

# New Hampshire Gun Makers 1835-1875: The Percussion Era

By Michael Carroll

Early guns manufactured in New Hampshire have design features from firearms made in England and France during the late 1700s. The style and characteristics of these arms were taken from the British and French muskets used in the Revolutionary War. The first guns made in New Hampshire were fowlers and military muskets. The fowler shown in Figures 1, 2, and 3, was made by James Purinton in Kingston, New Hampshire, c. 1780. This gun shows the stock design and pinned barrel technique copied from a British Brown Bess musket while also utilizing a French style lock. This lock is signed "I. Purinton," for James Purinton. James Purinton was a New Hampshire gun maker who is known to have invested with Joshua and Charles Barstow in the manufacture of US Contract 1808 muskets in Exeter, New Hampshire.<sup>1</sup>

The settlers of New Hampshire were rugged, self-sufficient individualists. Early blacksmiths in New Hampshire exemplified this work ethic, soon learning to repair muskets and fowlers out of necessity. Starting from the repair of muskets, a few of these smiths began making complete arms.

After the Revolutionary War there was an influx of skilled artisans making guns and other craftsmen into the New England area, particularly from England and Germany. These workers usually settled in locations with available water power that was used to power their mechanical equipment. Trade with European nations brought in needed iron,



steel, and brass for the manufacturing of gun barrels and associated furniture. Local woods, such as walnut, maple, and sometimes elm were used to stock the guns.

The period after the Revolutionary War was a time when participation in local militias was mandatory for men between the ages of 16 and 35 years. Each militia member was required to have his own rifle or musket and accoutrements. Smooth bored flintlock muskets and fowlers were first used by the soldiers. Monthly militia drills and assem-



Figure 1. James Purinton, Kensington, New Hampshire, Fowler, c. 1780.



Figure 2. Purinton Fowler Lock.



Figure 3. Purinton Fowler Barrel.

blies were held and, as time progressed, these events grew into social as well as military gatherings. Target shooting and marksmanship contests were a regular part of these militia activities from approximately 1830. Public weekend target, turkey, or beef shoots were also common weekend social functions well into the 1870s.

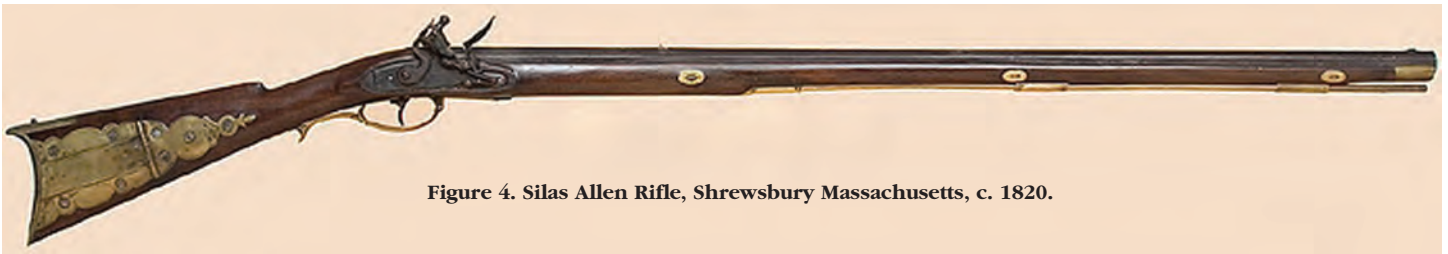


Figure 4. Silas Allen Rifle, Shrewsbury Massachusetts, c. 1820.

Rifled barrels are first observed on New England arms beginning about 1810. The accuracy benefits of rifles were seen by Continental and state militia troops serving in the Revolutionary War. The long rifles used by Virginia and Pennsylvania troops proved effective in battles and skirmishes during the war. Rifled barrel technology was soon thereafter adopted by New England gunsmiths and barrel makers. The rifle made by Silas Allen<sup>2</sup> in Shrewsbury, Massachusetts, c. 1820 (Figure 4), is an example of a New England early militia arm and reflects a design common to several states during this period.

The percussion cap was first developed around 1814 and the first United States patent was issued to Joshua Shaw in 1822. There were others, such as Francois Prelat, Joseph Manton, and Joseph Egg who also had their own designs for the percussion cap during the same period.<sup>3</sup>

The design and style of percussion guns made in New Hampshire during the period from 1835 to 1875 frequently reflect architectural elements used in the state of New Hampshire. They can also show some design and style characteristics common to the other New England states and the state of New York. However, if one studies New Hampshire guns in detail, most of the makers from the state have their own individual architectural aspects of style and design. By recognizing these aspects, identification of a New Hampshire gun by maker is possible. Examples of makers with their own New Hampshire styles include the rifles and pistols made by David H. Hilliard of Cornish and Moses C. Milliken of Charlestown, along with pistols made by Michael Carleton of Haverhill, and John and Andrew Brown of Fremont.

New Hampshire guns were usually manufactured using available water sources to power the machine manufacturing equipment used in the gun shops. Water was used to turn lathes and power drop hammers, equipment essential to firearms manufacturing. In some instances, animal power was used to power the drop hammer, with an ox or horse turning a rotating screw mechanism to lift the drop hammer. One has only to look at the map of New Hampshire (Figure 5) to recognize the importance of water power from the Connecticut, Merrimack, and other rivers and streams to gun making.

