sell more Watsons (of which you have a good many on hand) if we had a cheap silver case for them ... Can't you bargain with your man (considering the times) for a lot of three or four hundred at a low price for making? ... We think the time has come to make an effort to meet the demand for cheap watches, and we advise you to the step above indicated."*

December 23rd: *"We notice your remarks about adding to the force of the factory, and should agree with you if we did not prefer to postpone thinking about till Mr. R. E. Robbins returns, and with the war panic on top of other inducements. We look for him by every steamer."*

Shortly before the last two quotations were dated, a letter in the hand of Mr. D. F. Appleton came dated December 14th, in which he said: *"We had the pleasure of a visit from the superintendent today. He says there are but few ladies movements because nobody ever told him how many were wanted ! He complained that we didn't push watches off into the hands of dealers, which we thought odd<sup>15</sup> considering we had been pushing them into all sorts of unsafe places to our own loss and for the benefit of the company".*

Neither the public nor the stockholders know the obligation this company is under to the able managers of the department of its selling agency. Goods may be made by the million, but it requires live agents to find the customers for them. And it is no disparagement to the other able managers of their business, nor to their able assistants, to say that if there is any spoke in the wheel of fortune belonging to the American Watch Company, of Waltham, with the exception of its treasurer and general manager, of more value than others, it should be named. D. F. Appleton.

I wrote October 17: *"You ask "How are we getting on at the factory?" We are getting on very lamely; but so far as I can see, as well as usual under our present mode of running and the very few hands employed. The lag is mainly in the pinion*

14 See the Bible, Esther 7.

15 The manuscript appears to read "cool". It is just possible, if the manuscript is a copy of the original, for the letters of "odd" could be misinterpreted as "cool".

*department where a small force is employed but two thirds of the time. This of course is to keep the pay roll at minimum. But we are running to disadvantage, and I fear loss. What shall we do? Our treasurer has fixed and agreed on the hours of running and amount of labor; and it is only under this direction and by Robbins & Appleton they are to be varied.*

*"The spirit of our people is very different at the present time from that when we are running under a prosperous and satisfactory pressure. And under present circumstances I know of no way to rouse their spirits to much if any greater production."*

October 18th. I wrote: *"Our case shop is and has been moving moderately for some time. There are now some half dozen hands three fourths time. We have 200 silver cases now under way. The "boss" of the shop says it will take him, with present force and time, two months to finish them. Also 200 albata<sup>16</sup> cases just started, all of which, as we are now going, may be done in three months. If we should start up the case shop at full time we should, of course, have them sooner. But if we should run full time in this and in the pinion room (of the need of which I wrote you) or both, it would raise mutiny at once unless we run them all. I have seen some indications of it because the machine shop is now on full time, which, in the agreement made in cutting down, R. E. Robbins specially provided for. If we run full time our pay roll is one fourth more, and any indication of improvement in business may likely occasion discontent at the reduced pay now arranged. But if our case maker can find workmen who will come in on three fourths time and low pay, I should favor an increase. But before doing so you shall hear from me again. But with the present spirit in business, if such it be, I think you will do well to guard against the failure of our being able to get workmen at rates that will not upset all the present arrangements with our work people."*

November 9th I wrote: *"There are intimations that a new watch-making firm is about being established ... Well, the world is extensive, room enough for all to spread. Competition will come doubtless, and if come it does I think the motto for our company should be "large sales and small profits"; and they whose means are the largest will probably endure the longest.*

*"But I know not as you understand what I refer to. I cannot now write in detail but the gist of it is that one of our men, boss of the pinion room, who Mr. Robbins ranked high as an employee, but one who I have always considered of much more pretension than merit, has recently thrown up his cap and quit in a passion ... He and one or two others are talking of making watches ... "Cheap watches" is their watch word, and if that is what they propose I think we have the material for them at as low a price as any competitor can desire. I much regret the fact of his leaving us at this time, but it was out of the question, when he took his passionate stand, for me to prevent it. It could be done only at the sacrifice of the dignity, and I will add the best interests, of the Company."*

November 14th I wrote: *"Glad of even any improvement in sales ... I am informed that the material from the pinion room is coming out faster than formerly. Think we shall survive the loss."*

November 27th '61 I wrote: *"W\_\_\_\_\_ sold most of the watches he took to Washington; at what price I know not. He says there is a great field there among the soldiers, rank and file. But if peddlers are to be employed there I much prefer Robbins & Appleton should employ them, instead of those who took it upon themselves to do it. I shall endeavor to prevent any more goods going from the factory as these did."*

November 28th, I wrote: *"Herewith I enclose to you this letter from L\_\_\_\_\_ of what you sent. I of course knew nothing. The young man once worked for us. My impression is that it will be well not to allow him to get far into debt. We see in this from L\_\_\_\_\_ the difficulties the \_\_\_\_\_ interference may produce. I shall use a copy of this I have taken to rebut the glorification which a director will indulge in at our next meeting."*

November 30th I wrote: *"The matter in regard to L\_\_\_\_\_ I know nothing except what I forwarded to you. In reference to W\_\_\_\_\_ I only know that he had the goods without my knowledge or consent, under the instigation of one or two who meddled with what was none of their business ... I have forbidden any more goods passing from the office out of the usual channel, without my knowledge ... Not a man in our direction, save one, I am very confident doubts at all that you are doing your best to sell goods and otherwise advance the interests of the company.*

*"What say you of the albata cases; shall we order the stock for 200 more? If not I query if we can sustain the little life we now have in the case-room without some silver stock."*

December 24th I wrote that: *"With a strong, not to say impatient, desire to sustain our little casing force, I should have seized on anything said or done on your part to justify the outlay of stocking our case rooms.*

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16 A white metallic alloy; which is made into spoons, forks, teapots, etc. British plate or German silver.



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*"I have now ordered 300 ounces of silver and the employment of two more men."*

December 24th '61, I wrote: "You say under date of 13th *"keep the case shop right along at the rate of 2 or 300 per month."* And December 21st, which I had just received, you suggest a bargain with our case makers for 3 or 400 low priced cases besides. Your closing paragraph gives answer to the whole inquiry, which is "Of course we don't wish these cheaper to push aside the regular things". We have not and I fear we cannot get the men accustomed to our mode of manufacture without we engage in the slow process of teaching them.

*"It is sad to look at the efficient organization we had prior to the war, in the various departments, but now when we want a hand or two it is with difficulty they are to be found. "Gone to the war" or engaged in something that pays better than we can pay. I doubt if we can do anything in the way of cheap cases at present but will inquire into it.*

*"I recently have had several applications for increased pay and some will not be refused; and such have been promised although the pay-roll does not recognize it. We are now on three fourths time and one half pay. They would be satisfied, I think generally, with three fourths pay and full time; such an arrangement would especially favor the case-making. But if we "put our hand to the plow we must not look back". Fickleness has been charged on us as a company; "take in hands today and discharge tomorrow" is said to be our practice. But the fickleness of the times since our organization is the secret. We had better run as we do to disadvantage than to increase and back down again. The demand for cheap watches I think must be met, and cannot you forward it by some trade for cheap cases in New York or Philadelphia?"*

*"Now Mr. R.E. Robbins is expected soon to arrive, and future correspondence with our agents in New York and elsewhere will devolve on him."*

Our treasurer and general agent arrived on or about the first of January 1862. Soon after he reached Waltham the directors of the company convened, and by their unanimous act with one exception, the superintendent, after being for a little more than two years the incumbent of that place, was discharged from the service of the company. This occurred a little more than twenty one years previous to the laudatory article which was published in the "Waltham Record" of April 6th, 1883.

