This Sharps M1874 Sporting Rifle bears serial number C53678.
This Sharps was purchased or given to George A. Fairfield on September 6, 1872

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George Albert Fairfield And His Sharps M1874 Sporting Rifle

by Matt Sears

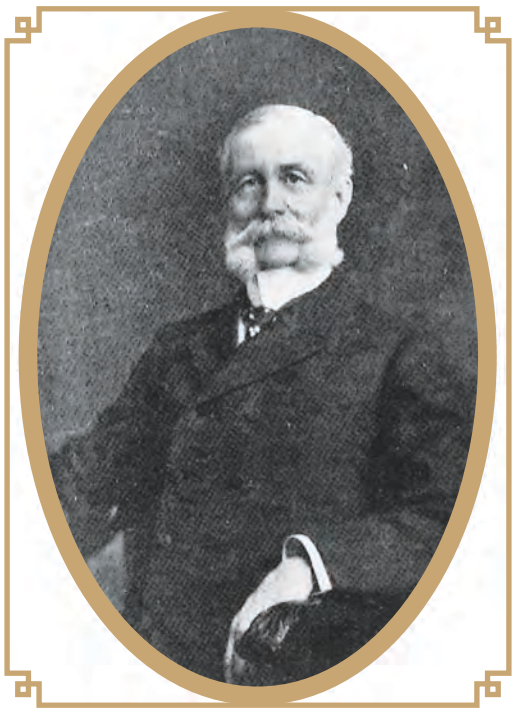
The evolution of machine tools during the mid-1800s took place in a relatively small area of New England by a select group of inventors and machinists. The three major cities of this concentration were Winsdor, VT; Providence, RI; and Hartford, CT. This linear progression of mass production development can be charted as follows: clocks, firearms, sewing machines, bicycles, and finally automobiles. This is the story of one key player who brought this American ingenuity to fruition.

The Man and his rifle

George Albert Fairfield was an amazing man. I had known about his Sharps Model 1874 Sporting Rifle for many years. After finally acquiring it, I realized even more how important a role G. A. Fairfield played in industrial Hartford's development during the second half of the 1800s. As an overview, these are a few of his accomplishments as a technology innovator and businessman:

- He was one of the pre-eminent tool designers or "mechanics" of the mid-1800s in the Hartford firearms industry, starting with the Colt Armory.
- He started and later became President of the Weed Sewing Machine Company, Hartford.
- He had a long and close relationship with the Sharps Rifle Manufacturing Company.
- He started and later became President of the Hartford Machine Screw Company with Christopher Spencer.
- He merged the Weed Sewing Machine Company with Albert Pope's Pope Manufacturing Company to produce bicycles.

To best describe George Albert Fairfield and his Sharps rifle, I will frame his story in a chronological timeline of events.



George Albert Fairfield[1]

1834

George A. Fairfield was born March 20th in Lansingburg, NY. His family then moved to western Massachusetts when he was 4 years old. He grew up on a hill farm and went to school there until he was 17 years old. He then apprenticed at the machine shop of Lucius and Ira Dimmock in Northampton, Massachusetts. Two years later, he started as a day laborer at the Holyoke Machine Shop [2].

Fairfield continued to learn the machinist trade working for various shops in Ohio and Virginia before ending up in Windsor, VT, at the firm of Robbins & Lawrence, working on Enfield rifles. It was there that Fairfield learned the firearms business. "As an assistant to Frederick Howe, Fairfield played a prominent part in the design and construction of specialized machinery, jigs and fixtures giving him broad exposure to the concept of interchangeable manufacture" [3].

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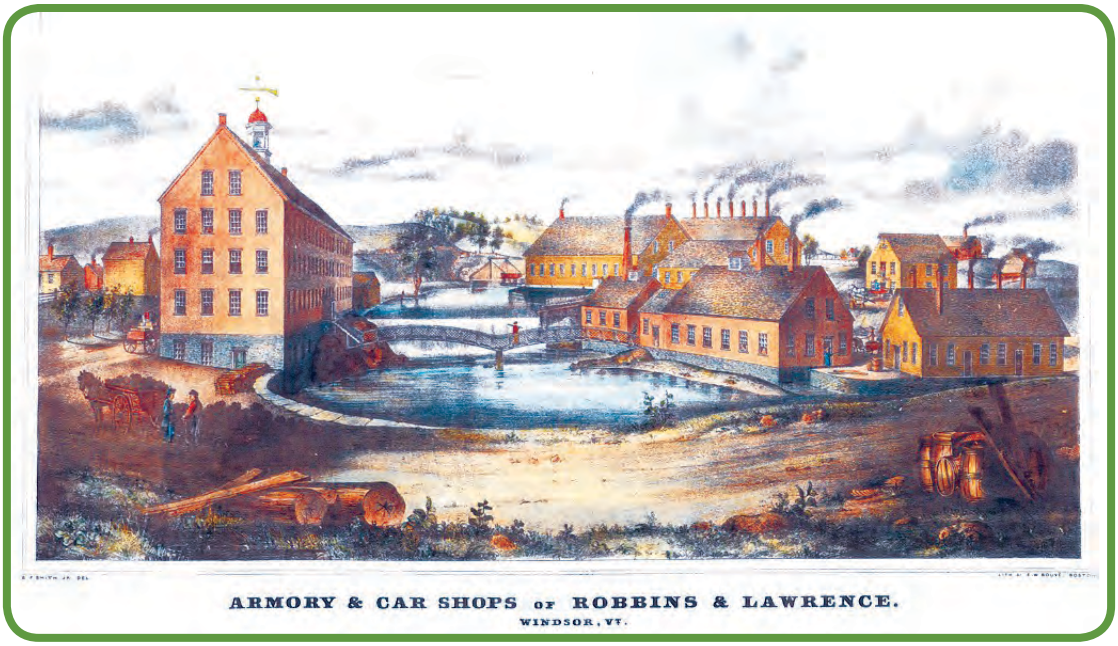

An engraving of the R&L factory, Windsor, VT, in circa 1846 shows that the 4-story brick firearms factory included a water wheel and rifle wind vane-topped cupola on the left [4]. It is situated on the south side of Mill Brook with the railroad car factory on the North or right side.