Cast steel, first made in England, first made an appearance in New England about 1830. The addition of small

amounts of carbon to high purity iron ore made for high strength steel which could easily be rolled and machined. It is interesting that the Colt 1851 Navy Model Revolver was one of the first mass produced guns to use the new English cast steel in the manufacture of the gun.<sup>4</sup> Cast steel round or octagon gun barrel blanks we purchased from suppliers as either bored or unbored blanks, ordered by the length and barrel diameter or barrel flat dimensions. The barrel blanks were then rifled by the gun maker and fitted to guns or sold separately.

New Hampshire percussion guns are frequently found with the names of barrel makers, such as “Remington,” “Hitchcock & Muzzy,” or “Muzzy & Co.” stamped on them. The words “cast steel” will frequently be found stamped below the maker’s name. Hitchcock and Muzzy were in business in Worcester, Massachusetts, from 1840 to 1860. The

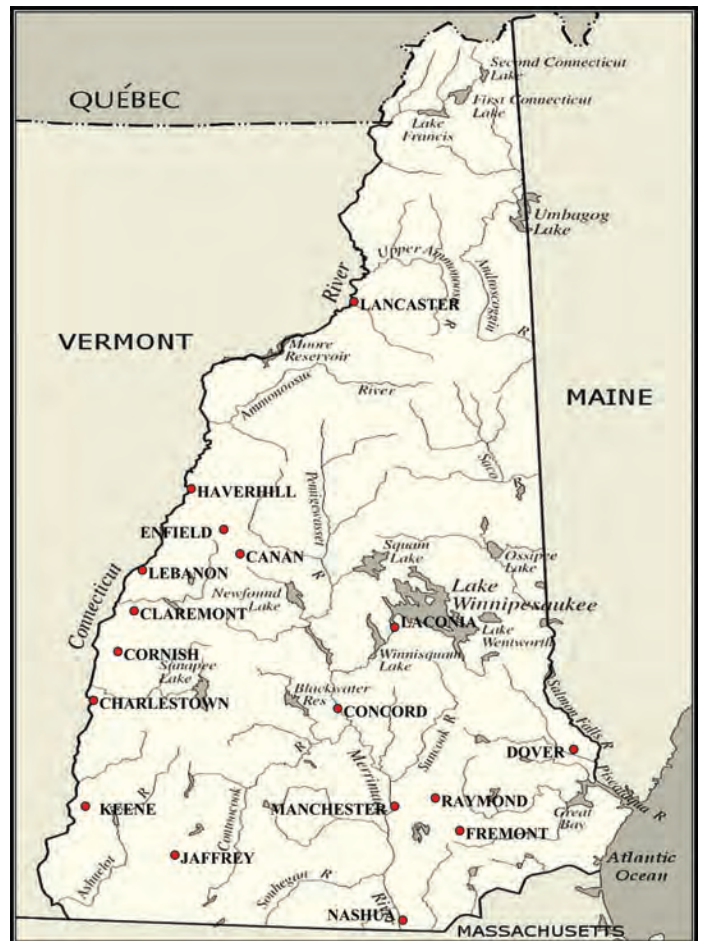


Figure 5. Mid 19th Century New Hampshire Gunsmith Location Map.



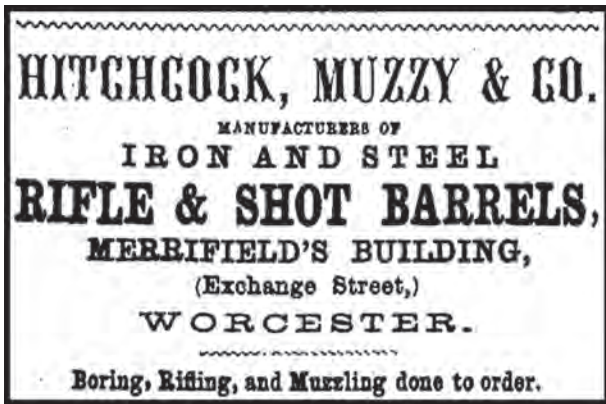


Figure 6. Hitchcock & Muzzy, Worcester, Massachusetts, 1856 city directory advertisement.

company became Muzzy & Co. after a bankruptcy proceeding in 1857. Figure 6<sup>5</sup> is a Hitchcock, Muzzy & Co. business directory advertisement from 1856.

The advent of cast steel allowed advances in lathe and machinery technology, also imported from the industrial centers of England. Skilled laborers and tradesmen also came to the United States from England and elsewhere looking to advance their lives. The combination of skilled labor, advanced machine tools, water power, and cast steel made the fabrication of percussion guns in small gun manufactories possible and economically rewarding. The small shop New Hampshire gunsmith was able now able to produce guns which met the demand for target shooting matches and small game hunting.

New Hampshire's most prolific individual gun maker of the mid-19th century was David H. Hilliard of Cornish, New Hampshire (Figures 7 and 8).<sup>6</sup> He started making guns about 1840 and continued until his death in 1873. Hilliard frequently had assistants who worked on filing, fitting of metal parts, stock making, and other gun making tasks. An 1850 US Census Report from Cornish, New Hampshire, shows Charles Smith and William Farrington working as assistants to Hilliard (Figure 9).<sup>6</sup> William Farrington went on to make guns on his own, working in his own shops in Lebanon<sup>6</sup> and Andover.<sup>7</sup>

Some New Hampshire gun makers soon realized that word of mouth was not sufficient to promote their business. Listings of their business occupations by profession can be



Figure 7. Hilliard gun shop and home, c. 1865.