Judge ye, who will, of the exclusive merits of the compliments as therein stated.

Soon after this dismissal a gentlemen of Waltham, an experienced and skillful workman on watches, Mr. Chas W. Fogg, was appointed superintendent of the factory. And in the noticeable language subsequently of General Grant, we could say let us have peace. And we did have it until another arose who aspired to pre-eminence, and who ultimately had a like peremptory discharge.

The business of the company rapidly increased. Our agents no longer had the necessity of "pushing our goods into all sorts of unsafe places to their loss," but with the difficulty of obtaining work *men* the demand was too great for a full supply at once. And customers would "button-hole" the agents to promise them so many of the next invoice received.

Though men were scarce, female help was abundant and available. Soon they were able to manipulate the machines, and many became expert in the setting up department of movements.

In 1859 and '60, small dividends were made. In 1861 they were unavoidable passed. In 1862 again a small dividend was declared. In 1863 the amount divided was increased. In 1864 doubled on '63. And in 1864 our surplus was so large and the increase of buildings and machinery so extensive, it was deemed best to capitalize our reserved earnings; and arrangements were made and a petition presented to the Legislature of 1864 and '65, for an increase of capital to \$800,000. And as had been uniformly the case, it fell to my lot to appear before the Legislature committee to whom our petition had been referred. On notice of the committee to give us a hearing, Mr. Robbins and myself attended to their call. The gentlemen were all strangers to us, and so far as we knew we were strangers to them. They evidently knew nothing about us or the company. They probably knew that some years before a charter had grudgingly been granted to a land company in Waltham, with a capital limited to \$300,000. But what could they want of 500,000 dollars more? They questioned us sharply, and, as we thought, as they would if they supposed we were pick-pockets seeking to delve into the pockets of the good people of the Commonwealth! We answered their questions promptly if not satisfactorily. But one more astute than his fellows, having perhaps heard we were delinquent in not having advertised our sworn statement annually of our liabilities and assets, put to us a poser. *"Have you complied with the law by publishing in a paper of your county the sworn statement of your president and directors, of your liabilities and assets?"*

The answer was no, not in the last two years. For the reason that we have no liabilities. The law is not applicable to us, every month we pay up all demands against us. Yet there seemed a lingering doubt in the minds of the committee. Mr. Robbins and myself concluded that we could satisfy the gentlemen by inviting them as a body to come to Waltham and visit the establishment. We invited them and they accepted, and on the day assigned they came.

Having gone through the labyrinth (for the works were then very extensive in every part) they returned to the office on their way of exit. And coming in, one of the gentlemen, I suppose the chairman, said to me "*We have examined your establishment throughout and the committee will unanimously report a bill favorable to your petition. And if you had petitioned for an increase of a million dollars the committee would unanimously report a bill for that amount*". The bill was reported to the Senate January 31st 1865, and approved February 9th prox.

This ended my services for the company before the General Court of Massachusetts.

Notice was given on February 15th that a meeting of proprietors of shares in the American Watch Company would be held on Monday February 20th 1865, to see if they would accept the Act of the General Court increasing the capital stock of said company. And February 21st notice was given that: "*At a meeting of the stockholders of the American Watch Co, held at Waltham on the 20th inst, it was in substance voted: First, to accept the late Act of the Legislature allowing the company to increase its capital stock. Second, to increase the capital accordingly to the sum of seven hundred and fifty thousand dollars, instead of three hundred thousand dollars now allowed by law, to divide the additional capital into forty five hundred shares of one hundred dollars each and allot them to the holders of stock of the 18th instant, three shares for every two pro-rata. Third, to assess the said new shares the full amount of one hundred dollars each.*"

At a meeting of directors held the same day, a dividend of one hundred and fifty percent was declared to shareholders of the 18th inst, to be placed to the credit of such stockholders against the above assessment, and to balance the same.

It appears by the above that, after eleven years of severe struggle, the success of this company was well assured. The purpose our charter contemplated of "*establishing the manufacture of watches in Waltham*" was accomplished.

Of the character of the productions of this company, little need be said of it at this late day in this paper. The country, and it may be said the world, is full of the evidence of its excellence. And yet it is opportune to add a few abstracts from papers long since published. One of which is by an observer in New York dated July 16, 1860. He says:

*"A day in a watch factory is as worthy of special notice as a day on board of the great ship. From an inspection of both, one sees the maximum and minimum of mechanical invention and achievement. What a contrast between the ponderous engines of the Leviathan steamer and the invisible machinery of the American Watch company, in operation at Waltham! ... Surprising as it may appear, this enterprising and ingenious American company has invented machinery for the separate fabrication of almost every one of the one hundred and twenty five different parts employed in the composition of a watch. The metals, the jewels, and whatever is used in the construction of this beautiful and wonderful piece of mechanism, seems to be thrown in at one end of this establishment, in a raw and inert state, and to come out at the other end a complete and almost living organism, with a beating heart, a speaking face, and hands raised, as it were, in astonishment at the phenomenon of its own creation! But in order to produce this paragon of human invention, the elemental materials must pass through many machines, many processes and many hands, to describe which would fill a column."*

One other quotation may suffice, which is from a card by Robbins and Appleton, general agents of American Watch Company, published in 1871:

*"These general claims to superiority are no longer contested. An English watch-maker, in a recent lecture before the Horological Institute of London, describing the result of two months close observation at the various manufactories in the United States, remarks in reference to Waltham: "on leaving the factory, I felt that the manufacture of watches on the old plan was gone"*.

*"Other foreign makers, some of them eminent, have publicly borne the same testimony. They admit that the result aimed at in Europe by slow and costly processes are here realized with greater certainty, with an almost absolute uniformity, and at a cost which more than compensates for the difference between manual labor in the old world and the new.*

*"But we assert for the Waltham watches more than a general superiority. Their advantages in respect of quality and price, over English and Swiss watches, are not more marked than are their advantages over the products of other American*

## A Family Tale

*manufactories. These are positive in their character, and are the natural consequence of the precedence we acquired in the trade, and the proportions to which our manufactory has attained. No industrial law is better established than that which cheapens the cost of an article in proportion to the magnitude of its production. The extent of an establishment, the combination of skillful labor on an extensive scale, with machinery perfect and simple, enables us to offer watches at lower rates than those of any other manufacturer. The aggregate of profit is the end kept in aim, not the profit on any single watch. And, acting on this principle, with reduced cost of production and an ever widening demand, our watches are offered at prices considerably below the watches of other American makers, comparing quality with quality.*

*“Our annual manufacture is double that of all other makers in this country combined, and much larger than the entire manufacture of England ... These constant efforts to perfect in all ways, and by all means, both the machinery of the factory and the construction of our watches, have placed within our means the production of a greater variety in grade and finish than other American makers have attempted. In the manufacture of very fine watches we have no competitor in the United States, and only a few in Europe.”*

There are several very important improvements in the construction of the watches of this company, which foreigners had not discovered, but which were contrived by skilled workmen in our employ and patented. But the great distance that separates me from letters patent forbids a description of them in this paper.

This company is indissolubly combined with the “Bemis Farm”, and the “Lawton Lot”, lands in the town of Waltham.

