

# “Keep Your Powder Dry” ...In A Glass Powder Horn?

Copyright © 2003

by **Cecil Munsey**

with inspiration and help from

**Scott Grandstaff & Kitty Roach**

Founders (1990) of *Bottles and Extras Magazine*

The title of this article alludes to gunpowder that soldiers, with black powder weapons, had to keep dry in order to be ready to fight when required – in other words, to be prepared! In this case, the reader should *be prepared* to learn about historic powder horns, especially those of mouth-blown glass such as featured in **Figure 1**. As you probably know, glass horn-shaped containers for gunpowder are the exception rather than the rule but they do exist. The *rule* is powder horns made from animal horn. That is where this article begins.

## Horn

To lay a little groundwork for the promised short history of glass powder horns, readers are reminded that animal horns have served many useful purposes for thousands of years. As far back as 18,000 B.C. early man apparently busied himself carving [scrimshawing] ivory (teeth and tusks) and horns (claws and nails) presumably after he had chased, captured and eaten the host animal.

Later on in the course of man's development he used antlers as knives, arrowheads as pick axes. And jewelry makers, somewhere along the line, discovered that by heating horn from cattle and sheep, it could be moulded.

It was also discovered that horn could be de-laminated and, having done that, the thin layers of horn were found to be “clear-ish,” at least clear enough to almost see through. So the pieces were used to make the “glass” for lanterns (or more properly “lant-horns”). Thin layers of horn were also used for filling holes in the sides of houses – not exactly double-glazing but better than cold air. It is a fact that the invention of mass-production techniques for window glass almost scuttled the professional horners' business in “horn Glass” back in the 16<sup>th</sup> century. An alert tourist can see some small panes of original horn glass that can still be found inside the Guildhall in London.

Romans used horn for trading. Roman writings refer to horn drinking vessels being quite commonplace. A little later on, it is recorded that 9<sup>th</sup> century horners made chalices for churches and according to the booklet of the Worshipful Company of Horners, horns were used in medical practice including, interestingly enough, the administration of enemas.

Certainly horn working has had its ups and downs over the centuries much like any other kind of business. Hundreds of items were made from horn, including all manner of small tools such as combs, dippers, scoops, message horns, blowing horns, small cups, book pages, walking sticks, shoe lifts (or more properly shoe horns), window panes, lantern panes, spoons, knife handles, sword and dagger handles, snuff bottles, tobacco jars, ink wells, even listening horns for the almost-deaf and, the focus of this article, *powder horns*.

Horns were excellent containers because they could be made air and watertight. Such horn vessels were made to hold salt, rum, shot, *gunpowder* and a variety of other things.

According to writer, Jim Dresslar (see bibliography) in an article about “Engraved Powder Horn As An Art Form”:

*“By the middle of the 18<sup>th</sup> Century, soldiers began personalizing powder horn by engraving their name followed by ‘his horn,’ the date, and a peculiar rhyme such as: ‘Steal not this horn for fear of shame, for on it lies the owner’s name.’”*

Carved or decorated powder horns in particular became a beautiful art form. They served as a close companion to the musket, fowler, Kentucky rifle, or pistol. Horns carried the black powder propellant necessary

to load and fire the firearm. A powder horn is tough, lightweight and spark proof. As already indicated, if made correctly it is both airtight and watertight. During the mid-18<sup>th</sup> century every man who owned a firearm owned a powder horn. It could be plain or fancy. A fancy horn would show one's status in life – *it might even be made of glass as will be discussed in a later section of this study*. Many horns were engraved (scrimshawed) to commemorate an event in one's life. Many horns were made and decorated while soldiers were in winter camp. The artwork ran from crude to intricate, from folk art to professional art.