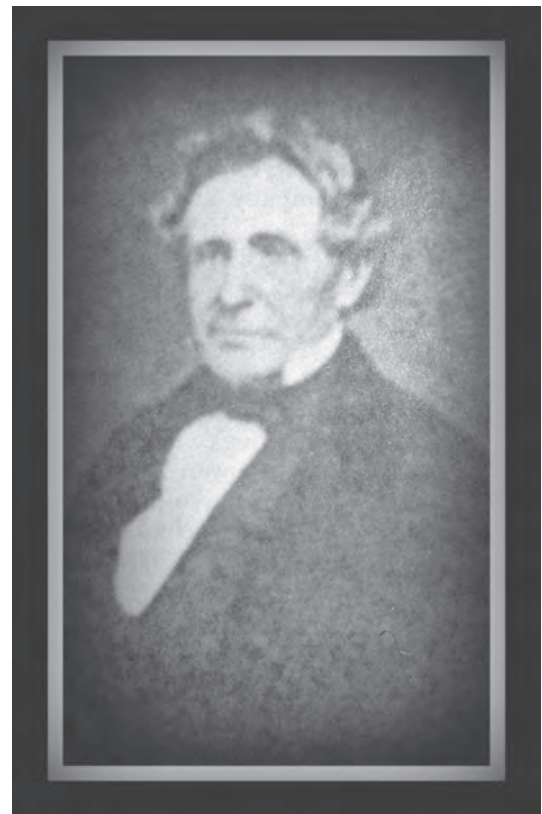


Figure 8. D.H. Hilliard, Cornish, New Hampshire.

4 W	David H. Hilliard	46 2/20	Gunsmith
	Sarah A.	38 f	
	Charles A.	14 m	
	Georg E.	11 m	
	William Sauter	20 f	
	Chas S. Smith	28 m	Gunsmith
	Nelus	10 f	
	William Farrington	22 m	Labourer
	Black Spaulding	18 m	Labourer

Figure 9. 1850 US Census listing for D.H. Hilliard, Cornish, New Hampshire, listing family members and workers.



Figure 10. R.P. Huse, Manchester, New Hampshire, 1862 city directory advertisement.<sup>8</sup>

found in the city and town directories of the mid-19th century. Those makers, taking a more ambitious approach, used individual printed block advertisements with illustrations in these directories and also placed similar advertisements in period newspapers such as *The New Hampshire Patriot and State Gazette* (Figures 10 through 14).



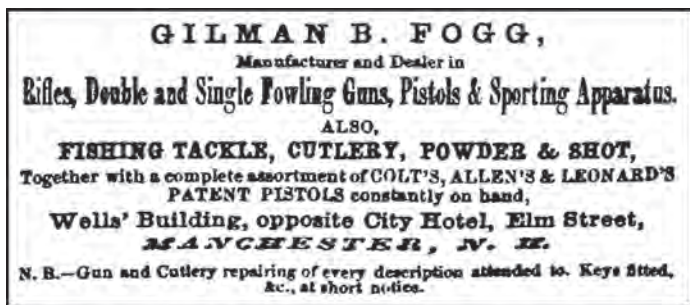


Figure 11. Gilman B. Fogg, Manchester, New Hampshire, 1862 city directory advertisement.<sup>9</sup>

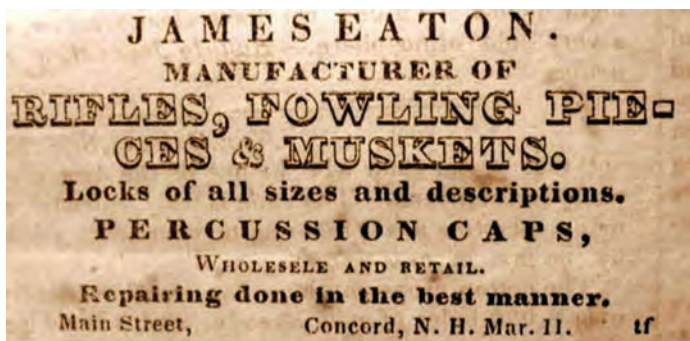


Figure 12. James Eaton, Concord, New Hampshire, 1840 newspaper advertisement.<sup>10</sup>

#### NEW HAMPSHIRE RIFLES AND FOWLERS

New Hampshire percussion gun architectural features include underhammer and side locks; wooden half stocks with pewter tipped fore ends (underhammer rifles and some fowlers lack fore ends); open or peep style target and hunting sights (some guns with both open and target sights); and brass, iron or German silver mounts, including small cap boxes mounted in the side of the buttstock. Wood used for the stocks was mostly walnut with maple along with infrequent use of pine and chestnut. The barrel bore diameter found for fowlers is usually 12 gauge or .69 caliber with rifle bores ranging from .32 to .45 caliber (Figure 15).<sup>13</sup>

The shape and style of the brass, German silver, or iron mountings on New Hampshire guns indicates that there was a common source for many of these trigger guards, patch boxes, and butt plates. In the daybook of David H. Hilliard,<sup>14</sup> he indicates that he obtained brass and German silver mountings from Hartshorn and Darling, a brass foundry in Manchester, New Hampshire. An 1856 advertisement for this company is shown in Figure 16.<sup>15</sup> Based on identical trigger guards and patch boxes being used on guns made by different makers, it is apparent that Hartshorn and Darling could have supplied other New Hampshire gun makers as well.