After the bonds were taken for securing deeds for three months, the first movement made to organize a company for the purchase was in December 1853. I then proceeded to write up their value as being far in excess of the price for which they were bonded, and to describe the locality, its beauty and advantages for a watch-makers village; and mentioned the Boston Watch Company as to become largely interested and would establish their works thereupon. This was an important feature and was made prominent in the pamphlet.

These statements were printed in January 1854. This was the procuring cause, and this only, of the creation and erection of works of which the town may now well be proud.

The stock was soon taken but more than one half the number of shares and persons fell out by the way, and left to others the prizes which were within their keeping. And after the lapse of thirteen years, the land purchased, to say nothing of what it ultimately carried, could at that time be demonstrated to have been, without looking into the future, an excellent investment.

The preceding re-capitulation is for what follows. The following statistics are copied from the ledger of the American Watch Company, as made up for and entered in the account of stock book of 1866.

The land in square amounted to:		4,634,160 ft
It cost:	\$35,776.45	
For land and standing wood sold received:	<u>25,602.57</u>	
Remaining cost:	\$10,173.88	
The quantity of land sold was:		<u>603,526</u> ft
Reducing the quantity remaining to:		4,030,634 ft
Throw out for streets:	<u>681,613</u> ft	
There remained:		3,349,021 ft
Throw out for factory & co buildings:	<u>400,000</u> ft	
There remained:		2,949,021 ft
Throw out for low land:	<u>479,160</u> ft	
Remaining for sale:		2,469,861 ft
The average price received for land sold was about 4 <sup>1</sup> / <sub>10</sub> cents per foot at which price the land remaining would bring:		\$101,264.30
Deduct the cost:		<u>10,178.88</u>
Making a gain of:		\$91,090.42

W. H. Keith

Besides the land for the company's purposes and the eleven acres of low lands. The interest on the investment is not brought into this statement, because, although the balance was against us for a few years, it soon turned in our favor.

The deed of the farm conveys with the rest of the land nine acres of flowed land which is not included in this statement; but that, and the low land and the streets, amounted to thirty five acres not in this estimate of value. But if we average the low land with the upland, and this is the case on the books, we have 2,949,021 square feet which at one half the price heretofore received amounts to \$60,454.93. But its estimated value on the stock book of 1866 was but \$28,660.81, less than one cent per foot.

As there is a time when all earthly affairs terminate, the time had now come when I determined to relinquish the position to which, by the favor of the company, I had so often been elected, and for adequate reasons my resignation was sent to the Board of Directors.

Near the last of May, two months after the last re-election, by the grace of the directors the following missive was sent me.

*“Waltham May 27th 1866*

*Wm H. Keith, Esq.*

*“Dear Sir. At a special meeting of directors of the American Watch Company held this day the resignation of Wm H. Keith, Esq. as president of the company was presented by I. W. Mulliken, Esq. by letter to the directors. On motion of R. E. Robbins. Esq. It was voted to accept the resignation.*

*“It was voted that the thanks of this board are due and are hereby tendered to Wm H. Keith. Esq. for his long and devoted services to this company in the offices of director and president which he has filled with zeal fidelity and success. Voted that a copy of the above be present to Wm H. Keith Esq. By the clerk.*

*Signed*

*Henry Martyn Clerk.”*

For the preceding, my thanks are tendered to the Board of Directors of the company and to the stockholders for their repeated favors. But alas, how frail is the tenure of this life. Many of the stockholders have departed, and in this comparatively short period a majority of that board of seven directors have “*passed over to His reign*”<sup>17</sup>, and only the president and treasurer now officiating, besides myself, remain. And the clerk being dead also, makes five of the eight officers of the company who were then in health and business activity now no more amongst us.

In the conclusion of this chapter it may be though pardonable, and perhaps fitting, that the expression of my views of the treasurer of the American Watch Company, of Waltham, should be allowed. And they are not empty panegyric, but the sincere expression of judgment to extol a master mind.

Let who will claim to be the mechanical “*Father of American Watch Making*”, it is indisputable that, if all the officers who have served this company could speak, they would join with one accord in ascribing to him the pre-eminent honor of organizing the host of employees in great diversity of departments of work, and bringing them to time and harmony without conflict or detention of one by another. And of introducing by the most watchful care improvements in the construction and character of the productions of the company, and extending markets for the same as the manufactures demand, and creating this industry with wonderful strides as is now witnessed at Waltham.

And not only those referred to would unite, but the old stockholders and employees would unite in recognizing

*Royal E. Robbins. Esq.  
of Boston, Massachusetts,*

as by far the most prominent agent, and the one most successful in organizing and developing American watch-making.

And may this company yet go on in prosperity for an indefinite future, until the “*Angel*” ... shall “*lift up his hand to Heaven and swear by Him that liveth forever and ever ... that there should be time no longer.*” Then, and not till then, may it be that the instruments of this company with which time is measured shall cease.

17 The manuscript appears to read “*passed over the Reign*”.

## Chapter Five: Conclusion.

The article published in the "Waltham Record" referred to in preceding pages has the following inscription.

*"The Father of American Watch Making.*

*Aaron L. Dennison*

*"The originator of the American System of Manufacturing watches. The marvelous growth of the industry and a sketch of the inventor.*

*"The idea of supplying the American market with American watches, and its successful development, says a recent writer on horology, are due to the genius of Aaron L. Dennison, who may justly be termed 'The Father of Watch-Making in America', and the facts prove this statement to be the truth, for certainly no other person has done so much to originate and to develop the industry which has made not only the name Waltham, but the names of other towns and cities in the United States household words and famous in every clime."*

The "idea" may be conceded. But those situated most favorably to judge do not admit the correctness of the writer's statements or conclusions; nor do they consider the recipient of this eulogy as having been either successful or fortunate in the development of the idea.

If the article referred to as a whole was written or dictated by Mr. Dennison, or published with his approbation and consent, it is fair to presume the quotations above, as well as all else in it, as his claim and language. Those who have known the gentleman well can have no doubt that he claims all the distinction that it implies.

Who the writer on horology was is a matter of no consequence. His ignorance of the facts would seem to forbid the adoption of his language by any one at all conversant with the subject.

In an examination of that article, those who have best known the watch-making history of the gentleman may well doubt their ability, in view of the apparent selfish and exclusive character of his claims and of the self-sufficiency therein indicated, to maintain that equanimity and candor which best becomes even an ordinary writer.

Of his early history nothing need be said, except that it was certainly creditable in him to seek to improve his condition.

The gentleman to whom he was apprenticed was a very honest exemplary man and, doubtless, a good instructor in his mechanical art. But the grade of work probably was inferior to that he could find in Boston. So to Boston he went in 1833. The character of the work in each place where he was employed was among the best.

In the last place mentioned where he worked, he fell into very good hands for instruction. Jubal Howe (whose name in the paper is misprinted) was apprenticed to Luther Goddard, of Shrewsbury. After his freedom he engaged in the manufacture of watches, and so continued until foreign competition compelled its abandonment. About 1820, the most prominent firm in Savannah, Georgia, in that line, having sought for a finished workman for their employ, entered into an engagement with Howe at a compensation of one hundred dollars per month, which was considered at that time enormous wages. And having fulfilled his engagement there, returned to Boston and took charge of the repairing department of the business of the late John B. Jones, in Cornhill or Market Street as then called. And on Jones' death, George B. Jones, John and Francis Low, and Sam Ball succeeded to Jones' business, and Howe took charge of the same department with the new firm. Mr. Dennison found a tutor of large experience and doubtless the pupil made a very good use of his instructions, for he was admitted to be a very good workman at repairing watches.