The R&L factory is now the American Precision Museum [5]

1848

Christian Sharps received his first patent for a drop block action.

1850

The Sharps Rifle Manufacturing Company was producing rifles in Windsor, VT, at the Robbins & Lawrence factory. The first contract was for 5,000 rifles.

1852-1853

The Sharps Rifle Manufacturing Company inhabited a new factory built by Robbins & Lawrence in Hartford in 1851. Their initial capital outlay was $100,000, later increasing to $125,000.

The first factory was a 2 story brick building built on the edge of the Park River. This area was known as Frog Hollow, for its legendary frog population that resided in a nearby marsh. There was also the New Haven & Hartford Railroad line running just on the other side of the river.

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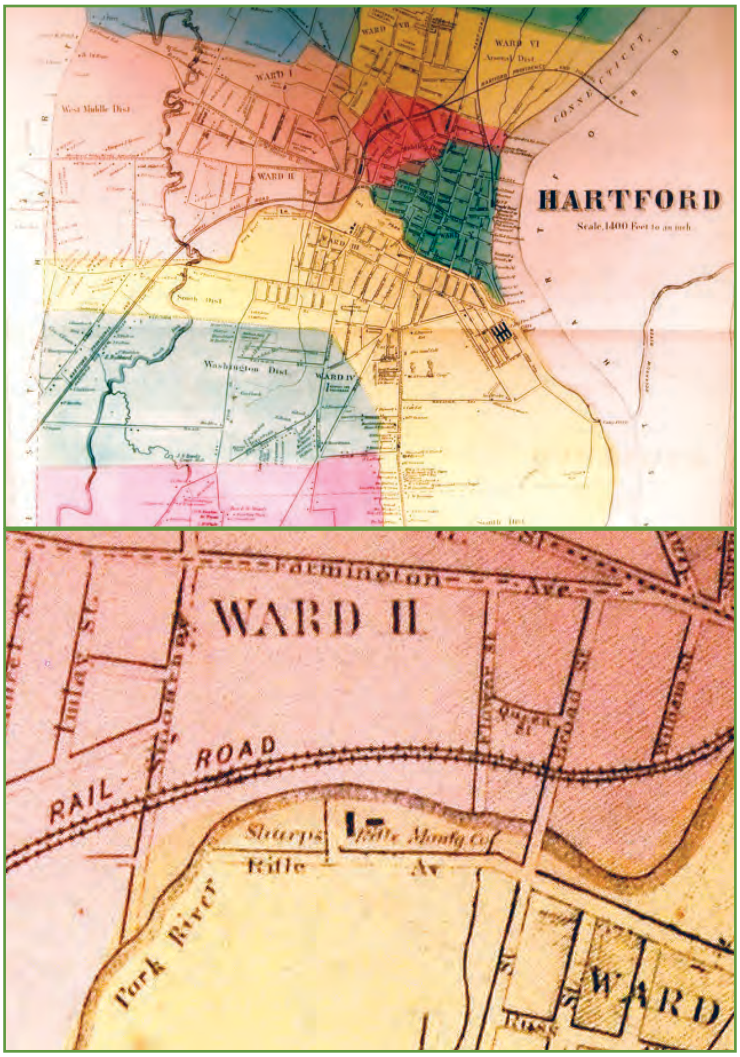
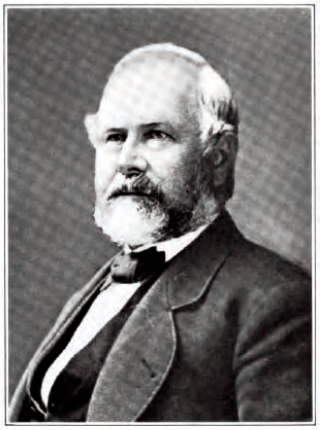


Hartford Map, circa 1853 [6] showing the Sharps Rifle Co.

Rifle Avenue was later renamed Capital Avenue, after the Capital Building was completed nearby in 1878.

During this time period, Richard S. Lawrence moves to Hartford from Windsor, VT, to be the Master Armorer for the Sharps Rifle Manufacturing Company. He brought the first milling machine to the city of Hartford.



Richard S. Lawrence [7]

1853

Christian Sharps had a falling out with Robbins & Lawrence, resulting in his forming a new company in Philadelphia, which he called C. Sharps & Co.

1855

George A. Fairfield married Fannie C. Moore, eventually having two children, George and Nelly.

1856

"Following the failure of Robbins & Lawrence in 1856, the young man [Fairfield] spent a year designing specialized gun machinery for the Springfield and Harpers Ferry Armories." [8] The Sharps Rifle Manufacturing Company took possession of the factory from Robbins & Lawrence.

The Colt second factory, circa 1855, was alongside the Connecticut River on a 260-acre site. The first factory, built in 1848, is behind this building, and the primary office building is on the right side [9].

The Colt 2nd factory, circa 1855, along side the Connecticut River on a 260 acre site. The 1st factory, built in 1848, is behind this building and the primary office building is on the right side. [9]

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Colonel Samuel Colt [10]

1857

George A. Fairfield moved to Hartford to work at the Colt Patent Fire Arms Manufacturing Company. While employed there, he worked his way up from a machinist shop hand to being the largest single inside contractor. He stayed for 8 years, throughout most of the Civil War.

"An inside contractor was more than just a foreman – the company [Colt Armory] actually contracted with them to produce parts of a specific quality at specific price. It was up to the contractor to hire and pay his men, set working conditions for his department and guarantee that the job got done. The contractor paid himself a daily wage and kept any profits that resulted. If he underbid the contract or suffered unexpected problems, he personally suffered the loss" [11].

