

Connecticut's Firearms Production in the 1800's

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Firearms, the axe, and the plow were the three cornerstones upon which the pioneer Americans built this nation. Of the three, firearms were the most dramatic and appealed most to popular imagination. The musket or rifle was a necessity for the pioneer who depended upon his ability as a marksman to provide food and clothing and to protect himself against attack. Because the firearm was so essential firearms production was very important. This fact made the state of Connecticut an important factor in the building of our nation because Connecticut was one of the major manufacturers of firearms during the early years of their production.

The firearms brought from Europe were a conglomerate collection, representing almost every type currently produced in Britain and on the Continent. The European arms failed in every way to meet the requirements of the American environment. Of large clumsy construction and badly sighted, they were inaccurate and too heavy and unwieldy for long journeys.

Prompted by the complaints of users, the Swiss and German Colonial gunsmiths set to work to develop a rifle that would dominate the conditions found in the New World. Out of this competition among rival gunmakers, chiefly in Pennsylvania and Connecticut, there came about 1725 a new type of weapon which became known as the Kentucky rifle for the region where it first saw extensive rise.¹ While certain basic features of other models were incorporated, the Kentucky rifle was a radically redesigned arm to meet the demands of American shooters. The special features present in the Kentucky rifle made that firearm especially appealing to the early pioneers who could take only a limited amount of powder and lead with them into the wilderness or on long hunting trips and could ill afford to miss their targets. A skilled user of a Kentucky rifle could measure and empty a charge of powder into the barrel, insert the lead ball and patch and ram them down, replace the ram rod under the barrel, place a few grains of powder in the pan of the flintlock, and be ready to fire in about thirty seconds. He might, with some luck, hit a small target 150 yards away, but would seldom try beyond a hundred yards, and found by experience that between sixty and a hundred yards was the best range.²

Meanwhile, ammunition was being improved. The paper containing a measured amount of powder with ball attached, long used in military weapons, became more widely adopted in sporting rifles. While much progress had been made in gun and ammunition development there was a demand for a firearm that could be loaded more rapidly and more easily than the muzzle-loader. In the hands of an expert, the muzzle-loader using a paper cartridge with ball attached and a

percussion cap could be fired once every twenty seconds, but the average performance was considerably below this standard. There were certain hazards in using the gun. It was awkward to load except from a standing position, which was dangerous during combat; if there were any sparks left in the barrel after firing, reloading was likely to result in a premature explosion that would remove the fingers or hand. It was not unusual in the excitement of battle for a rifleman to place several charges of powder and ball in the gun, often causing it to burst when fired.

This problem brought the idea to devise a practical repeating mechanism. Christian Sharps, in 1848, developed what was to become one of the most famous of the single-shot, breechloading guns. It was a great improvement in firing a rifle but was not what young America needed. Until it was finally superseded by the repeating rifle, the Sharps rifle was one of the most widely used guns in America.

The first, most famous, and successful repeating firearm was the Colt revolver. Samuel Colt had taken out his basic patents in England in 1835 and the United States in 1836.³ The pistol had a cylinder of several chambers that could be discharged in succession by the same locking and firing mechanism. Colt established a permanent factory at Hartford, Connecticut where he was born. There he produced arms used during the Mexican War and the Civil War. After Colt's death his company made the famous six-shooters that were used throughout the West. In 1850 a practical repeating mechanism that could be used in a breechloading rifle was still to be devised. Colt's success with his revolver gave an indication of the desire on the part of shooters for such a weapon. It was a question as to which of the many inventors tackling the problem would be successful.

Not only had there been substantial changes in the design of small arms by 1850, but manufacturing methods had been revolutionized by that date. The early gunsmiths of Connecticut were craftsmen filling individual orders of their customers, and working alone in small shops or at most with the assistance of one or two helpers. Each part of the firearm was made with hand tools and individually fitted. Various components were not interchangeable with those of other weapons. This fact led to many problems, for example, the breaking of one part of a gun meant that a new piece had to be fitted by an expert armorer, which added to the problem of military supply. These limitations were particularly serious for the United States Government during the Revolution, in spite of an increasing number of small gunshops especially in Connecticut. In order to provide a more adequate supply for the future, the Government in 1792 authorized the creation of two national armories and a few years later began subsidizing private contractors on a generous scale.

Manufacturing methods were somewhat elaborated in both Govern-

ment armories and the shops of the private contractors, but it was not until Eli Whitney of New Haven, Connecticut, and Simeon North, originally of Berlin and later of Middletown in the same state, began their experiments that the first steps were made toward interchangeable-parts manufacture. Whitney received a Government contract to make muskets in 1798 and North a similar contract to make pistols the following year.⁴ Both men had their employees specialize on various parts of the weapons and both designed tools which made a considerable amount of interchangeability of individual components possible.