It appears by the following that, while with this tutor, in 1835 he "*discovered the inaccuracies of workmanship and construction which existed in even the best of handmade watches*".

Mr. Howe is dead, and one cannot learn from him the quality of watches he put into his employee's hands. But it is certainly true that the best were left there for repairs. Now was this faulty work and construction the rule or the exception? In a letter written at that time according to the press, he says "*Within a year I have examined watches made by a man whose reputation at this moment is far beyond that of any other watch-maker in London, and have found in them such workmanship as I should blush to have it supposed had passed from under my hands in the lower grade of work*".

Americans can well afford to be just, if not generous, towards their English cousins. An Englishman might well dispute this assertion and appeal to Howe, if in life, or to any living watch-maker of experience and judgment as umpire. That there are inaccuracies in mechanical work made by hand is true, but the intimation that such is the rule among the best should not go undisputed.

It is distinctly remembered that Luther Goddard used to mention the fact of an English watch made in the most exquisite manner that could not perform correct time. The cause baffled the skill of all. But at last it was discovered that the finisher, in doing his work so very nice, had made too close a fit, not end-shake enough, the pivots not sufficiently free, a trouble any good workman could correct easily when discovered. But it is true that in a machine made watch, if the machinery is correctly made and adjusted, this trouble would not happen except by extreme carelessness.

After nearly fifty years of further experience in life, it would seem that the gentleman might be conscious that he is peccable<sup>18</sup>, and consequently should have suppressed from public gaze his early criticisms of foreign workmen. Does he not remember, at a time when Mr. Robbins was in Europe, notice was received at the factory from the agents in New York dated October 26th 1861, in which was found the following sentence. *"We have a good many complaints about the ladies watch performances, and particularly about the winding works. If there is any radical difficulty then it is of the utmost importance that it should be remedied thoroughly."* He was the mechanical superintendent at the factory, and had perfect machinery for perfect manufacture. And when this quotation was read to him it is not now remembered that *shame* mantled his cheeks; though in such condition the goods passed from *his hands* to the office, thence to the agent.

Again he says, *"And it needs but slight acquaintance with our art to discover that the lower grade of foreign watches are hardly as mechanically correct in their construction as a common wheelbarrow."*

The metaphor is not very well chosen; such a carriage can be constructed on mechanical principles for the purposes intended by a very ordinary workman. The illustration is an absurdity, so also is it to assert that the world has failed to produce watches correct in mathematical and horological construction and finish, until this critic appeared in the year of our Lord one thousand eight hundred and fifty.

But it is surely and sadly true, that the great mass of watches brought to this market from 1815 to 1835, were as worthless as Pinder's razors, and designedly so. The cheapest and of course the least efficient labor was employed in producing a toy that could be sold for the least money with a profit; and with the worthless character of those as to workmanship there need be no dispute with the critic or the article. Watches of the common grade of this period were far inferior to those of the 17th century. Although these were grotesque and clumsy, many were so finished that they would do credit to accomplished modern workmen. It was during this period, 1826, that Reid, a Scotch watch-maker of good repute, wrote his *"Treatise on Watch Making"* in which he gives the following account of workmen on watches and the quality of their work. On page 223 he says:

*"From what has been said of the imperfections of watches, it may be seen that they inevitably arise from the want of that energy of mind in workman, of which not one in a hundred is possessed. Can it then be supposed that every new watch which is purchased is complete and requires no assistance? Whoever thinks so must and will be disappointed. On finding it not go as they expected, bring it to some watch-maker or other, many of whom cannot put it in a better state than that in which the workman or finisher gave it as complete. But it is brought to him, not with a view of having anything done to it, as it is supposed to require nothing, but merely to see what is the matter with it, never considering that any irregular going, or stopping, must imply some fault or other, and is the very cause that brings them to the watch-maker. It does not follow however, from this, that every watch that stops is badly executed; this will happen sometimes with those of the very best execution, and frequently from an over-nicety of the finisher. On the watch being left, he (the watch-maker) takes it down, examines it, and reports accordingly what is necessary to make it keep time. The owner, on being told afterwards, that it will cost so much to make it do what is required, frequently and strongly suspects, though he may be polite enough not to say so, that there must be some imposition on the part of the watch-maker. Much is the trouble many watch-makers have of rectifying the faults of work given in, and large sums paid for such alteration of work thought originally to have been complete. We have known four guineas paid to a workman for doing a particular branch; and it not being executed to the satisfaction of the watch-maker, he has given half as much more to another to have it corrected. There are as few who excel in this art, as in those of sculpture,*

18 Liabile to sin. The reverse, *"impeccable"*, is much more common.

*painting, and engraving, which are called the fine arts, a name to which watch-making is in every sense of the word equally entitled, but which labors under the great misfortune in not being properly seen, that few or none are enabled to appreciate the merits even of the finest executed piece. This will ultimately sink the profession to nothing, which, we are afraid, it is daily doing, and so much so that no young man can now be found to go to it who has got the smallest degree of education or of ingenuity; and when the provincial towns decline to give their quota in this way, the capitals will not be able to support the character that such a profession requires, from want of a supply of hands."*

To return to the newspaper article.

Mr. Dennison is made to say, "*The principal thinking up of the matter was done ... after a good day's work ... I used to stroll out upon the common and gave my mind full play upon the project*". He further says, "*In 1849 he had worked up the plans of a watch manufactory ... and in connection with Messrs. Howard, Davis and Samuel Curtis of Boston, established the first watch factory in America.*"

Here appears auxiliaries. But for this clause the world who do not know, might from the high sounding claim set up by or for the gentleman, believe that he, like Elias Howe, who almost single handed and alone, amid poverty that at times compelled him to take the position of an engine driver to obtain the means of sustenance, and whose inventions are now estimated to yield to the world a value of \$400,000,000 annually, might claim the sole paternity of the American watch, as Howe could of the American sewing machine; or of Morse to telegraphy. They worked their way to successful demonstration alone, the one with the smallest aid in money, and the other not only without money and, until demonstration had compelled Congress to act in his behalf, but his early efforts were scoffed at as those of a crazy fool. Yet, both triumphed without proclaiming their fatherhood of their several enterprises.

But in the production of the American watch, it seems there were two persons at least engaged as fathers, besides the financial aid contributed. Yet how little could a stranger or the world know by that article that there was more than one active agent entitled to the least consideration in this affair. The name of Samuel Curtis appears once besides that of the superlative claimant. The former, though venerable and near the close of his active life had probably sacrificed more money in this experiment at watch-making, at Roxbury, than all others combined except Messrs. Howard & Davis. He pledged at the onset \$20,000 and probably added \$10,000 more of the competence which by a life of enterprise and industry he had acquired for declining years, to be swept away by this doubtful undertaking. Yet there could be no word of gratitude or recognition admitted to that article. And who, unless they are devoid of sensibility can think of that hoary and beautiful head of his which by reason of this and some other unfortunate investments was laid low in an insolvent's grave, and suppress a sympathetic pang to his memory?