G.A. Fairfield was joined by other "Colt Men," a group that included the best mechanics/tool designers of the day. They included Elisha K. Root (Colt's chief mechanic), Christopher M. Spencer, Francis Prat, and Amos Whitney, as well as Charles E. Billings to name a few. Fairfield helped develop the machinery that would form Colt's assembly line for production. They essentially became the "College of Mechanics" who mastered the manufacturing process.

1858

"In January, 1858, he [G. A. Fairfield] opened a school of mechanical drawing at Hartford, and in this school some of the most successful mechanics and engineers of the city had their early training" [12].

1862

Col. Samuel Colt died at home, possibly of congestive heart failure, on January 10th at age 47.

1864

The Colt factory suffered a devastating fire on February 5th, destroying half of the armory and severely damaging the main office building.

1865

By 1865, after the Civil War, G.A. Fairfield had left Colt and started as a Superintendent for the Weed Sewing Machine Company, also of Hartford. The original Weed sewing machine was patented by T.E. Weed and was made in Nashua, NH. The company reorganized and moved to Hartford in July 1865. An initial contract to manufacture 15,000 sewing machines was placed with Prat & Whitney Co., which necessitated building their own factory on property adjacent to the Sharps Rifle Manufacturing Company's factory [13].

"The invention of the sewing machine was the third stage in the evolution of mass production after the principles of interchangeability were applied to clocks and guns. The Weed Sewing Machine Company played a major role in making Hartford one of three machine tool centers in New England and even outranked the Colt Armory in size if not fame." [14]

This lithograph by Kellog & Bulkeley for the Weed Sewing Machine Company, depicts the State Capital building and the treadle operated sewing machines being produced. [15]

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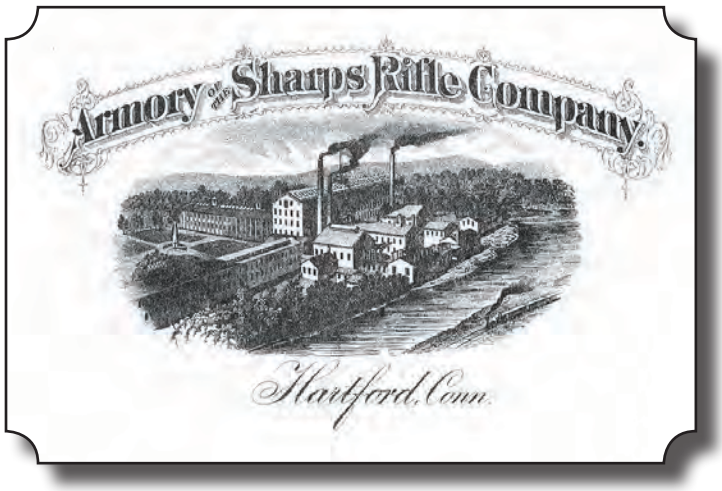
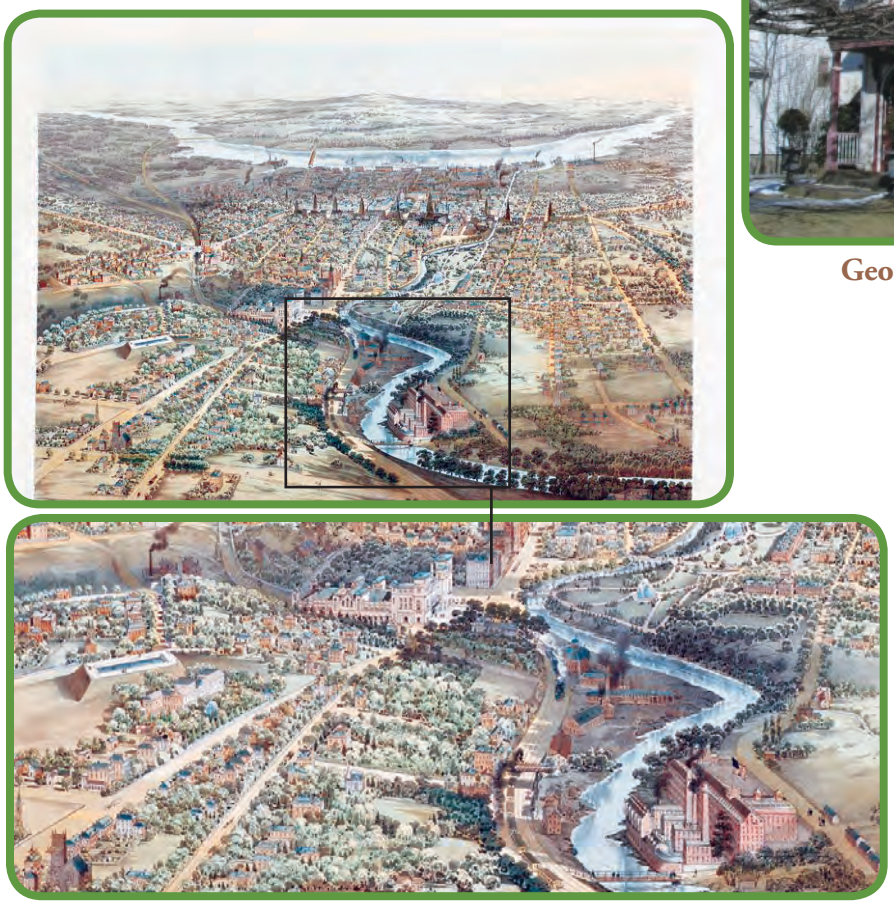
Period 1853-1875



This is the Sharps Rifle Manufacturing Company's letterhead, depicting its factory at 436 Capital Avenue.

1864



This lithograph of Hartford in 1864, was by the artist John Bachmann (J. Weidenmann, publisher). The view is looking East along the Park River to the Connecticut River and shows the Sharps Rifle Manufacturing Company factory buildings in the foreground. Just beyond them is Bushnell Park and the first home of Trinity College, where the State Capitol building now stands.