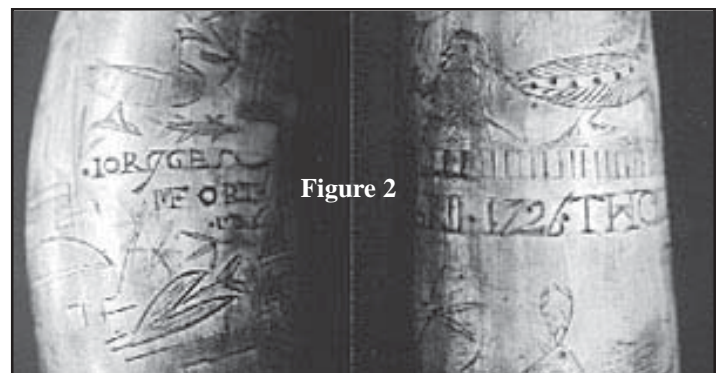
The *earliest dated* American powder horn is sculptured and engraved [**Figure 2** – Colonial Williamsburg Collection]. It is dated **1726** and engraved “**JORGES FORT**” and is believed to be Fort George at the mouth of the James River in Virginia. The horn is decorated with engraved animals, Indians, canoes, flowers, hunters and fish.



**Figure 3**

The James Halstead Powder Horn [**Figure 3**] tells us about the owner, during a period in his life, his mission and other events. Halstead was in the Virginia Militia. He engraved his powder horn, with foliage, rivers, forts, and the towns in New York State, while serving in the French and Indian War in **1756**. It is also inscribed, “**WITH MUSKET TRUE, SAVAGES I SLEW 1756.**”

**Figure 4** is a scrimshawed powder horn dated **1789**, decorated with such designs as a male lion, bear, deer, hunting dog, mountain lion, wolf, flowers and foliage. The inscription reads: “**JOHN WILEY – His powder Horn in The year of 1789 made by Job Tousley.**” The horn was



**Figure 2**

Figure 1



Figure 9



Figure 4



Figure 10



Figure 5



Figure 6



Figure 7



Figure 13



Figure 8



Figure 14







< **Figure 15**



**Figure 16** >



**Figure 17** ^



**Figure 19** >



**Figure 18**

made in the Pennsylvania or Virginia region, as suggested by the overall design.

The early decades of the 19th century were a time of the expansion of American Protestantism. Many of those spreading the word were an educated and cultured clergy who attempted to service numerous congregations throughout a particular region. These men were dubbed “circuit riders” because they rode on horseback throughout an established geographical region, which was called a “circuit.” The powder horn featured here as **Figure 5** was for a pistol Francis Asbury, one of the first Bishops of the Methodist Episcopal Church in America, carried during his circuit travels. Research verifies that the date inscribed on the horn, **May 1, 1790**, signifies Asbury’s first visit to Kentucky.

In early America, equally as important as the weapon itself were the ammunition and accessories. Captain Meriwether Lewis’ original requisition of **1803** called for 15 rifles along with 15 powder horns, 500 rifle flints, 125 musket flints, 200 pounds of gunpowder, and 420 pounds of lead.

The cylindrical canisters of gunpowder they carried on the expedition were each constructed of 8 pounds of lead, and each was filled with 4 pounds of gunpowder. Each canister was then sealed to make it watertight. After the four pounds of powder had been transferred to powder horns,

the remaining 8 pounds of lead of the canister was melted and molded into musket and rifle balls. Packing the gunpowder in the lead containers had been Lewis' idea. By storing the powder in the lead canisters, space was saved, and the gunpowder supply kept dry. Lewis' journal entry on February 1, 1806 reads:

*"...perfectly [sic] as dry as when first put in the canesters [sic], altho 'the whole of it from various accedents [sic] has been for hours under the water...had it not have been for that happy expedient which I devised of securing the powder by means of the lead, we should not have had a single charge of powder at this time. Three of the canesters [sic] which had been accidentally [sic] bruized [sic] and cracked, one which was carelessly stoped [sic], and a fifth that had been penetrated with a nail, were a little damaged; these we gave to the men to make dry; however exclusive of those five we have an abundant stock to last us back...."*

It was further explained that since the canisters were too heavy for a hunter to take hunting, some of the powder was placed in another container, – the **powder horn** which was made from cow horn, or sometimes bison (buffalo) horn. The horn was either attached to a hunting bag or on a strap over the shoulder.

**Horn was not the only material used to make powder horns. Other products were used as well. Wood, metal and glass were used but sparingly, as will be discussed.**

#### Wood and Metal

As indicated, occasionally powder horns were made of wood as shown in **Figure 6**. Because of the difficulty in hand-tooling wood compared to working with animal horn, most powder horns were fashioned out of horn not wood.