Examples of locks (Figure 17), stocks (Figure 18), pewter foreends (Figure 19), patch boxes (Figure 20), rear sights (Figure 21), and trigger guards (Figure 22) used on New Hampshire rifles are shown. When one looks at these pictures, it can be seen that these gun mountings were avail-



Figure 13. Cutchins & Crosby, Concord, New Hampshire, 1843 newspaper advertisement.<sup>11</sup>

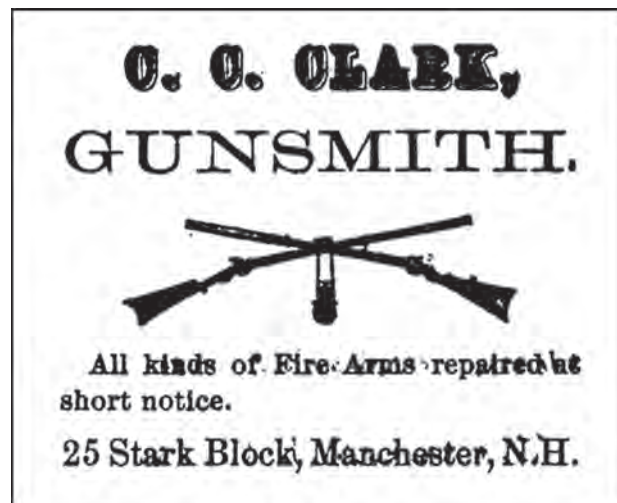


Figure 14. Carlos C. Clark, Manchester, New Hampshire, 1864 city directory advertisement.<sup>12</sup>



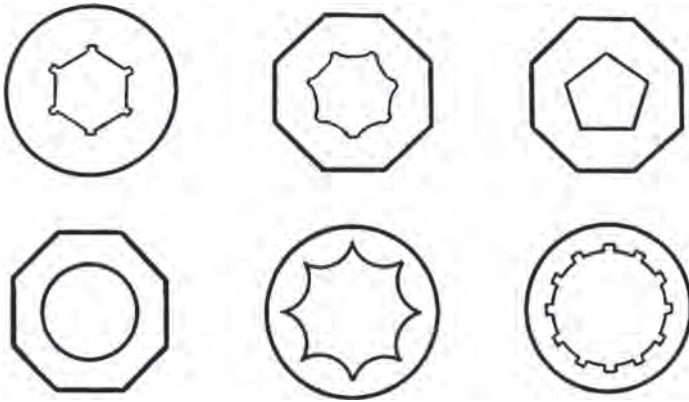


Figure 15. Mid-19th century rifling styles found on New Hampshire rifles.



Figure 16. Hartshorn & Darling, Manchester, New Hampshire, Brass Founders, 1856 city directory advertisement.

able in brass, German silver, or iron. With many gunsmiths not having their own foundries, it is easy to see that these items were obtained from a common source.

#### NEW HAMPSHIRE PISTOLS

Percussion pistols manufactured in New Hampshire during the mid to late 1800s are more easily recognized as



Figure 17 A. Underhammer lock.



Figure 17 B. Front action lock.



Figure 17 C. Back action lock.

being made by a specific craftsman. Grip, sight, and percussion ignition designs combined together to form overall architecture, unique to an individual maker. Stocks were of walnut, maple, or infrequently of other woods. Barrels were full round, full octagon, or half octagon-half round. Trigger guards and screw escutcheons were made of either brass, German silver, or in some instances iron. Again, these furni-





Figure 17 D. Slide lock.



Figure 18 A. Dropped wrist.



Figure 18 B. Straight wrist.



Figure 18 C. Straight wrist.

ture items on a percussion pistol, when viewed as a total, usually identify the work of a particular gunsmith. Figures 23 through 26 show examples of ignition designs, grip shapes, barrels, and furniture used on New Hampshire percussion pistols.



Figure 18 D. Straight wrist.



Figure 19 A. Curved.



Figure 19 B. Straight.

#### ACCESSORIES AND TOOLS

Shooting during the period from 1840 to 1870 had progressed to a fine art. The shooting matches and contests of these times were highly contested. Bullet molds progressed from simple round ball molds to intricate double cavity molds for a round ball and a conical projectile, which was called a picket or sugar loaf bullet. High strength steel cutters called cherries were used to core out the halves of bullet molds. A bullet swage was used to force form a cast picket bullet into





Figure 19 C. Curved.



Figure 19 D. Curved.



Figure 20 A. Brass.



Figure 20 B. German silver.



Figure 20 C. German silver.



Figure 20 D. Brass.



Figure 21 A. Fancy leaf.



Figure 21 B. Tang peep.





Figure 21 C. Tang.



Figure 21 D. Fancy tang.



Figure 22 A. Brass.



Figure 22 B. German silver.

a consistent shape and diameter. Bullet starters were added to aid in seating the round and picket bullets into the bores of the guns. Many hours were spent by the gun shooter in determining the proper bullet weight and shape, appropriate powder charge, and thickness of cloth or paper bullet patches. Examples of accessories and tools used with New Hampshire guns are shown in Figures 27 through 29.



Figure 22 C. Iron.



Figure 22 D. Brass.