The Hartford & New England Railroad and the Hartford, Providence & Fishkill Railroad tracks run alongside the Park River. [16]

1866

George A. Fairfield built a Second Empire style mansion in Hartford. "The house features many extravagant elements, including a medieval-style octagonal tower to the rear. The house is now subdivided into condominiums" [17].

He had become a wealthy business man and invested his fortune in the development of a residential track, now known as Fairfield Avenue.

George Fairfield's mansion in Hartford.

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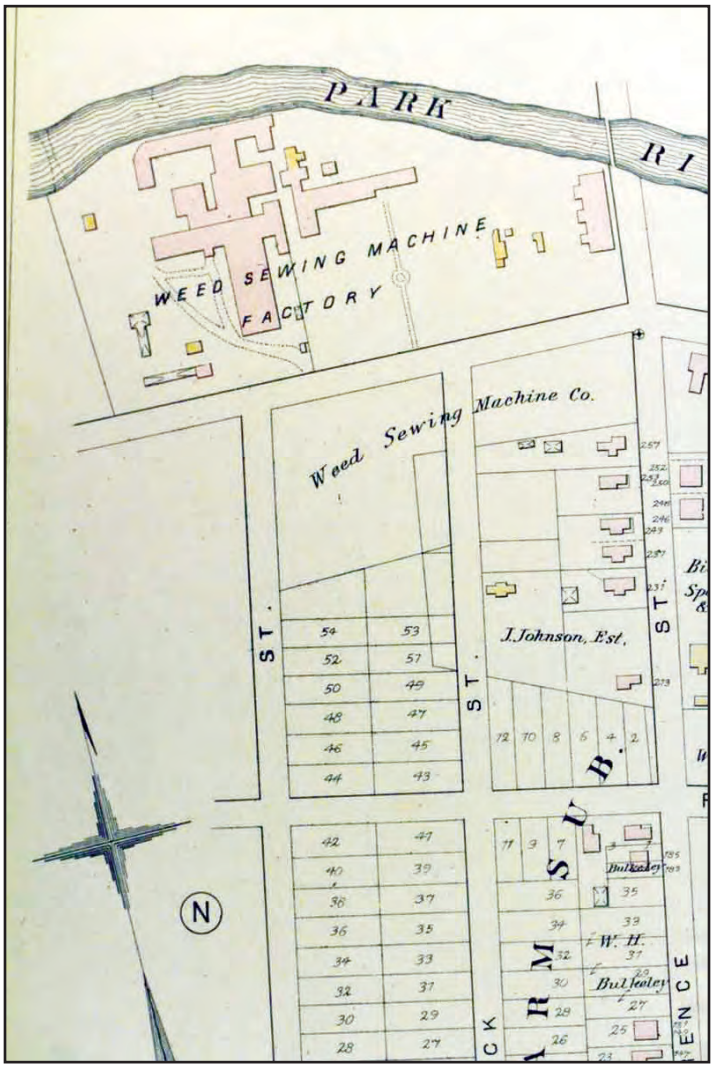
1871

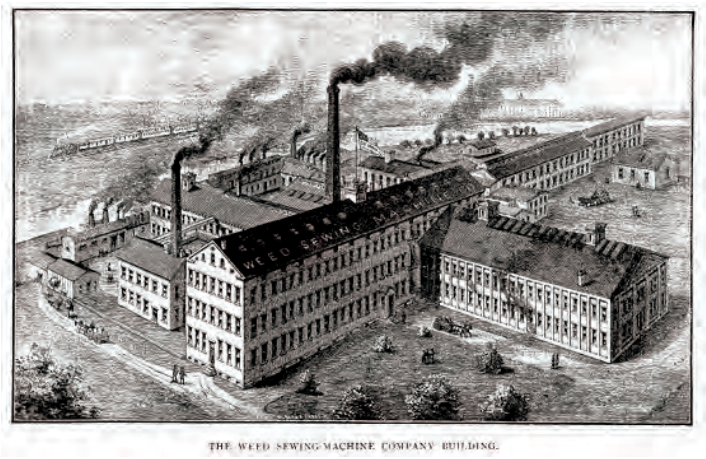
The Sharps Rifle Manufacturing Company factory was leased to the Weed Sewing Machine Company for a term of 5 years. It was then later sold to them in 1874.

Period 1876-1881

G. A. Fairfield became President of the Weed Sewing Machine Company during this period. The company is the second largest Hartford employer after the Colt Armory.



This map shows the Weed Sewing Machine Company (1865-1899) and its additional property holdings around the original Sharps factory. (18)

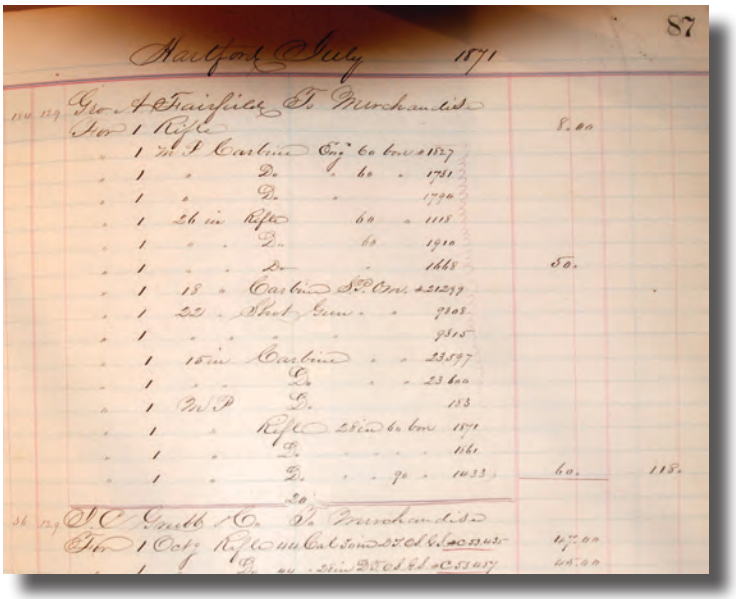


THE WEED SEWING MACHINE COMPANY BUILDING.