Occasionally powder horns were made of various metals (**Figures 7 & 8**). The biggest problem was that some metals oxidize (rust). Pioneers used metal powder flasks (**Figure 9**) to contain gunpowder in the same way they used powder horns. Metal powder flasks are a large focus of those interested in black-powder weaponry and are widely collected.

There seems to have been less soldier-engraved powder horns in the War of 1812, and by the Civil War, they were few and far between having been replaced by the

metal powder horn (flask).

Brass was the favored metal container for powder; it does not rust or create sparks as most other metals do. Less danger of igniting the black powder would explain the many flasks extant today. Such brass powder containers came in various sizes. The smallest were used to charge (load) pistols (**Figure 10**).

[ Occasionally one comes across a powder flask made of glass. One such specimen is shown here as **Figure 14**. This example is mold-blown and features an embossed quail in some bushes. The embossed images are faint but close inspection shows them clearly. The container is slightly purple indicating the presence of manganese in the glass. Manganese was used to decolorize in the late 19<sup>th</sup> and early 20<sup>th</sup> centuries. Exposure to the ultra-violet rays of the sun would turn such decolorized glass varying shades of purple.]

**QUESTIONS #1: The important questions to be asked about glass are (a) whether or not glass powder horns were ever made commercially in quantity for actual use in the field or (b) were they used as decorative novelty pieces – glasshouse "whimsies"?**

**As will be shown, the answers are not clear and may not be until more in-depth research is conducted.**

**QUESTION #2: Another logical question about glass powder horns is one regarding the safety of carrying black powder in a glass container.**

#### Glass

According to the McKearins (see bibliography), *"...bottles in the form of a powder horn seem to have been another expression of individual technique seldom found today."* An example of such a glass powder horn is shown in **Figure 11**. This rare example was probably made either at the Pitkin Glass Works [1783-1830] or at Coventry [1813-1848], both in Connecticut. *"The ribbed design, like that of many half pint Pitkin flasks, was obtained in a pint-size mold used in patterning the flasks."*

Still another rare glass powder horn is shown here as **Figure 12**. Again, according to the McKearins:

*"Another exceedingly rare example...is of dark olive-amber (black glass) with superimposed and tooled decoration of the lily-pad type. The bottle was undoubtedly blown in a New York State glass house, and judging from the locality in which it was found was probably made either at the Mount Vernon Glass Works, or at Oscar Granger's glass house known as the Saratoga 'Mountain' near Mount Pleasant" [1840s].*

Writer Jane Shadel Spillman (see 1983 book reference in the bibliography) offers further proof that glass powder horns, while not common, were actually used more than current collector-historians thought:

*"Although glass seems an unlikely container for as vital a substance as gunpowder, the use of glass powderhorns is well documented in several paintings from the 1840-60 period in New York [italics and bold*

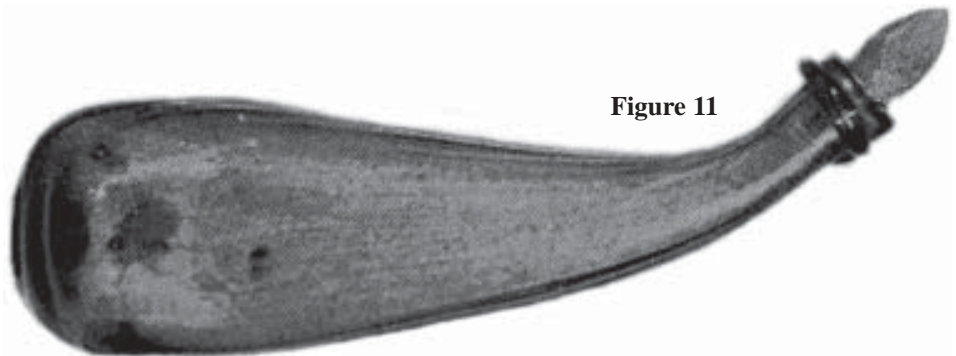


Figure 11



Figure 12



added]. *They show hunters with glass powder horns hung over their shoulders on leather straps. It seems likely that glass horns were used in New England, Pennsylvania and on the Western Frontier.*"