Then there were Howard & Davis who contributed the use of buildings and machinery and tools at first, and afterwards erected buildings for the company, and added some \$20,000 to its business fund. And what is more, the mechanical and horological skill of Edward Howard was constantly available and engaged in the perfecting of the machinery, and the *production of the watches*. Yet his name proper is not found in that article!

The said article further informs us, that Mr. Dennison "*came to Waltham and called upon his friend ... to whom he confided the object of his visit.*" His friend "*suggested the Bemis Farm as being in the market and a suitable site ... and, subsequently, introduced Mr. Dennison to prominent citizens of Waltham, who became interested and took hold of the matter, until on March 24th (30th) 1854, the Waltham Improvement Company was incorporated by special Act of the Legislature.*"

The remark of Mr. Dennison's friend was opportune, and deserves great consideration! It certainly should be engraved on his monument as a memorial to the future generations of Waltham, of its great value to its people, and the modest eulogy should follow. And his friend "*Introduced him etc*". Mr. Dennison and myself had been acquainted at least fifteen years, and of course needed no introduction. And it is with the utmost confidence asserted that no other man in Waltham knew what was going on between Dennison and myself until the pamphlet before referred to had been circulated.

Now if the writer or dictator of that eulogy was desirous of a point on which to base it that really had some force, by inquiring of one who knew, he would have been informed that this friend of Dennison's was a subscriber to share No 35 of the original stock of the Waltham Improvement Company. That he paid assessments on it as promptly as was generally done by others. That he not only held the share up to the time of the insolvency of the Boston Watch

Company, but paid one assessment after. All this was meritorious. But further, when the directors of the Improvement Company, in which he yet held that share, had determined that *it was indispensable in order to effect the purchase of the watch establishment and preserve watch-making to Waltham*, the several share-holders, if they would secure the prize, must pay up assessments in full in six monthly installments; and this friend on being called upon to carry his share declined to do so. Now comes the pith. On being asked if he would sell his share in the company an affirmative answer was given. On being asked the price the demand was \$387.50. This was surely meritorious, for many who sold demanded the sum which had been assessed and paid on the shares, and the interest on the same, thus requiring \$450 per share. And, although many had generously accepted \$300 for a share, provided the fact of said purchase was accomplished, some others demanded conditionally the addition of sixty two dollars and fifty cents over the assessments. So the holder of share No 35 was liberal in donating \$62.50 to the company *for the retention of the watch industry to Waltham!* Was not that really a eulogistic act?

As the concluding portion of the paragraph containing this eulogy has been pretty fully considered in the preceding pages, they are now passed, and we come next to the following:

*“As the originator of the methods to be used, by and the plans of, the first watch factory in the world where all parts of the watch were made under one roof, unbounded praise belongs to Mr. A. L. Dennison, and it is a pleasure to find that those who have investigated this matter have come to the conclusion, that he is indeed the Father of the American Watch”!*

Three thousand years ago it was said, *“He that is first in his own cause seemeth just, but his neighbor cometh and searcheth him.”* As true now as it was then, and Mr. Edward Howard appears to be not only his neighbor, but his partner in this cause.

Not being versed in the Latin language and wanting to use as little of it for the present purpose, resort is made to Grandfather Callender, in Scudders *“Boston Town”*; and with its aid erect a genealogical American watch-makers’ tree.

*Tritavus* takes the lowest extremity of the tap root, and he is as foundation, the great-great-great-great grandfather, Luther Goddard, of Shrewsbury, Massachusetts.

*Atavus* is the next ascending, and is the great-great-great grandfather, Mr. Wheelock of Sutton, Massachusetts.

*Abauus* is the next and is the great-great grandfather Parley Goddard of Shrewsbury, Massachusetts.

*Proauus* comes next, who is the great grandfather, James Hamilton, of Framingham, Massachusetts.

*Auus* is near the surface, and is the grandfather Jubal Howe, of Medway, Massachusetts.

*Pater* is next, and is at the crown of the roots, and occupies a very important position no less than to be the basis of the sprout, trunk and branches of the tree.

Now who is *Pater*? Who is to fill this important place? The writer just quoted says *“Mr. A. L. Dennison ... To him belongs unbounded praise”* ... And that those who have investigated the matter have come to the conclusion that he is indeed *Pater*, *“the Father of the American watch”*. But those who have *known the matter from the beginning* come to a different conclusion, and award that place to the “Boston Watch Company” collectively. And in their opinion, but for the energy, skill and perseverance of Mr. Edward Howard, the *“idea”* would have perished.

From this basis has sprung this great industry, and it is through the disappointments, perplexities, struggles and expense of that company, which were known to a few only of the early friends of that enterprise, but unknown to the world and to the great body of those now profiting by their sacrifices. See the statement of Mr. Howard in a preceding chapter of these pages; and say, aught not the distinguished merit of skill, energy and perseverance be accorded to that company, and sympathetic regret felt that through a combination of unfortunate circumstances they missed the prize to which they were eminently entitled.

To Mr. Dennison, personally, his full share in the distinguished honor of the position that company occupies in its history is frankly admitted. But his claim to be the sole *“Father of American watch-making”* is a position, it is believed, that neither he nor his friends can establish.

From the Boston Watch Company next sprouted the establishment of Appleton Tracy & Company. They carried the plant upward with great energy through the terrible panic of 1857. But it was not without severe struggles and heavy expenses, yet energy triumphed.



During the continuance of this company the growth of the plant had largely increased until it was purchased by the Waltham Improvement Company; and both transformed under the charter of the latter company into the American Watch Company. Since which the plant has become a mighty tree; the trunk, limbs and branches having spread in every direction. But it is not the purpose of this writing to trace them out, only to refer to a few in the immediate vicinity of the main plant.

There were the Nashua, the Union, and the Tremont; these germinated in their turn but only soon to perish. Of the latter, we are informed by the Waltham paper, that its "*machinery*" was "*removed to England, where it is now used in the works of an English watch company*"! If it was patriotic for this company to place its machinery in the hands of the cheap labor of Europe, to compete more successfully with its country and country-men, then the word patriotism seems to have gained a new definition.

But to turn again to the newspaper. The article says, "*And now as far as I can recollect what my plans then were as to systems and methods to be employed, they were identical with those in existence at the present time.*" This is supposed to relate to machinery and general manipulation. But the testimony of Mr. Howard, in another part of this writing, hardly supports the integrity of *this* claim.

But how is it in regard to the watch? He has placed his standard of excellence very high as respects his production; no less than to excel the best watch-maker in London!

At the early age in his mechanical life, had he studied more closely the great masters of his profession in Europe, he might have been less presumptuous in his criticisms and pretensions.

Concede, for the moment, that the first production of watches at Roxbury was the result of his unaided skill. If so, wherein did he improve on the "*inaccuracies of workmanship and construction which existed in the best of hand made watches*"?

It is quite too late in the history of American industries, and was so at the time the above quotation was first written, to question that the product of well constructed machinery, in every department of mechanics, is far superior to anything that the eye and hand does effect; and of all things in the world, the watch. Therein, under the momentary concession, it is admitted he gained by this new method in the workmanship *in general* and even over "*some of the best hand-made watches of Europe*".

But as to *construction* what does he mean? Was it the fusee and chain he dispensed with? Englishmen, in general, do not admit these to be a faulty construction. Yet many of the English, French and Swiss watch-makers discontinued them three fourths of a century before Mr. Dennison's day. If this was not his meaning what was it? It would puzzle his eulogist to point it out. It probably had no meaning. And did he produce watches "*more mathematically and horologically correct*"? And did he surpass the heroes in horology of the 17th and 18th century - of Hooke and Huygens, of Harrison, of Mudge and Arnold, to say nothing of the eminent French and Swiss proficients who preceded him? Did he indeed do this? Every judge of a watch must answer no.