The lithograph shows the Weed Sewing Machine Company, published by the Hartford Board of Trade (19)

1871

George A. Fairfield purchased approximately 15 older model Sharps in a variety of calibers and types. They were mostly M1850 and M1853 sporting rifles and carbines in percussion configuration. The Sharps Rifle Manufacturing Company had hit hard times. Was this an inventory reduction sale or just getting rid of old weapons at reduced prices?



1871 Sharps Rifle inventory ledger.

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This Sharps M1874 Sporting Rifle bears serial number C53678.
This Sharps was purchased or given to George A. Fairfield on September 6, 1872

1872

One year later, the Sharps Sporting Rifle appeared. It was noted in the Sharps Rifle Manufacturing Company's order book as having been invoiced on September, 6, 1872, to George A. Fairfield. There was no price listed so it is unknown if the rifle was purchased or given to Fairfield as a gift.

This Sharps M1874 Sporting Rifle bears serial number C53678. Note that the "C" prefix was used up until approximately the serial number C54800. It was manufactured in Hartford, circa 1872, and is therefore a very early Model 1874. These rifles were referred to as "New Model" rifles at the time, but collectors have since designated them as the Model 1874.

The rifle features a 28-inch full octagon barrel chambered in .40 calibers. The stock is an oil finish with a special right-side cheek piece and terminates with a crescent butt plate.

The rifle also has a full length 30-inch Malcolm telescope. Only approximately 16 to 18 rifles were indicated in the order books as having telescopes attached at the time of order/purchase. Although this rifle is not designated as one of those, it is most likely a factory addition because the company shared space in George A. Fairfield's building.

The Model 1874 Rifle 239

Model 1874 **percussion** rifle, serial No. 159,401. This 17-pound Sporting Rifle is perhaps unique as a percussion rifle in the 1874 range. The serial number is towards the end of those leftover percus-

Model 1874 Sporting Rifle, serial No. C,53,678 with several features that are unusual for such an early gun. It has a "rifle butt" with the heavy Schuetzen style buttplate and a cheekpiece on the left side. The full-length telescope is also unusual for this period. The gun was shipped to George A. Fairfield of Hartford, Connecticut on September 6, 1872.

& Kaeding in San Francisco on June 17, 1876.

Close-up of the actions of two Model 1877/1874 Express Rifles, serial No. 160,110 and 160,735, showing minor differences.

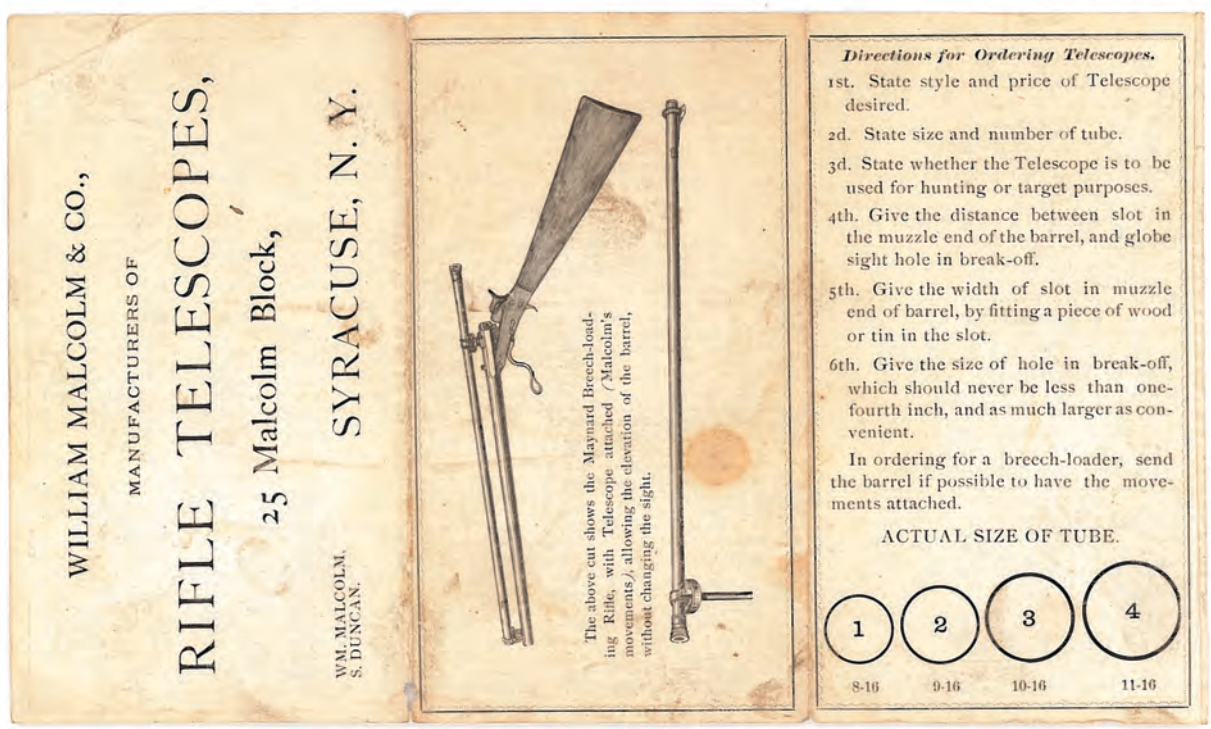
This particular rifle, shown in the middle, is identified in "Sharps Firearms" by Frank Sellers,1980.

Double set triggers.

Custom cheek piece on left stock. Rifle style crescent butt plate, noted in the Sharps order book as "broad rifle butt"

30" Malcolm telescope

Close-up view of markings on the Malcolm telescope.