## GUNPOWDER

Gunpowder, in the form of black powder, was used in firearms of the 19th century. Several manufacturers in New Hampshire made high quality shooting or sporting powder as it was called. Many of these makers produced black powder at their own facilities or retailers marketed the powder under their own names. The Hazard Powder Company of Connecticut produced powder for several New Hampshire retailers. The cans of powder from the New Hampshire manufacturer's or retailers will be found with the Burns, Loverin, or Powers names stenciled on them and the name of Matthewson's or Imperial Powder Company on the paper labeled cans. New Hampshire powder cans from the 1850 to 1870 period are shown in Figure 30.

## INDIVIDUAL MAKERS

The following New Hampshire gun makers are representative of the quality firearms workmanship found in New Hampshire during the period from 1835 to 1875 (Figures 31 through 43). The makers are presented in chronological order, starting in the mid-1830s.

## AN END OF AN ERA

The metallic cartridge brought an end to the percussion era of gun making in New Hampshire. David H. Hilliard's son, George, formed Hilliard Rifle Works, after his father died in



1873. Some New Hampshire gunsmiths, such as William Lawrence of Laconia, adapted and made cartridge firearms. R.P Huse and Gilman B. Fogg of Manchester became locksmiths and sporting goods dealers. A few, such as Moses C. Milliken of Charlestown, returned to their roots and became

blacksmiths.<sup>16</sup> Yet others migrated to new areas, with George O. Leonard of Keene setting up a gunsmith shop in Red Bluff, California<sup>17</sup>, John I. Eastman concocting soaps and perfumes in Media, Pennsylvania,<sup>18</sup> and Charles Buss<sup>19</sup> making high quality wood planers in Grand Rapids, Michigan (Figure 44).



Figure 23. David H. Hilliard Pistols: early (*top*), mid-period (*bottom*).



Figure 24. John Brown Pistols: shot pistol (*top*), target pistol (*bottom*).





Figure 25. A Michael Carleton (*top*) and a James Eaton (*bottom*).



Figure 26. A John F. Brown (*top*) and a John D. Pillsbury (*bottom*).



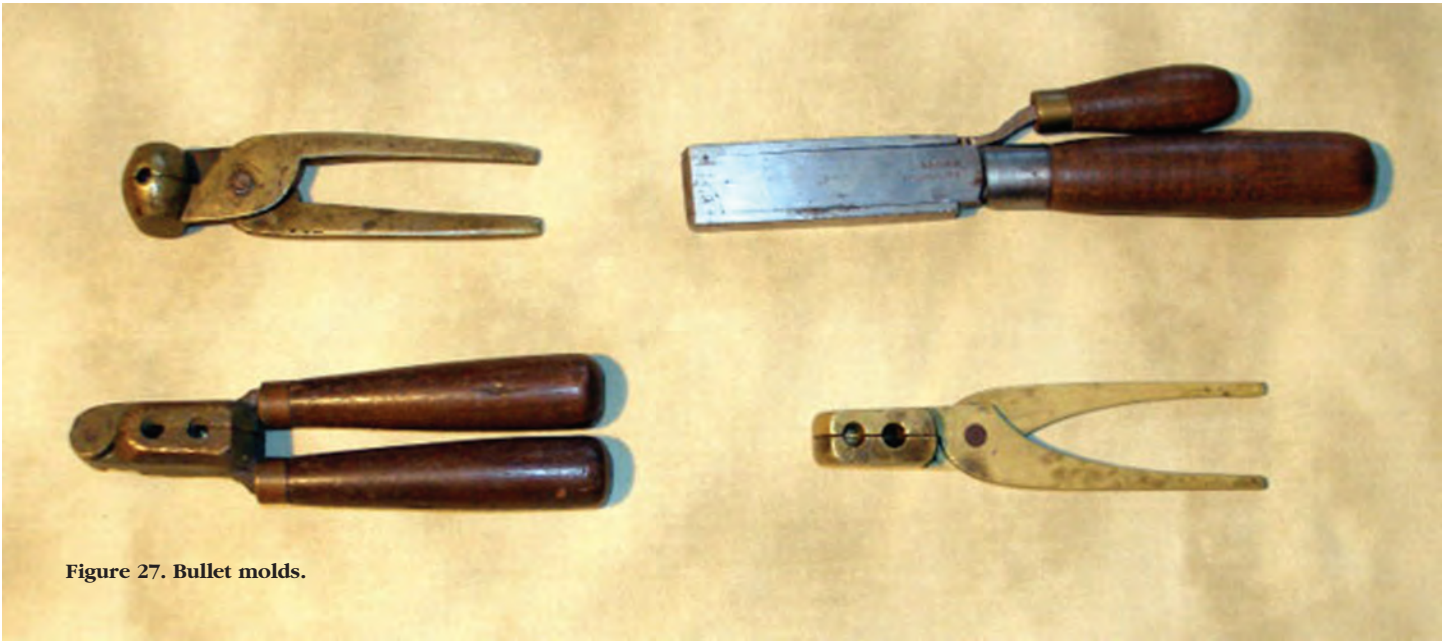


Figure 27. Bullet molds.