Very great improvements in the construction of American watches have, however, been made over and above those of foreign manufacture by American mechanics, in the some 20 years since Mr. Dennison ceased to be an American watch-maker. And these have been contrived by Mr. George P. Reed, Mr. Edward Howard, Mr. N. P. Stratton, Mr. Charles W. Fogg, and Mr. Charles Vander Woerd. But where are those by Mr. A. L. Dennison?

Mr. Edward Howard says, "*The Boston Watch company had no patents on the watch, nor on machinery; and it was not until sixteen years after that company began, that Mr. Howard took out a patent for improvement in the construction of watches.*"

The Roxbury watch appeared like a good, common English watch. The movement had rather an English look. As now remembered, they were full plate, sunk compensation balance of English invention, (without which it would be worthless for time-keeping) with the English and French construction combined, with the improvements the latter long since had made, and all after foreign models. He dispensed with the fusee and chain using a going barrel, with a toothed rim acting as a main wheel, and pitching into the center wheel pinion; with the train and general arrangement of English watches. Now tell us watchmakers wherein can you discover any improvement in the *construction* of the Roxbury watch, made or introduced by the claimant of the fatherhood of American watch-making?

But he may say, I simplified the machinery greatly reducing the number of pieces. Well, was that his peculiar genius? Was it by reducing the number of pieces in the omission of the fusee and chain? But I have a French cylinder watch, made like those of a century ago, in which those parts are omitted; and the number of pieces all told counting the parts separately, every pin including hair spring collet and curb pins, and every stud and steady pin, and their number was just seventy five pieces. Was this the distinct feature of his new "*mathematical and horological construction*"?

I have also a watch made in New York city, which anti-dates the Roxbury watch by some 15 years; it is No 40 and made by Montandon of the "Hautefeuille" patent lever type, rack and pinion, that also omits the fusee and chain, and is similar in appearance to the Roxbury watch, in which there are by a count as before just seventy nine pieces. So the "*Father of American watch-making*" was preceded in a very important feature of his watch by a workman in his own country!

Therefore, withdrawing the momentary concession heretofore made as untenable, a full concession can be made to Mr. Aaron L. Dennison that, *so far as is now known* the thought, idea, or if chosen, the invention of applying to watch-making certain processes which he might or might not have seen at Springfield or Waterbury, in Bristol or Ansonia, by punching out metal with machinery, and indefinitely multiplying the number of pieces by one operation of the machines, originated in him. And it is certainly well worthy of distinction and approbation, not only by the trade but by the whole country. And if modestly and fairly made or put forth, no one could be found to dispute it or offer an objection.

In closing this writing I volunteer a suggestion. Not only from the written statement of Mr. E. Howard, which is given in these pages, can one form some idea of the pressure on the mind, the nerves, the patience and the means of those composing the Boston Watch Company as pioneers in American watch-making, but it is manifest to all that entering upon a new and complicated enterprise, great obstructions, expenses and losses unforeseen at first must be encountered. Such was the bitter experience of all the members of that company, and to them as a company the enterprise was a financial failure.

In view of these facts, the watch-making industry of the United States owe a lasting debt of gratitude, and morally, a very large pecuniary debt to the survivors of that firm, and the heirs at law of those deceased, some of whom are in crippled circumstances arising from this failure.

Now if the prosperous watch-making concerns in this country would lay assessments on their dividends pro-rata, so that the stock-holders would feel it somewhat and so aggregate a sum sufficient to repay the money lost to the heirs of those deceased of that firm, and a fair compensation for the many years of time lost to one, and the time and money lost by the others who were the most active in this enterprise, they would be doing an act of simple justice, and find a reward in the approval of their better natures, and in the approbation of our whole country.

## Appendix A

The Father of American Watch-Making.

Aaron L. Dennison

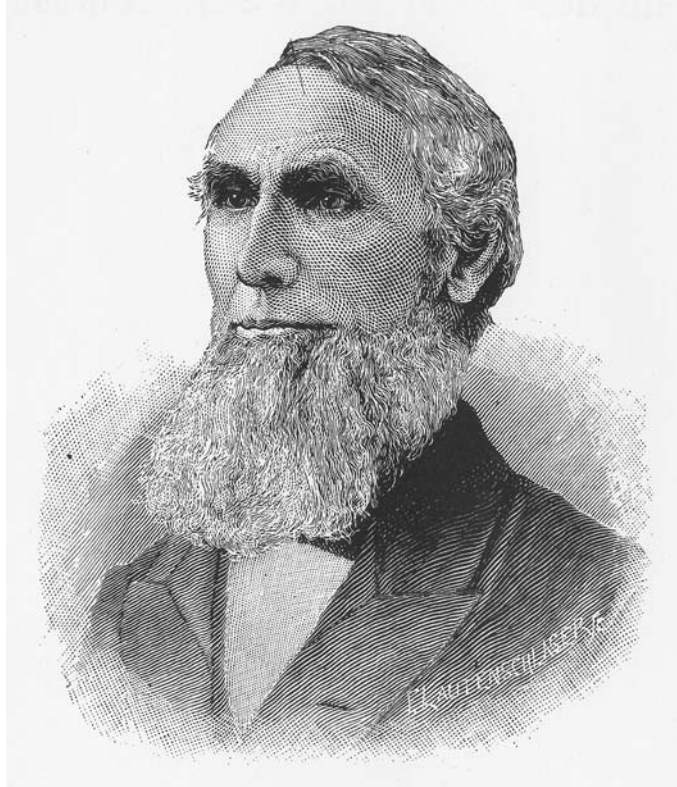
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The Originator of the American System of Manufacturing Watches - The Marvelous Growth of the Industry and a Sketch of the Inventor.

(*Waltham Weekly Record* April 6, 1883, "Timely Topics", page 5)<sup>19</sup>

The idea of supplying the American market with American watches, and its successful development, says a recent writer on horology, are due to the genius of Aaron L. Dennison, who may justly be termed "The Father of watch-making in America," and the facts prove this statement to be the truth, for certainly no other person has done so much to originate and to develop the industry which has made not only the name Waltham but the names of other towns and cities in the United States household words and famous in every clime.

Aaron L. Dennison was a son of Col. Andrew Dennison and was born in Brunswick, Maine, in 1812, and consequently he is now in his seventy-first year. His early years were comparatively uneventful, yet he commenced upon a "business career," to speak lightly, at a very tender age, for when but ten years of age he carried a hod for a brick mason; during the summer that he was eleven he walked over 1500 miles in driving cows



to and from pasture for the munificent sum of 75 cents, but for which service he received only a packing-box mounted on wheels; and at the age of thirteen he sawed slabs at one shilling per cord. He afterwards worked with his father at shoe-making until he was eighteen years of age, when he began at the watch and clockmaking trade with James Cary of Brunswick, Me., where he remained until he was of age. While with this employer he manifested a marked interest in his chosen profession and showed an organizing, systematizing and inventive mind, which resulted in the production of a number of devices for the improvement of the work of his employer, who made a specialty of the manufacture of clocks.