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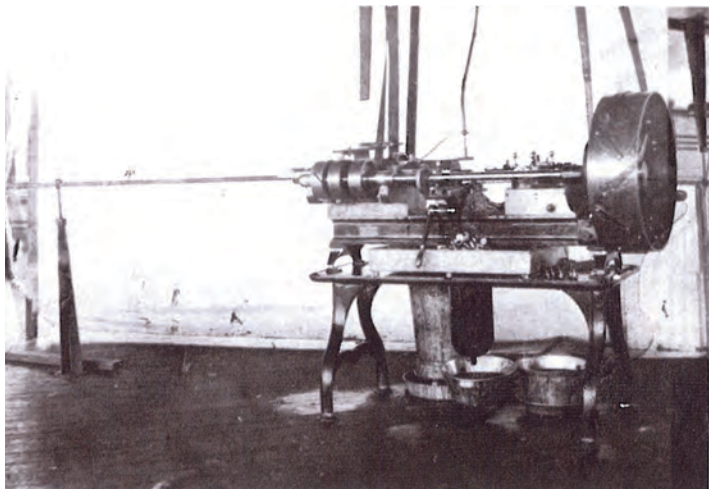
1873

Christopher M. Spencer invents the first single-spindle automatic screw machine, the "Hartford Automatic" [20]



The "Hartford Automatic" screw machine.

1874

Christian Sharps died from tuberculosis on March 12 at the age of 64.

1876

C. M. Spencer had severed ties with Billings & Spencer and formed a new venture, the Hartford Machine Screw Company, with George A. Fairfield as President. G.A. Fairfield invested $40,000 in the startup company which initially set up business in a portion of the Weed Sewing Machine Factory, where they remained for 4 years. The company also manufactured small metal parts and fasteners along with the machines that could produce them.

1877

By 1877, there were 50 machines milling thousands of screws daily, while operating in a shop that was 35 feet by 200 feet long. This was one on the most successful enterprises in Hartford history. Their main clients were the sewing machine trade and the bicycle business

1881

The company soon outgrew its space and the Hartford Machine Screw Company moved into its own factory building at 476 Capital Avenue adjacent to the Weed Sewing Machine Company's factory. This photograph was taken circa 1915 [21].

1882

C. M. Spencer left the company in 1882 to form the Spencer Arms Company in 1883. His intent was to manufacture sliding rifles and repeating shotguns.

STANADYNE®

One hundred thirty-eight years later, the company is still in business, operating since 1988 as the STANADYNE Corporation. They are manufacturers of fuel systems pumps as well as injection and filtration systems. The company is headquartered in Windsor, CT [22].

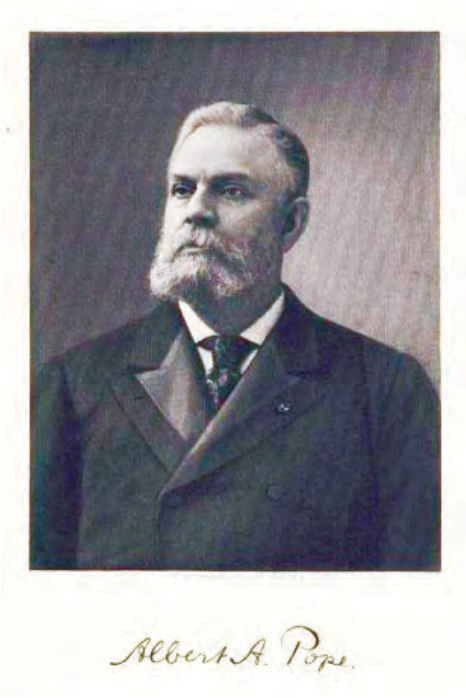
Colorized Sharps Factory image. [22]

1875

Four years after he formed "The Greatest Show on Earth," the famous showman P.T. Barnum bought the Sharps Rifle Manufacturing Company business. At the time, he was one of the richest men in America. The company was then renamed "The Sharps Rifle Company" and moved to Bridgeport, CT.

1876

The 1876, the Philadelphia Bicentennial Exposition opened and the bicycle idea hatched.



Col. Albert A. Pope, circa 1900 [25]

Col. Albert A. Pope, President of The Pope Manufacturing Company in Boston, was a Union Army Civil War hero and a lieutenant colonel in the 35th Massachusetts Volunteer Regiment. After the war he started a shoe supply business, which became the largest in the country [23].

Pope visited the Exposition as a member of the City Council from Newton, MA. He was fascinated by the new high-wheeled devices, called velocipedes, which were being displayed from Europe. He immediately began importing Penny Farthing high-wheeled bicycles and taking out US patents on these European models [24]. Penny Farthing bicycles got their name from the old British penny and the farthing, or quarter penny, which was much smaller.

Pope decided to start manufacturing them, but he needed a good machinist and toolmaker to start production. Pope settled on George A. Fairfield and the Weed Sewing Machine Company as the ideal manufacturer.

1878

Sales of sewing machines were slumping and the competition was fierce. The Weed Sewing Machine Company had large areas of the factory (the former Sharps Factory) now sitting idle. It is said that in May, Col. Pope brought a 56-inch Duplex Excelsior bicycle on a train ride from Boston to Hartford's Union Station and then rode it to the Weed factory [26].

Pope eventually contracts with G. A. Fairfield and the Weed Sewing Machine Company to initially make 50 bicycles. They became the first commercially self-propelled vehicle in America. Pope named his new bicycle "the Columbia". These bicycles were 60 inches tall and cost $125 when a sewing machine cost $13. [27]

1886 Columbia Light Roadster [28]

1881

"By 1881, as the ascending trend lines of the bicycle intersected the sewing machines descent, Col. Pope gained corporate control of the Weed Sewing Machine Company, although a formal merger of the Pope and Weed companies lay far in the future" [29]. This allowed Col. Pope to take over from George A. Fairfield as President of the company.