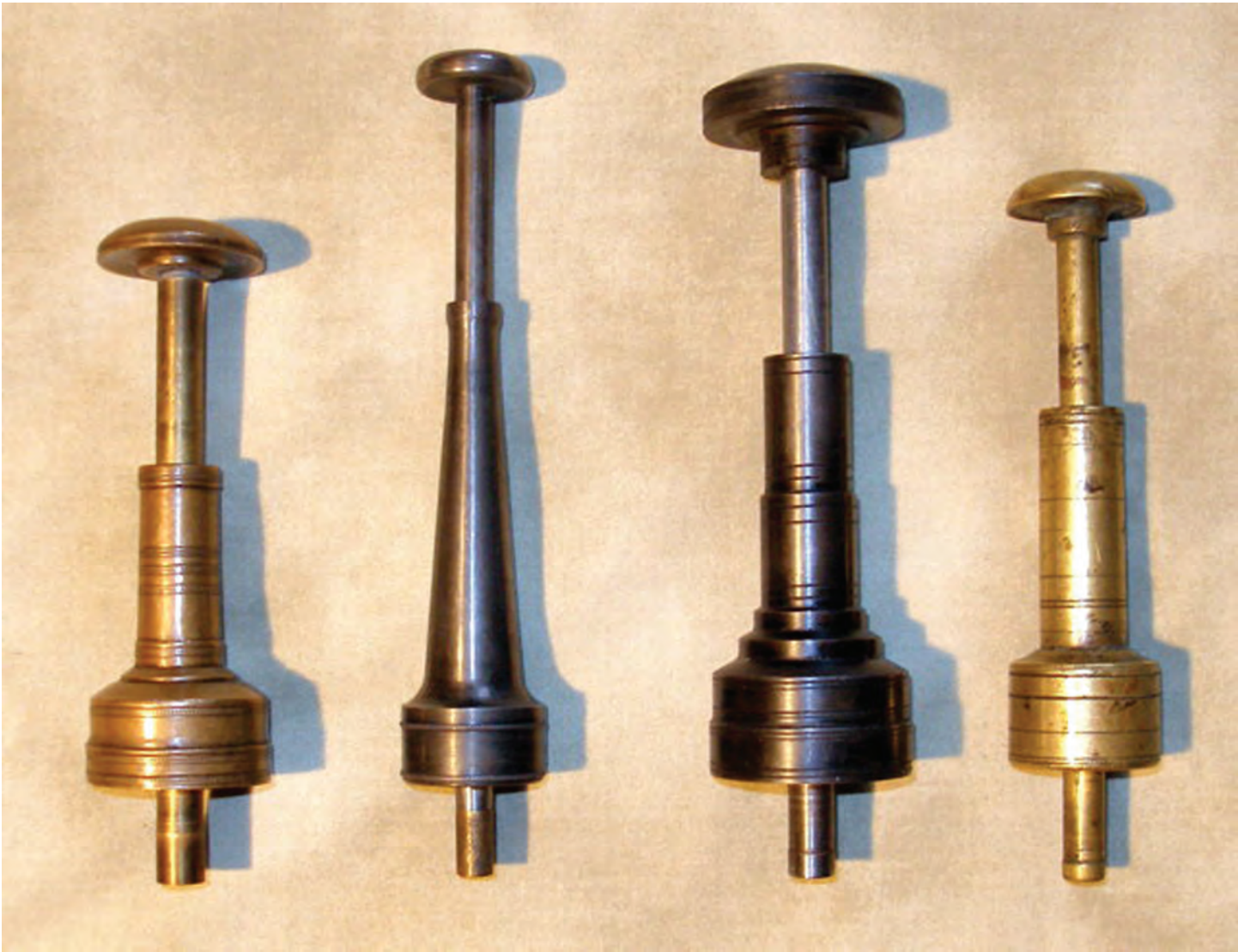


Figure 28. Bullet starters.





Figure 29. Mold cherries and bullet swage.



Figure 30. New Hampshire powder cans.  
 Top Row (L to R): W.R. Powers, Croydon Flats, NH; J.C. Loverin, Croydon Flats, NH; J.C. Loverin, Croydon Flats, NH.  
 Bottom Row (L to R): Imperial Powder, New Durham, NH; Mattheweson's Powder, New Durham, NH; G.W. Burns, Milford, NH.



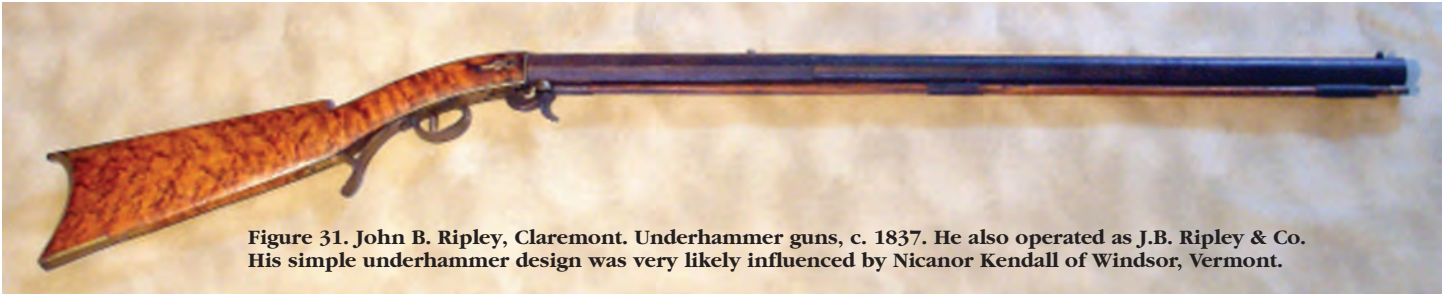


Figure 31. John B. Ripley, Claremont. Underhammer guns, c. 1837. He also operated as J.B. Ripley & Co. His simple underhammer design was very likely influenced by Nicanor Kendall of Windsor, Vermont.