Once started, the system spread to other contractors and to the Government armories and less than half century later the industry was transformed and as far as general methods of manufacture were concerned, became essentially what it is today.

This development of machine tools and the growth of the machine-tool industry signalled the decline of small gunshops as the chief suppliers of firearms in America. To take advantage of interchangeable parts manufacture, it was necessary to operate a plant of considerable size. The transition, however, was gradual. Census data for 1860 reveal that there were some 239 establishments producing firearms which employed a total of 2,056 workers, or an average of less than nine per establishment. Only in the New England states and especially in Connecticut was there any trend toward large-sized concerns. In the latter state, nine producers employed around 969 workers. Of this number some 369 worked in Colt's factory at Hartford and another 300 in the Sharps factory operated by Robbins & Lawrence in the same locality. But these two factories had only recently been established--Colts' in 1853 and Sharps' armory in 1854.⁵

Among the many individuals who contributed to the mechanism that was eventually incorporated in the early repeating rifles were Courtlandt C. Palmer one time president of the Stonington and Providence Railroad, and a leading hardware merchant in New York. Also Daniel B. Wesson, who worked at Robbins and Lawrence and was an experienced gunsmith. And, finally, Horace Smith who was also an experienced gunsmith and had a shop in Norwich, Connecticut where he would experiment with different types of guns.

Encouraged by the possibilities of the improved repeating action Smith, Wesson, and Palmer formed a limited partnership on June 20, 1854, under the name of Smith and Wesson. Manufacturing was carried on in Norwich, Connecticut, apparently at the same location previously owned by Smith. The partners signed an agreement that the partnership was to receive the benefit of any improvements in firearms or ammunition that Palmer or his representatives or Smith and Wesson might patent or acquire.

Production was concentrated primarily on pistols, using the mechanism patented by Smith and Wesson in February 1854. The ammuni-

tion used in these arms, which was also produced by the firm, consisted of a cylindro-conical bullet weighing about 115 grains with deep cavity in the back, filled with a priming mixture. It was sealed off with a copper washer having a cork disc in the center and was discharged by the impact of the hammer on the breech or firing pin. This type of ammunition was not very effective. Wesson, in particular, appears to have been dissatisfied with its performance, for in August 1854 he was granted a patent (US 11,496) which was assigned to the firm for an inside-primed, centerfire, metallic cartridge, apparently to be used in arms being produced by the firm. For some inexplicable reason this ammunition was not utilized or developed further at this time, even though it held the key to the satisfactory operation of the type of firearms under production.

The partnership had been in operation about a year when it was decided to change the nature of the organization. Just why this change was decided upon is not clear. In any event, when a group of New Haven and New York capitalists made a proposition to form a corporation to take over the business, the partners agreed to sell to the new concern.

With some imagination the sponsors of the newly formed corporation called it the Volcanic Repeating Arms Company. Incorporated in Connecticut in June 1855, the organization was capitalized at \$150,000 (6,000 shares of common stock at \$25 par value per share.) The backers numbering forty in all, were chiefly from New Haven and nearby towns, although four lived or had their business's in New York City. Their occupations give an interesting sample of the kinds of business enterprises that were capable of supplying venture capital to new undertakings. Included were seven clockmakers, three carriage-makers, two bakers, two grocers, as well as representatives of shipping, merchandising, shoe manufacture and similar types of business. Of particular interest is the fact that Oliver F. Winchester, then engaged in the manufacture of shirts in New Haven, subscribed to 80 shares of stocks.⁶

It is doubtful whether Oliver F. Winchester had any intention of becoming an active gun and ammunition manufacturer at the time he purchased his eighty shares of Volcanic stock in 1855. As a partner in a flourishing business he was well known at the time as a capitalist and this investment was apparently only one of several that gave promise of financial success. The fact that he subsequently lent considerable money to the concern and took over as president, suggests that he soon became very much interested in firearms. Even before he had completed arrangements to acquire the assets of the quickly defunct Volcanic concern, he had organized a new corporation, the New Haven Arms Company of New Haven to carry on production under his general management.

The New Haven Arms Company officially began on May 1, 1857, with the purchase from Winchester of the assets he had acquired from the trustees of Volcanic. It is a tribute to Winchester's reputation as a business man and his powers of persuasion that eleven individuals joined him in investing in the new company, seven of whom had been shareholders in the Volcanic Repeating Arms Company,

which turned out a failure. Winchester himself was the largest single stockholder, holding 800 shares, and he became president and treasurer and active head of the organization.

The New Haven Arms Company did very well but was not immune to the sudden slackening of business that followed the end of the Civil War. Partial sales figures indicated that only 470 guns were sold during the last quarter of 1865 and the first half of 1866. During the same period only 672,000 cartridges were marketed. A continuation of these conditions could have been embarrassing to the company, for the balance sheets indicates that a considerable portion of the assets was made up of inventory and the cash position was low.