Personal correspondence (January 2, 2004 – see bibliography), retracts the above claim:

*"I think that I misspoke when I said in the Knopf book that there were 'several' paintings showing hunters with glass powder horns, because the only one I've ever found is the one you mentioned [Millard Powers Fillmore painting by Nelson Cook – see below]."*

(Spillman further speculates in her 1983 book that in some cases a leather covering might have been used to protect the fragile glass but she maintains that no examples are known to have survived. It is likely that Ms. Spillman was correct – although water canteens from WWI were definitely covered in thick leather with a bottle-green glass insert.)

Thanks to Michael Ryan of the Toledo Museum of Art, we know of a full-length (79" x 56") portrait of Millard Powers Fillmore (President Millard Fillmore's son) painted by artist Nelson Cook circa 1855 (**Figures 18-19**) was found. The portrait is described, in part, by its owners, the Genesee Country Village and Museum in Mumford, New York, as:

*"An early instance of an American depicted as a sportsman, versus a 'pioneer' [mountain man]: Standing, Fillmore wears a green and gray plaid jacket, white shirt and tie, black pants, holds a straw hat, and leans on a double-barreled percussion cap shotgun; his powder horn is of a glass made in western New York, [italics and bold added] and he has a leather holder for two different kinds of shot; a dog lies beside him...."*

In the Glass Club Bulletin, No. 40, 1956 (see bibliography) it is stated that:

*"Powder horns were first made in the Pittsburg area in clear or green glass for practical purposes. Later, looping of colors was used, often red, white and blue. These horns, when not in use, were often hung on the wall as decoration. By setting the horns on a base, a mantle ornament was produced, thus demonstrating how an object of every day use [all italics and bold added] became an item of decoration."*

Joseph G. Bilby, highly regarded expert

and author of books on firearms (see bibliography) wrote in answer to a question about the possibility of mass produced glass powder horns:

*"I cannot ever recall a case of coming across a reference to a glass powder container used in the field. Actually, by the time of the French & Indian War, and certainly the Revolution, all regular forces in the field were equipped with cartridge boxes and used paper cartridges for loading and firing muskets. Horns remained in use among militiamen, who also used them for civilian hunting with their personal arms, or military riflemen, who had arms that were non-standard in caliber and charge weight."*

*"By the early 19<sup>th</sup> century horns were pretty much totally absent from the military scene, save for some used to prime artillery, which is why, as you note, there are few engraved horns from the war of 1812 era and none from the Civil War. Although copper powder flasks were still widely used for sporting arms in 1861, all military guns were loaded by the use of paper cartridges."*

*"I think you might find that nay glass powder flasks might have been used by civilian target shooters in settled areas, like New York and New England, in the 1820-1870 period."*

**ANSWER #1: There seems to be no known evidence that glass powder horns were mass produced for commercial purposes. However, there is evidence that glass powder horns were produced as a result of special orders or as glasshouse whimsies.**

In 1926 according to Mary Herrod Northend (see bibliography), no outline of the glass industry as carried on in our country would be complete without mention of the miscellaneous pieces. She was not referring to the worthless odds and ends found in all glasshouses. She was referring to many of the pieces that were the result of individual initiative.

*"It was common practice in the old glasshouses to allow the workers to use up the metal [glass] that was left over after the regular work for the day or the week was completed...It is certain that many of the little novelties that ornament our cabinets and writing desks owe their existence to this state of affairs. Some of them were made as*

*special orders and sold for small sums by ambitious workers who wanted to earn a little money 'on the side.' Some were made for family use in the worker's own home; and some no doubt came into being merely through the urge to create that animates every one who has the smallest gift in any of the arts."*

*"Among the novelties that add variety to a miscellaneous collection of old glass are novelties in the form of darners, rolling pins, small hats designed for the holding of tapers, door stops in the form of turtles, dogs, cats, paper weights, powder horns [all italics and bold added], candy canes, chains of glass, witch balls...."*

Personal correspondence from glass expert Jane Shadel Spillman (January 2, 2004 – see bibliography), speaks very specifically to the question of whether or not there ever was commercial production of glass powder horns:

*"I've never seen powder horns in any glass factory catalog and I've examined a lot of those so I think that they were definitely not production items, but were individually made, perhaps to order."*

According writer Dale Murschell (see bibliography for two references),

*"The flat glass pocket horns of the 18<sup>th</sup> century were probably used to carry powder. There are also indications of 19<sup>th</sup> century use of glass powder horns. Supposedly, Jared Spencer had a glass powder flask made in Manchester, Connecticut. There also exists a picture of a horseman with a glass horn hanging around his neck. [This has not yet been verified by the author of this article – the search continues.] As the 19<sup>th</sup> century progressed, there were additional aqua horns made in South Jersey and amber horns made in New England. Most of these were rather plain, while others had some outside decoration like threads, chains or seven lily pad designs. The fact that some of these regular size glass powder horns, with minimal decoration, were actually used is evident from the black powder stains still remaining inside some examples. [Under scoring added.]"*

**ANSWER #2:** Are glass powder horns dangerous? Black-powder aficionado, Robert Merada (see bibliography), speaking of leather-covered glass flasks, speculates *"...the glass and fur most likely can*

develop static electricity. This might ignite the powder. Or glass working as a magnifying glass could also ignite the powder." He also wonders if the reason that there are only a relatively few glass horns known to exist today has to do with them exploding and injuring the person carrying a glass container of powder.

In a pamphlet warning about the misuse of black powder there is this discussion about static electricity:

*"Remember that it only takes a spark to set off either black powder or Pyrodes (a synthetic version of black powder). That even means static electricity. Care must be taken when transferring powder from one container to another as steel and iron and even plastic and glass can cause sparks and set off the powder. The amount of powder in the average powder horn is more than equal to that of a hand grenade."*

Thanks to Eric Bye I was made aware of an article on the Internet entitled, "Can a static spark set off black powder?" (see bibliography). The treatise is replete with photographs of each of the five steps in an experiment to ignite black powder and other carbon-containing propellants, with static electricity, failed. The anonymous experimenter's explanation of why the sparks wouldn't set off the powder:

*"The answer comes from the fact that black powder, and other carbon-containing propellants, are fair conductors of electricity. When material conducts well, it takes a lot more current to heat it up. This is why the lamp wire stays cool and the filament in your light bulb get white hot. The same current passes through both, but because the light filament has a much higher resistance to the passage of electric current, most of the heat ends up there rather than in the wire. In the experiment, the air has a very high resistance, while the powder conducts fairly well. The passage of the spark heats the air white-hot, but the powder stays cool. A very high-current spark (like lightning!) would, of course, heat everything and cause ignition, but this would take much more current than could be provided from a static-like source."*

Implying actual experience in using a glass powder horn, Scott Grandstaff's research (see bibliography) indicates:

*"In the case of the small glass priming*

*horns (Figure 1) the straps were very short, nestling the horn very high and close to the body – under the arm. The small horns were for the priming powder (finely ground) used in the pan of a flintlock rifle or pistol. While the pan used the finely ground priming powder, the main charge of not-so-finely-ground gunpowder was poured down the barrel."*

### Conclusion

Powder horns of glass were made. Powder horns of glass were used. Powder horns of glass were used to contain black powder. And powder horns of glass were used as decorative items.

They were made well beyond the 19<sup>th</sup> century, where they were a necessary adjunct to weapons that used black powder. 20<sup>th</sup> century glass powder horns were mostly of decorative glass and were used for decorations of one sort or another.

One such horn made of fine crystal by Baccarat is shown here as **Figure 13**. This is almost certainly a decorative item.

Another interesting 20<sup>th</sup> century specimen of a glass horn can be seen as **Figure 15**. It utilizes a screw lid that fits over a ground-off mouth. Perhaps the most unusual feature of the item is that the smaller horn portion has a pressed-glass pattern with a hexagonal knob at the end.

To make the point that powder horns were made of glass well into the 20<sup>th</sup> century, it is worth noting that the famous Avon Perfume Company manufactured two powder horns to contain their perfume. **Figure 16** was issued in 1966 as a Viking powder horn. Another by the perfume manufacturer was made in 1967 [**Figure 17**]. They named it "Western Choice" and as can be seen, the two horn bottles were made to fit into a leather stand that looked like the top of a cow's head with horns. The Avon horn bottles are of poor quality and have little interest in today's collector marketplace. Their mention here is only to show that glass powder horns are still in style.