In 1833, Mr. Dennison went to Boston, where he endeavored to perfect himself in the details of his business, and where he quietly and unostentatiously persisted until he acquired a decided standing in his profession. During his first year in Boston he worked with the well-known firms of Currier & Trot, Edward Watson, and Jones, Lowe & Ball, he receiving in the latter place the benefit of the advice of Mr. Jubal Howe, then considered one of the finest watch-makers in the country; and it was here in the year 1835 that Mr. Dennison discovered the inaccuracies of workmanship and construction which existed in even the best of hand-made watches, and in a letter written at that time, he said: "Within a year I have examined watches made by a man whose reputation at this moment is far beyond that of any other watch-maker in London, and have found in them such workmanship as I should blush to have it supposed had passed from under my hands in our lower grade of work. Of course I do not mean to say that there is not work in these watches of the highest grade possible to carry the finisher's art, but errors do creep in and are allowed to pass the hands

<sup>19</sup> A few obvious errors in the text have been corrected. The portrait of Dennison is from Abbot *A Pioneer*.

of competent examiners, and it needs but slight acquaintance with our art to discover that the lower grade of foreign watches are hardly as mechanically correct in their construction as a common wheelbarrow.”

Upon discovering and noting such inaccuracies, it was but natural that Mr. Dennison should devote his attention towards methods for their eradication and the manufacture of watches upon a different plan and more mathematically and horologically correct, and to perfect a system by which a large number of watches could be produced, each having parts which could be interchangeable. Upon this point he has since written that: “The principal thinking up of the matter was done when I was in business at the corner of Bromfield and Washington streets, Boston; and many a night, after I had done a good day’s work at the store and a good evening’s work at home in repairing watches for personal friends, I used to stroll out upon the common and give my mind full play upon this project. And now as far as I can recollect what my plans then were as to systems and methods to be employed, they were identical with those in existence at the principal watch factories at the present time.” As early as 1840 Mr. Dennison had so fully matured his plans and was so confident of its practicability that he predicted to a friend “that within twenty years the manufacture of watches would be reduced to a system as perfect and expeditious as the manufacture of firearms at the Springfield armory”.

In 1849, much less than the time specified, Mr. Dennison had worked up the plans of a watch manufactory to make fifty watches per day with a force of 250 employees, his work being hastened as he saw the necessity for better time-keepers was constantly increasing, owing to the introduction of railroads and their time-tables, and in connection with Messrs. Howard Davis and Samuel Curtis of Boston, established the first watch factory in America, the location being at Roxbury and the company, “The Warren Manufacturing Company,” which was afterwards changed to the Boston Watch Company, and the business proved a successful one. But it was found that the location in Roxbury was not a suitable one and that the proper accommodations for the dwellings of the employees could not be obtained, and therefore a new site for the factory was sought.

In 1853, Mr. Dennison visited Waltham with this object in view and he looked over the land at Stony Brook and endeavored to purchase of Mr. Sibley a tract of land, which is now occupied in part by N.L. Sibley’s machine shop, a spot which attracted the attention of Mr. Dennison by its romantic scenery and as also being out of the way of the regular line of travel. Failing to make terms with Mr. Sibley, he came to Waltham and called upon his friend, Mr. S.P. Emerson, who at that time was in the machine shop of the Boston Manufacturing company, and to whom he confided the object of his visit. Mr. Emerson suggested the Bemis farm as being in the market and a suitable site. The land was examined and found desirable, and Mr. Emerson subsequently introduced Mr. Dennison to prominent citizens of Waltham, who became interested and took hold of the matter, until on March 24, 1854, “The Waltham Improvement Company” was incorporated by special act of the legislature. The factory buildings were soon after started and in the fall of that year the works were removed to Waltham and the manufacture of watches was begun. To Mr. S.P. Emerson is therefore due the credit of bringing to Waltham what has proved to be its largest industry, and one which has done so much towards building up the town.

The Boston Watch Company continued its business in Waltham until 1857, when it became embarrassed, owing to the financial crisis of that year, and the company was bought out by Tracy, Baker & Co., Mr. R.E. Robbins being the “Co.” In a very short time the firm name was changed to Appleton, Tracy & Co., by the retirement of Mr. Baker and the coming of Mr. James Appleton, as manager. Owing to business difficulties, Mr. Robbins finally decided to come to Waltham and assume charge of the works, and in 1859 the legislature gave permission to the Waltham Improvement company to change its name to the American Watch company, as the first-named company had been previously merged with Appleton, Tracy & Co., for that purpose. By this means the company was established on a substantial basis.

Upon the removal of the company to Waltham, the first watch produced was what afterwards became the Appleton, Tracy & Co., and Mr. Dennison afterward produced a cheaper grade, the Bartlett; and when the war of the rebellion began in 1861, he foresaw the immense demand which must ensue for cheap American watches and proposed the soldier’s or army watch, the Ellery. In this proposal he was overruled, but his idea was afterward adopted, and in connection with other events, it proved the financial salvation of the company. The effect of the war, by causing high rates of exchange, and a large premium on gold, together with a high tariff on watches, with the popular Ellery and

## A Family Tale

Bartlett watches in the American market, placed the company in a position where it had an immense advantage, it then being the only watch-making factory in the country.

We have neither time nor space in the present article to allude to those who were connected with Mr. Dennison up to the time he severed his connection with the company in 1862, and cannot allude to the many things which tended to complete the success of the company and make it almost the marvel of the nineteenth century. Nor can we trace its history to the present day, but can only say that it has proved a successful financial venture almost beyond parallel.

As the originator of the methods to be used by and the plans of the first watch factory in the world where all parts of the watch were made under one roof, unbounded praise belongs to Mr. A.L. Dennison, and it is a pleasure to find that those who have investigated this matter have come to the same conclusion, that he is indeed "the Father of the American watch." A lecturer on horology has written that "it would take considerable time to enumerate the many different inventions now enjoyed by the trade which have been bestowed by the genius of Mr. Dennison. Even the numerous measuring gauges by which watch-makers sized and adjusted their crystals, dials, springs, hands, pinions, pivots, cylinders, verges and balances, he combined into one universal gauge, which, unpatented, is in the hands of all watch-makers throughout the Union."<sup>20</sup> Mr. Dennison was also prominent in making a number of other and perhaps more important improvements in watch-making and machinery, and he was the first to adopt the "interchangeable" plan of making watches. Of his design, also, was the 18-size, full plate, 4-pillar watch, of which over 1,250,000 watches have been made in various factories; and he proposed the plan of using the three dial feet holes for deeping the train of the watch, one of the most important ideas in the manufacture of that article.

Without itemizing too minutely, it may be said that many of the machines now in use in all American factories were his ideas; in fact, so fully does he appear to have covered the ground of the possibilities and development of watch manufacture when studying and developing it thirty years ago, that, as one with whom he was associated in business has said, "it was impossible to do anything in the business without taking up some of Dennison's plans." It is clearly apparent that Mr. Dennison's mind was entirely absorbed in the success of the watch company during the time that he was with it, and he often proposed new departures that were deemed visionary, but he thought wiser than was deemed possible at that time.