Winchester, however, was not discouraged by the outlook for the future. Over the preceding nine years he had learned a great deal about guns and ammunition and their manufacture. Early in 1865 he began laying plans for expanding operations by applying to the Connecticut Legislature for a new corporate charter. In July of that year the State Assembly granted a charter to the Henry Repeating Arms Company, with permission to carry on business either in New Haven or Bridgeport. No attempt was made during 1865 to re-form the organization under the new charter, but in 1866 Winchester sold his share of the shirt business to his partner, John M. Davis, which freed him to devote full attention to firearms production. He also moved to identify the organization with his own name, by getting the Legislature in 1866 to change the title of the new corporation to the Winchester Repeating Arms Company.

Meanwhile Winchester's growing stature in the community was reflected in the fact that he served as Lieutenant Governor of Connecticut for the term 1866-1867. Thereafter he was commonly addressed as "Governor Winchester" by his friends and business associates.

In 1866 there occurred more changes besides just the title of Winchester's Plant. Winchester made a shift that began late in 1866, even prior to the formal organization of the Winchester concern, into a building in Bridgeport which was leased from Wheeler and Wilson, and the last of the equipment was transferred in March 1867.⁷

Within two years operations had been expanded considerably beyond the size of the New Haven Arms Company plant. In 1869, the size of the labor force in Bridgeport was 260, some two and a half times the peak of 101 reached by the older company in September 1864. The annual output of guns was estimated at 12,000, valued at \$240,000, and the production of ammunition as 4.5 million cartridges, worth \$40,000. Actually net sales for 1869 came to the sizable figure of over \$323,000.

Measured by the number of employees devoted to gun and ammunition manufacture, the Winchester Repeating Arms Company was by 1869, among the leaders in the firearms industry. Actually the company

was probably in first place in the repeating-rifle field because Colts' was largely manufacturing revolvers and neither Remington nor Sharps was producing repeating rifles. Even though production of ammunition was chiefly confined to supplying cartridges for its own guns, the Company ranked about third in a field of eight, being narrowly removed from second place by one other plant (probably C.D. Leete, of Springfield, Massachusetts). The newly formed Union Metallic Cartridge Company of Bridgeport, Connecticut was by far the largest producer of ammunition.

In 1870 the Winchester management began to consider the advisability of moving the plant from Bridgeport back to New Haven into a new building to be constructed. For some three years manufacturing had been carried on in Bridgeport, while the business office and a warehouse had been in New Haven. The attractions of a new structure located in New Haven especially designed for gun and ammunition production and in an area where facilities could be readily expanded, were strong. A further consideration was that Winchester personally owned land in New Haven which could be used for the site of a new building.

The new armory, a two-story brick building with a basement, was constructed at the corner of Munson Street and Canal Street (later changed to Winchester Avenue) and became the nucleus of the large expanse of buildings that was subsequently built for the company. Ready for occupancy early in 1871, the equipment and machinery were moved from Bridgeport in April of the same year.⁸

The stage was now set for Winchester and the other large Connecticut arms factories to employ scores and later hundreds of workers. Such plants called for an investment of capital on a substantial scale and for the services of managers who could combine the talents of the skilled mechanic with the ability to supervise the operations of large groups of workers. The firearms industry faced the problem of marketing an enlarged output that would no longer (except in the case of government contracts) be sold on individual order.

The rewards promised to be substantial. The American West still had areas unexploited. Settlement had pushed to the fringes of the prairie country and gold discoveries in California had attracted thousands to the Pacific Coast. But the vast area in between, with its Indians and abundant animal life, including the great buffalo herds, was still to be won. As they had before, the pistol and the rifle were to play an important role in conquest of this part of the American Continent. Other parts of the world, such as South America and Australia, presented similar opportunities. Europe's national rivalries offered a lucrative, if somewhat erratic, outlet for military supplies, as did revolutions and armed expeditions in Latin America and the Orient. To the individuals or companies in early Connecticut that could develop a superior type of firearm and mass-produce it, there awaited a large and expanding market and the promise of attractive financial returns.

Footnotes

¹Harold F. Williamson, Winchester, The Gun that Won the West, (Washington D.C.: Combat Forces Press, 1952). p. 5

²Williamson p. 6

³Henry J. Kauffman, Early American Gunsmiths 1650-1850 (Harrisburg Penn.: The Stockpole Company, The Telegraph Press 1952) p. 23

⁴Kauffman p. 37

⁵Williamson p. 10

⁶Harold L. Peterson and Robert Elman, The Great Guns (New York: Madison Square Press, 1971) p. 68

⁷Williamson p. 52

⁸Williamson p. 64