Finally, it should be noted that 18<sup>th</sup> century **authentic** early glass powder horns, such as those featured in this study as **Figure 18**, are quite rare, unusual and when found can be priced in the hundreds of dollars.

### Bibliography

#### Books:

Blake, Joyce E. & Murschell, Dale. *GLASSHOUSE WHIMSIES – An Enhanced Reference*. Buffalo, New York: Keller Bros. & Miller, 1989.

Innes, Lowell. *Pittsburgh Glass 1797-1891*. Boston: Houghton Mifflin Company, 1976.

McKearin, George S. and McKearin, Helen. *American Glass*. New York: Crown Publishers, Inc., 1941.

Munsey, Cecil. *The Illustrated Guide to COLLECTING BOTTLES*. New York: Hawthorn Books, Inc., 1970.

Munsey, Cecil & Holmberg, Millicent. *Western Collector's Handbook and Price Guide to AVON Bottles*. San Francisco: Western World Publishers, 1969.

Northend, Mary Harrod. *American Glass*. New York, Tudor Publishing Co., 1926.

Spillman, Jane Shadel. *The Knopf Collectors Guides to American Antiques*. Glass, Volume 2, 1983.

#### Periodicals:

Dresslar, Jim. "Engraved Powder Horns As An Art Form," Muzzle Blasts – Official Publication of the National Muzzle Loading Rifle Assn., Vol. 53, No. 8, April 1992.

Eller, Dr. E. R. "Pittsburgh Area Glass Powderhorns," The Glass Club Bulletin, Number 40, June 1956.

Guthman, William. "Powder Horns of the French & Indian War 1755-1763," Antiques Magazine. August 1978.

Heinlin, L. E. "Building A Powder Horn," Muzzle Blasts – Official Publication of the National Muzzle Loading Rifle Assn., Vol. XLVIII, No. 8, April 1987.

Murschell, Dale. "Powder Horns of Glass," Whimsical Notions – Official Publication of The Whimsey Club, Volume 13, Number 2, May 2001.

#### Correspondence from:

Bilby, Joseph G. Author of a number of books on firearms and military history, Newark, New Jersey

Bye, Eric A. Editor of Muzzle Blasts – Official Publication of the National Muzzle Loading Rifle Assn., Friendship, Indiana, November 18, 2003

Grandstaff, Scott – co-founder of *Bottles & Extras Magazine*, Happy Camp, California, October 25, 2003.

Kovel, Terry – co-author of books on antiques and collectibles, Beechwood, Ohio, January 19, 2004.

Luther, Bruce – collector/historian via Scott Grandstaff, Happy Camp, California, circa 1986.

Merada, Robert J. – black powder aficionado/historian, St. Petersburg, Florida, October 20, 2003.

Moller, Gary – National Bottle Museum, Ballston Spa, New York, November 20, 2003.

Murschell, Dale – The Whimsey Club, Springfield, W. Virginia, December 3, 2003.

Roberts, Jill – Curator of Genesee Country Village Museum, Mumford, New York, December 10, 2003.

Ryan, Michael – Toledo Museum of Art, Toledo, Ohio, November 21, 2003.

Spillman, Jane Shadel – Corning Museum of Glass, Corning, New York, January 2, 2004.

Taylor, Gay LeCleire – Museum of American Glass, Wheaton, New Jersey, December 1, 2003.

Thoms, Sabrina – Registrar of Genesee Country Village Museum, Mumford, New York, November 25, 2003.

**Internet:**

Can a Static Spark Set off Black Powder?

<http://www.ctmuzzleloaders.com/mlexperiments/sparks.html>

The Horner – Maker of the American Powder Horn

<http://www.thehorner.com/history/2madeonlocation.asp>

Job Touusley Powder Horn

<http://www.p4a.com/itemsummary/134668.htm>

Millard Powers Fillmore, An American Sportsman (1845-1852)

<http://www.bellsouthpwp.net/n/e/nelsoncook/portraits.html>