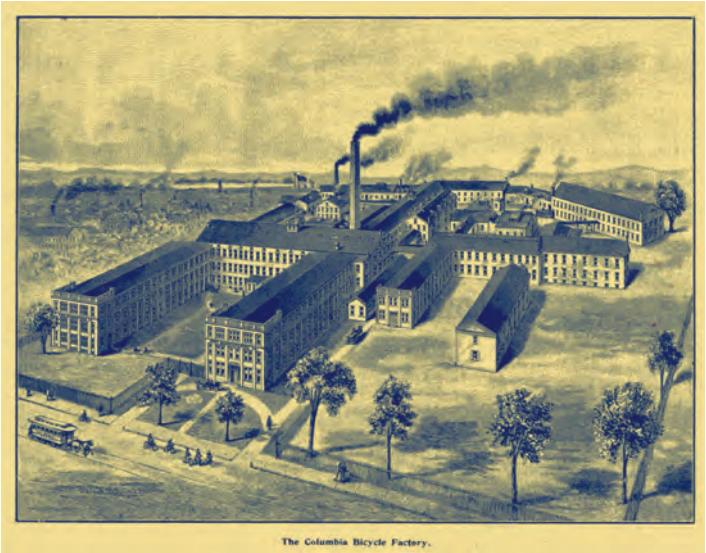
1890

Business thrived and by 1890 the Weed Sewing Machine Company employed 600 men making bicycles. This same year, Pope merged the Weed & Pope Manufacturing companies. "By the early 1890's, Pope had established a bicycle trust which controlled the central bicycle patents

in the US. Nearly every bicycle manufacturer paid Pope around $10 per bicycle" [30] At its peak, there were18 acres of factory space and 4000 employees who were turning out 50,000 bicycles per year.

1893

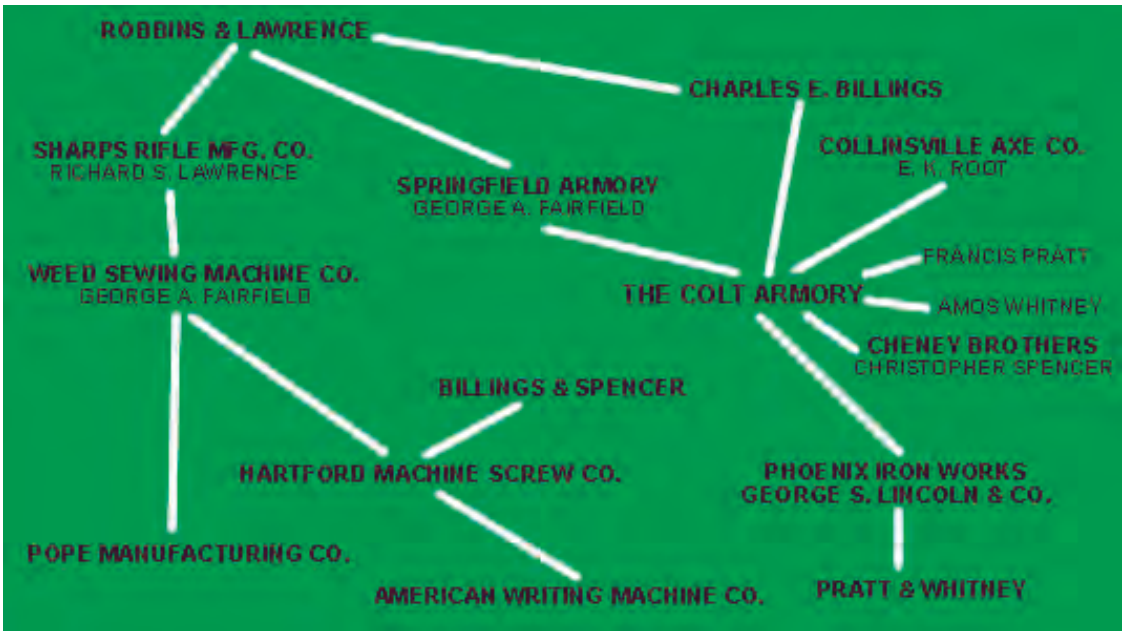
The bicycle industry had peaked by 1896 and then collapsed by 1900. However, Pope's transportation industry ventures continued when the combustion engine was being developed. He went on to manufacture electric automobiles, and in 1896 he founded the Columbia Electric Vehicle Company. By 1899, Pope had a production of 2,092 cars which was more than half of all cars made in the United States. Eventually his competitors in the Midwest, such as Henry Ford, took control with their gasoline powered models and Pope lost his entire fortune after 1901 [32].



This is an image of The Columbia Bicycle Factory in Hartford. The original Sharps Rifle Manufacturing Company factory buildings are in the rear next to the river. [31]

Amanda Murray sums up the times perfectly when she states,

> As a nineteenth-century nexus of gun, sewing machine, bicycle, and even automobile manufacture, Hartford, Connecticut, shows the lineage of American mass production. Hartford's evolution as an industrial center and training ground for gifted engineers reveals a fluid network of inventive people, technology, skills, and the factories that incubated those skills. Hartford became a hot spot of the entrepreneurial ingenuity, industrial growth, and rapid innovation (fueled by failure along with success) that swept much of New England in the nineteenth century [33].



George A Fairfield was in the center of this industrial growth and his legacy is shown in this chart of the "Corporate Genealogy of Hartford Manufacturers". [34]
He is intertwined with no less than seven major companies of the day.