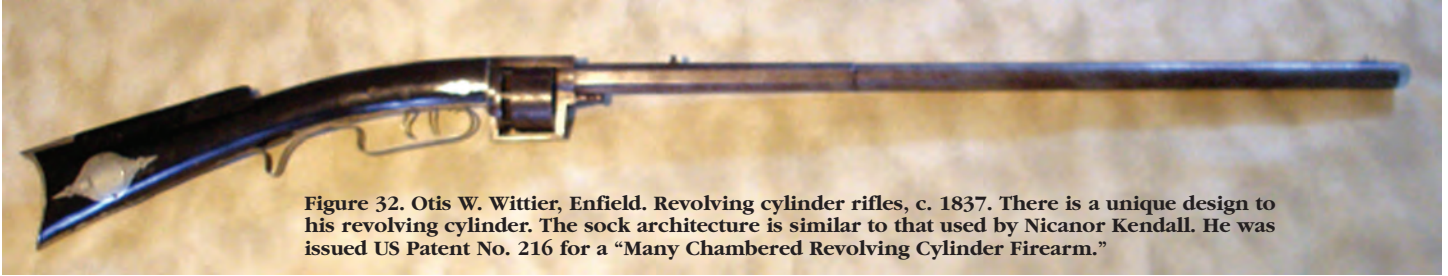


Figure 32. Otis W. Wittier, Enfield. Revolving cylinder rifles, c. 1837. There is a unique design to his revolving cylinder. The sock architecture is similar to that used by Nicanor Kendall. He was issued US Patent No. 216 for a "Many Chambered Revolving Cylinder Firearm."



Figure 33. James Eaton, Concord. Underhammer rifles, fowlers, and pistols, c. 1840.



Figure 34. David H. Hilliard, Cornish. Pistols and rifles, c. 1842 to 1877. Said to have worked for Nicanor Kendall. Made underhammer and a few side hammer guns. Most prolific individual New Hampshire percussion gun maker. Made about 2500 guns, most were serial numbered. He employed his sons and other workmen in his shop.





Figure 35. Moses C. Milliken, Charlestown. Underhammer rifles and pistols, c. 1845. His guns were simply designed but featured a very pleasing, yet unique architecture, worthy of note.



Figure 36. Michael Carleton, Haverhill. Slide bar underhammer rifles and pistols, c. 1845. His underhammer arms featured a unique slide hammer percussion ignition system.

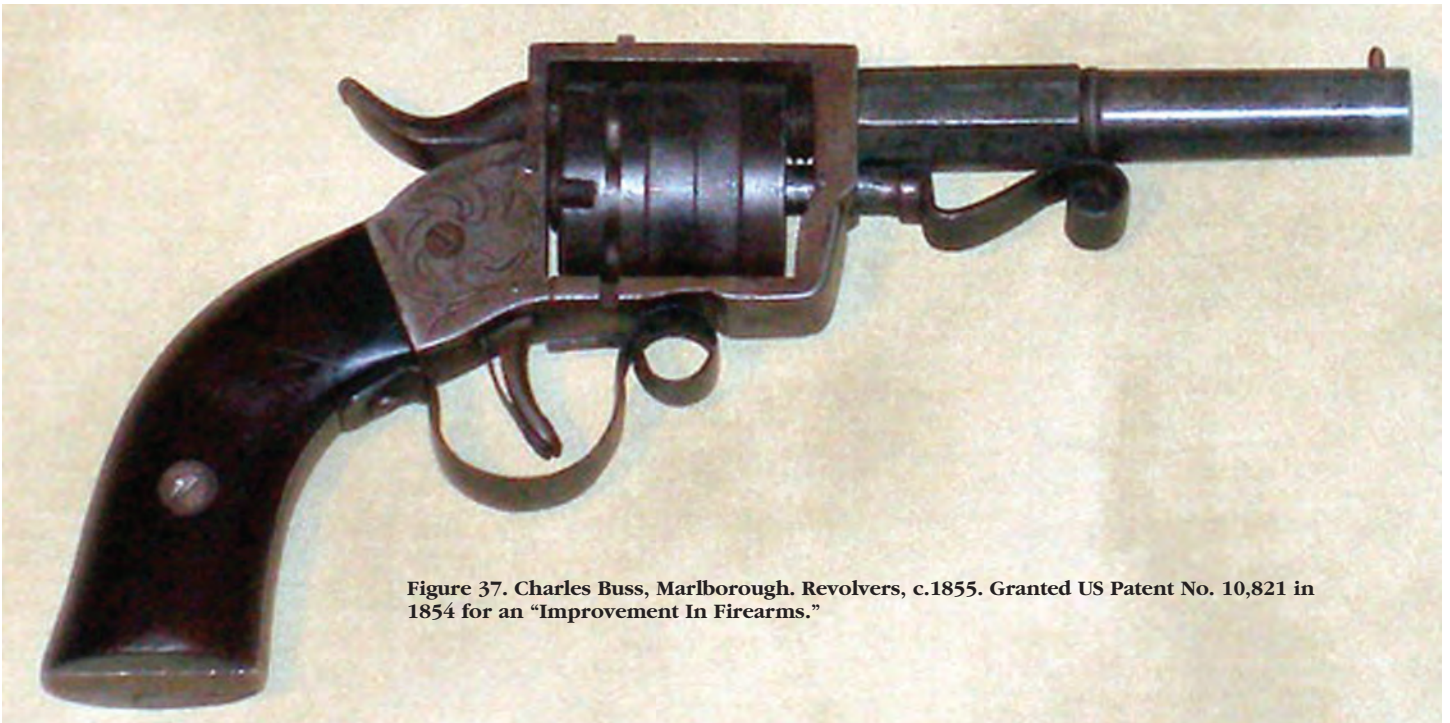


Figure 37. Charles Buss, Marlborough. Revolvers, c.1855. Granted US Patent No. 10,821 in 1854 for an "Improvement In Firearms."