After leaving Waltham, Mr. Dennison succeeded in organizing the Tremont Watch Co. which was located at Melrose, and which suspended operations in a comparatively short time, the machinery being removed to England, where it is now used in the works of the English Watch Company. He also suggested the tag business which has so successfully been build up by his brother, Mr. E.W. Dennison, of Boston, who is now the head of the Dennison Manufacturing Company, until that company now has branches in all the large cities and is one of the wealthiest of American companies; the business including many standard articles other than tags, which the business tact and ability of Mr. E.W. Dennison has from time to time added to the product of the company. We believe that the emery cloth and emery stick were first suggested by Mr. A.L. Dennison and that it was through his suggestions that Mr. F. K. Sibley, the well-known emery cloth manufacturer of this town, first engaged in the business. Mr. Dennison also resided in Zurich, Switzerland, and for the past twenty years he has resided in England and he is now located at Birmingham, where he is engaged in the successful manufacture of watch cases.

How much the country owes to Mr. Dennison may easily be judged when it is noted that from the development of his first and original suggestions have sprung up the large watch manufactories which are now found in so many parts of the country - at Waltham, Elgin, Rockford, the Springfields, Fredonia, Columbus, Waterbury, Atlanta, and others, and it would appear that to no other person is so much credit due for the organization of such a vast enterprise, which is continually growing and still absorbing millions of capital in its growth, and giving such excellent employment to thousands and which has been and is founding such an excellent school of skilled mechanics. The American watch factories are the admiration of the world and when considering them the name of Dennison should not in the least be forgotten, and the town of Brunswick, Me., may well be proud of having been the birth-place of such a man.

In connection with the above we would refer the reader to the article on the American Watch Company, which is published in another column.

20 See <http://www.watkinsr.id.au/mainspring.html>.

## Appendix B

### THE AMERICAN WATCH CO.

An Oft-Repeated Tale - The Development of a Wonderful Industry- Views of the Old  
and New Factories.

(Waltham Record, April 6, 1883, page 4)

The cuts which appear below have before been published in these columns, but we trust that the reader who is not especially interested will pardon us for again producing them in connection with the sketch of Aaron L. Dennison, published elsewhere, and especially as we have had numerous applications for back copies of the Record containing them.

It is unnecessary for us to dwell upon the development of the American Watch Company from its small beginning, for it is a well-known fact everywhere. The smaller cut shows a view of the works as they appeared in 1857, and the larger one their appearance as they exist to-day, the largest watch factory in the world, employing over 2300 hands, and producing an average of nearly a thousand watches per day. The factory has a frontage of nearly 650 feet on Crescent street and the wings extending to the river bank are about 200 feet in length and all of four stories. The best idea of the size of the buildings can be had by walking along the street front and by passing up and down the river in the rear. The financial success of the company has been almost phenomenal.

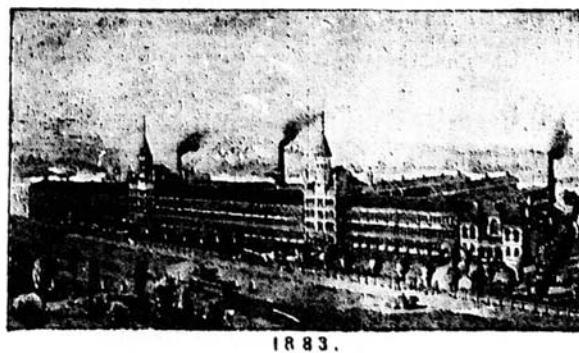
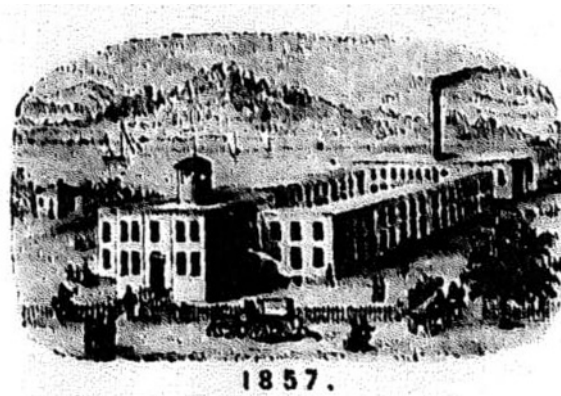
There had been spent up to May, 1857, \$250,000, when Mr. R.E. Robbins bought the factory at auction for \$56,000. In 1859, the union of R.E. Robbins & Co. with the Waltham Improvement Co. formed the American Watch Co., with a capital of \$300,000.<sup>21</sup>

Year	Capital	Cash Dividend		Surplus
1859	\$300,000	3¼%		\$56,976
1860		3%		\$33,100
1861		0%		\$29,089
1862		4%		\$43,772
1863		11%		\$134,648
1864		22%		\$610,221
1865		60%	150% stock dividend, raising capital to \$750,000	\$234,198
1866	\$750,000	28%	Equal to 70% on original capital	\$265,128
1867		5%	Equal to 12½% on original capital	\$456,151
1868		11%	Equal to 27½% on original capital	\$496,985
1869		20%	Equal to 50% on original capital	\$616,067
1870		20%	Equal to 50% on original capital 66⅔% stock dividend raising capital to \$1,250,000	\$245,741
1871	\$1,250,000	18%	Equal to 75% on original capital	\$188,953
1872		12%	Equal to 50% on original capital	\$309,760
1873		12%	Equal to 50% on original capital	\$311,322
1874	\$1,500,000	5%	Equal to 15½% on cash paid in and original capital Capital increase by issuing \$250,000 new stock	\$336,200
1875		6%	Equal to 16¾% on cash paid in and original capital	\$360,458
1876		3%	Equal to 8½% on cash paid in and original capital	\$391,417
1877		7½%	Equal to 20½% on cash paid in and original capital	\$417,049
1878		4%	Equal to 10¾% on cash paid in and original capital	\$441,545
1879		3%	Equal to 8½% on cash paid in and original capital	\$497,393
1880		9%	Equal to 24⅘% on cash paid in and original capital	\$632,630
1881		8%	Equal to 21¾% on cash paid in and original capital	\$886,759
1882		8%	Equal to 21¾% on cash paid in and original capital	\$1,103,053

<sup>21</sup> Some figures in Charles Moore *Timing a Century* are different.

## A Family Tale

The present year a semi-annual dividend of four per cent, has been already declared and the end of the year will probably show a result equally favorable.<sup>22</sup> It should not be forgotten that out of the earnings in 1879-80, about \$100,000 were expended in improvements and extensions, and that since that time it is probable that \$250,000, from the same source, have been expended in a like manner, so that the factory has literally earned its own extension, while the business of the company and the demands upon it for increase of product continue as brisk as ever. During the year 1882, in round numbers, 255,000 movements and 67,000 cases were made, and the gross earnings were nearly \$3,000,000, the net earnings being about \$336,000. The capital of the company is \$1,500,000 and the valuation of the property is but little less than double that sum. To Mr. Dennison, the originator of the factory, how much praise is due! while as much more is due to Mr. R.E. Robbins, the treasurer of the company, who for over twenty-five years has been its business manager and who has so successfully guided the company to its present acme of success. Waltham has reason to be proud of this watch factory, the mother of all American watch factories.



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<sup>22</sup> Charles Moore *Timing a Century* states that the final result for 1883 was 9%. Based on the above table and the 1883 dividend, over the 25 years 1859 to 1883 an original shareholding of \$300 yielded \$2,246 in cash and the shareholding had grown to \$1,250, making the total gain \$3,196 or a bit over 1000%. William Keith's original investment of \$5,000 yielded a little less than \$37,500 in cash and \$20,850 in stock.