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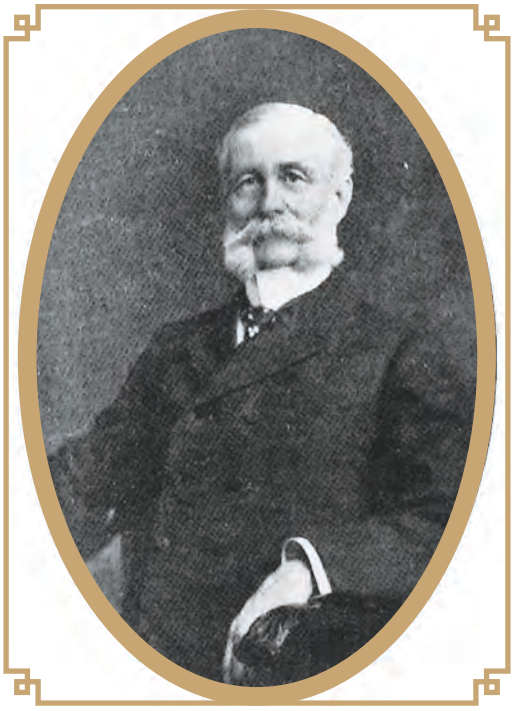

"He was a power in the business and financial world, yet he was simple, kindly, charitable, and loving; a pleasant, thoughtful, considerate companion, yet a man of great strength and high character, who has left an indelible impress upon Hartford institutions." (36)

George A. Fairfield's other accomplishments with the financial institutions of Hartford were many fold. He was known for his business acumen, charming personality, and tireless activities in the business and financial world. He held the following titles throughout his life:

Director, The Hartford National Bank
Director, The Mechanics Savings Bank
Director, The Hartford County Fire Insurance Company
Board Member, The Hartford Steam Boiler Inspection and Insurance Company
Director, The Western Automatic Screw Company
Secretary, Hartford Board of Trade

1908

George A. Fairfield passed away on November 9 at the age of 74. He is buried next to his wife, Fannie, and their two children George and Nellie. The Fairfield plot is in the Cedar Hill Cemetery just south of Hartford (35).

In his obituary, published in The Locomotive, by The Hartford Steam Boiler Inspection and Insurance Company, he is characterized as follows: "He was a power in the business and financial world, yet he was simple, kindly, charitable, and loving; a pleasant, thoughtful, considerate companion, yet a man of great strength and high character, who has left an indelible impress upon Hartford institutions" (36).

ACKNOWLEDGMENTS

The author is very grateful to Mr. Peter F. Malo, Manager of Technical Services & Communications, the Stanadyne Corporation in Windsor CT. for his research help regarding Stanadyne's rich history and for locating the elusive photograph for George A Fairfield.

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3. G.A. Fairfield, early history – page 66, Stanadyne: A History, by Ellsworth S. Grant, 1985, Library of Congress catalog card # 85-061404

4. R&L factory engraving c1846 – courtesy of the American Precision Museum, Windsor, VT

5. American Precision Museum Photo – courtesy of the American Precision Museum, Windsor, VT

6. Map of Hartford circa 1853 – courtesy of Roy Marcot

7. Richard S. Lawrence image – page 197, English and American Tool Builders, Joseph Wickham Roe, Lindsey Publications 1987 reprint, ISBN # 0-917914-73-2

8. G.A. Fairfield at Springfield Armory – page 67, Stanadyne: A History, by Ellsworth S. Grant, 1985, Library of Congress catalog card # 85-061404

9. Colt factory image – www.history.com/photoss/inventions-inventors, photo #4

10. Col. Colt image – Picasso Art Gallery, available at www.picasso.com

11. Inside contractor – page 79, Peddling Bicycles to America, the Rise of an Industry, by Bruce D. Epperson, Published by McFarland & Co., July 2010, ISBN # 978-0-7864-4780-0

12. Mechanical drawing school – G.A. Fairfield Obituary, The Hartford Steam Boiler Inspection and Insurance Company, The Locomotive, pages 156-157, Volume XXVII, Hartford , CT, January 1909

13. Weed history – page 91, Hartford, Conn. as a Manufacturing, Business and Commercial Center, Hartford Board of Trade 1889, available at www.quinnipiac.edu, Quinnipac University

14. Third stage of production –The Miracle on Capital Avenue, by Ellsworth Grant, summer 2004, from the Hog River Journal, available at www.hogriver.org

15. Weed poster – by Kellog & Bulkeley circa 1867-1880, Connecticut Historical Society, available at www.cthistoryonline.org, image"chs_2004_22_0"

16. Hartford city image – City of Hartford 1864 lithograph by John Bachmann, Connecticut Historical Society

17. Fairfield house photo – available at www.historicbuildsct.com, 18 Feb 18, 2008 – Hartford/houses/second empire

18. Weed factory map – Connecticut State Library, Weed Sewing Machine Co. image #26

19. Weed factory lithograph – Hartford, Conn. as a Manufacturing, Business and Commercial Center, Hartford Board of Trade 1889, available at www.quinnipiac.edu, Quinnipac University

20. Screw machine photo – page 67, Stanadyne: A History, by Ellsworth S. Grant, 1985, Library of Congress catalog card # 85-061404

21. Hartford Screw Bldg photo – Connecticut History online, Photo CD:0555 / File: IMG0082.PCD, the Graphics Collection, the Connecticut Historical Society, available at www.cthistoryonline.org

22. Sharps factory photo – colorized and courtesy of Ron Paxton

23. Pope Civil War history, Albert Augustus Pope, Transportation Pioneer, by Gregg Mangan, available at www.connecticuthistory.org

24. Pope photograph in 1876 – the Bicycle Hall of Fame inductees, available at www.usbhof.com

25. Albert A. Pope image c1900 – courtesy of the Connecticut Historical Society

26. Pope's ride to Weed – page 30, Peddling Bicycles to America, the Rise of an Industry, by Bruce D. Epperson, published by McFarland & Co., July 2010, ISBN # 978-0-7864-4780-0

27. Cost of Columbia bike – Columbia History, available at www.columbiamfginc.com

28. Columbia Light Roadster 1886 – courtesy of the National Museum of American History, catalog # 307,217

29. Ascending trend lines – page 71, Colonel Albert Pope and His American Dream Machines, by Stephan B. Goddard, published by McFarland & Co., July 2010, ISBN #978-0-7864-4089-4

30. Pope in 1890s – the Bicycle Hall of Fame inductees, available at www.usbhof.com

31. Columbia Bicycle Factory – available at www.vintagecolumbiabikes.com, Hartford and Westfield factories/1893hartfordplant.jpg

32. Pope's later years – Albert Augustus Pope, Transportation Pioneer, by Gregg Mangan, available at www.connecticuthistory.org

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