Figure 38. Thomas Morse, Lancaster. Rifles and pistols, c. 1855 in New Hampshire. Made cartridge breech loading rifles of his own design, c. 1870. Made percussion and cartridge arms for the Confederacy during the Civil War.



Figure 39. John S. Dutton, Jaffrey. Finest quality rifles in New Hampshire, c. 1856-1875. His target rifles featured finely adjustable sights and bullet starters. His design and day book still exists, illustrating his high quality work.



Figure 40. William W. Wetmore, Lebanon. Underhammer rifles, c. 1860. There was a simple, yet pleasing design to his guns. He was later granted numerous patents while working for and influencing gun designs made by Winchester.





Figure 41. John and Andrew Brown, Fremont, Father and son gunsmiths: rifles, fowlers, and underhammer pistols, c. 1855 to 1870. Guns were of high quality and pistols were made with long barrels. *Top:* John Brown rifle. *Middle:* John Brown pistol. *Bottom:* Andrew Brown fowler.



Figure 42. Amoskeag Manufacturing Company, Manchester. US Special Model 1863, .58 caliber, percussion muskets, c. 1863. Amoskeag Manufacturing Company was the most prolific company to manufacture percussion arms in New Hampshire.



Figure 43. William Lawrence, Laconia. Rifles and pistols, c. 1863. Lawrence worked as a gunsmith into the early 1900s making cartridge guns.

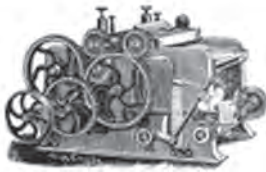


# BUSS MACHINE WORKS

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FINE WOOD - WORKING

## MACHINERY

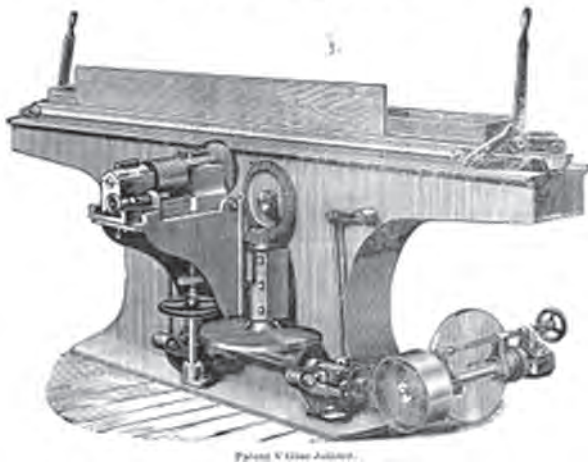


No. 1 Paper Mill Machine.

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CABINET, FURNITURE, PIANO, ORGAN, TUB, PAIR AND CLOTHES PIN MACHINERY, ALSO MACHINERY FOR PLANING MILLS, SASH, DOOR AND BLIND FACTORIES.

**ALL KINDS OF SPECIAL MACHINERY  
MADE TO ORDER.**



Patent V. Green's Machine.

Figure 44. Buss Machine Works ad.

1. United States Contract for 1808 Contract Muskets, Original, Private Collection.
2. Photograph courtesy of Richard Littlefield and Antique Associates At West Townsend, Ma.
3. *WIKIPEDIA*, www. [http://en.wikipedia.org/wiki/Percussion\\_cap](http://en.wikipedia.org/wiki/Percussion_cap).
4. *Colonel Colt London*, Joseph G. Rosa, pg. 57, Arms & Armour Press, London, England, 1976.
5. *The Worcester Almanac, Directory and Business Advertiser* pg 32, Henry J. Howland, Worcester, MA, 1856.
6. Percussion rifle and pistol exist, marked W.B. Farrington, Lebanon, NH, personal collection of author.
7. *History of the Town of Andover*, NH, pg. 148, John R. Eastman, Rumford Printing Co., Concord, NH, 1910.
8. *Manchester City Directory*, pg 27, Adams Sampson & Co., Boston 1860.
9. *Ibid*, pg. 19.
10. *New Hampshire Patriot & State Gazette*, November 7, 1840, Concord, NH.
11. *Ibid*, December 14, 1843.
12. *Manchester City Directory*, Adams Sampson & Co., Boston 1864.
13. *Underhammer Guns*, Herschel Logan, pg. 29, The Stackpole Co., Harrisburg, PA 1960.
14. *Daybook*, David H. Hilliard, Cornish, NH, page 36, Private Collection.
15. *Manchester Directory*, George Adams, Boston, 1856.
16. *1860 U.S. Census*, Grafton County, Haverhill, NH, [www.ancestry.com](http://www.ancestry.com).
17. *1870 U.S. Census*, Tehoma County, Red Bluff, CA, [www.ancestry.com](http://www.ancestry.com).
18. *1880 U.S. Census*, Delaware County, Media, PA, [www.ancestry.com](http://www.ancestry.com).
19. <http://www.owwm.com/mfgindex/images/3517-A.jpg>.