The TOOL SHED

NUMBER 164 JUNE 2011

• • • A Journal of Tool Collecting published by CRAFTS of New Jersey • • •

A TRIP TO COLONIAL WILLIAMSBURG

The Largest Living History Museum

By Bob Garay

This past fall I took a short vacation with my wife to Williamsburg. I had been there once before back in 1975, but that was in my pre-tool collecting days. Even so I remembered it as something special with little shops and bustling crowds gathering around activities going on during the day. This time was going to be quite different. Fellow tool collector Hank Allen had given me the name and number of CRAFTS member and former EAIA President Jay Gaynor, who is director of Historic Trades at Williamsburg. I called Jay and he agreed to meet me one day to show me around. We entered Williamsburg along the picturesque Colonial Parkway that was a kaleidoscope of color. We started off in the visitor's center watching an informative movie about the history of Williamsburg, which was a perfect introduction to our visit. We caught the shuttle bus to the town center and started our self guided tour.

The only way to tour Williamsburg is a carriage ride.

We started at the Governor's palace. Williamsburg was the capital of pre-revolution Virginia and the English Governor and his family built this mansion to reflect their English civility here in the primitive Virginia setting. It was a lavish palace where the Governor would entertain important guests. It is outfitted with many actual antique furnishings of the time and had beautiful gardens to stroll around. As you enter the palace the first sight is the arms arrangement in the front hall. The Palace hosted the colony's fashionable society and finest entertainments. The capital of Virginia was moved to Richmond but not before the first two American governors resided in this palace: Patrick Henry and Thomas Jefferson.

After leaving the palace we strolled down the center of town thru the Palace Green. Off this green I saw the Geddy Gunsmith & Foundry shop and stopped in. As I walked in I immediately noticed the large rifling machine in front of us and above it was a rack of beautiful flintlock long guns. It was a small shop with two craftsmen working, demonstrating the craft of gunsmithing. They are surrounded by tools hanging in their racks, on shelves, and from pegs. The craftsmen combined their fabrication talents with a mission to educate

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CRAFTS PICNIC
September 11, 2011 - 9AM
Brady Camp, Pottstown, NJ

NEXT MEETING
November 6, 2011 –1PM
HOST Masonic Lodge, Highbridge, NJ

Please mark your calendar

Collectors of Rare and Familiar Tools Society of New Jersey

President	BOB GARAY, Hopatcong, NJ e-mail, takeadip@optonline.net
Vice President	DON KAHN, Hackensack, NJ
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The purpose of CRAFTS of New Jersey is to encourage interest in early trades and industries, and in the identification, study, preservation and exhibition of tools and implements used and made in New Jersey as an integral part of our heritage.

Membership in CRAFTS is open to anyone who shares the above interests. Annual dues per person or couple are fifteen dollars for the membership year of July 1 through June 30. Membership fees may be sent to: Hank Allen, 524 Harristown Road, glen Rock, NJ 07452 (write check payable to CRAFTS of New Jersey).

CRAFTS of NJ meetings are held at the HOST Masonic Lodge in High Bridge, N.J.

Take 1-78 to Route 31 exit at Clinton. Go north on Route 31, two miles to second traffic light at the High Bridge exit. Turn right and go about half a mile to Dennis Avenue. Turn left, then straight to the Masonic Lodge (on the left).

Tailgate sales in the parking lot begin at 10 A.M., meeting starts at 1 P.M.

THE TOOL SHED
Published four times a year for members of CRAFTS of New Jersey. Editor: Don Kahn, 185 Prospect Avenue, Hackensack, NJ 07601
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Articles, especially about early tools and trades, are encouraged and may be sent to the Editor.

CRAFTS WEBSITE
www.craftsofnj.org
Containing general information about CRAFTS and its activities including: meeting schedules, *Tool Shed* articles, etc.

New Members

John Esposito Jr Mount Bethel, PA
Jake Gardner Carrboro, NC
Robert Gerrits E. Windsor, NJ
Walter Hunter West Windsor, NJ
Joseph Kays Piscataway, NJ
Kevin Matthews Freehold, NJ
Wylie McVay Bloomsbury, NJ
Anton Pecha III Randolph, NJ
Richard Smith Staten Island, NY
Ethan Stemmer Basking Ridge, NJ
Mike Stemple Jasper, MI
George Vasu New fairfield, CT

President's Corner

It has been a really busy spring. It started with the CRAFTS Auction where I set up for tailgating. I have been selling at many events this spring which is a lot of work. But meeting the people interested in old tools is the fun part. I met many CRAFTS members at these events and introduced CRAFTS to many interested collectors. I think it will settle down now for the hot days of summer.

Speaking of the CRAFTS Auction, if you did not attend you missed one of the finest auctions we have had in a long time. It started early with tailgaters spreading all the way to the upper parking lot. When the auction started it was standing room only. Tools sold rapidly and we wrapped-up selling 500 lots by 2:00. As this is an all volunteer event it is amazing how smooth it all runs. This is due in large part to the experience of Steve Zluky and Greg Walsh, our auction managers. Of course the networking and accounting table is run efficiently by James Travis, Dave Nowicki, Hank Allen and Annette Vliet. Organization and timing is important to keep it all running smooth and this is attributed to our tireless group of runners spearheaded by Ed Mudgno and George Duin. There were many more runners who delivered tools without a break and I thank them all. Of course thanks go out to Dennis Auctions and the Oldwick Fire House for hosting us and providing food.

We are now making plans for the CRAFTS picnic Sept.11. We will start with our tail-gate sales offering a wide assortment of antique tools. Dealers come from as far away as Maine to sell, so stop by early for some great deals. We are also planning on having a historical trade demonstration like last years Cobbler presentation. This will be a spot of interest to break up the tool hunting. Think about setting up a display inside, as this is a great way to let others see what great tools you have. These displays can range from one tool to fifty tools. We have displays of the "Most Beautiful Tool", the "Ugliest Tool", the "Most Unusual Tool" and the "Make Do" Tool or "Repair" Of course the "Whatsit" table offers a lot of fun at the end of the meeting. It is your participation at this event that makes it a good picnic with friends, so participate. You will be receiving the picnic flyer this summer.

Stew May is gearing up for our membership renewal drive the end of this month. You will receive a mailing and your quick payment is appreciated. The $15 membership fee is a great deal and we work hard to keep this membership fee low. It has not gone up in the fifteen years I have been a member! A great idea is to buy a second membership for a friend or relative as a gift. It is something they will appreciate and then you will have a friend to drive with to our events. As this is a club of friends who are interested in vintage tools your friends quickly become our friends. Especially important is to get younger persons involved, as often they have not been exposed to these tools before. As the world has changed, the schools do not have "Shop" and many homes do not have a "shop" area any more. The days of Grandpa's basement shop are fast disappearing. CRAFTS can be eye opening for younger members who have never seen these vintage tools before.

Enjoy the summer, Bob

Speaker: MARC BENEDICT
Period Shoe Maker

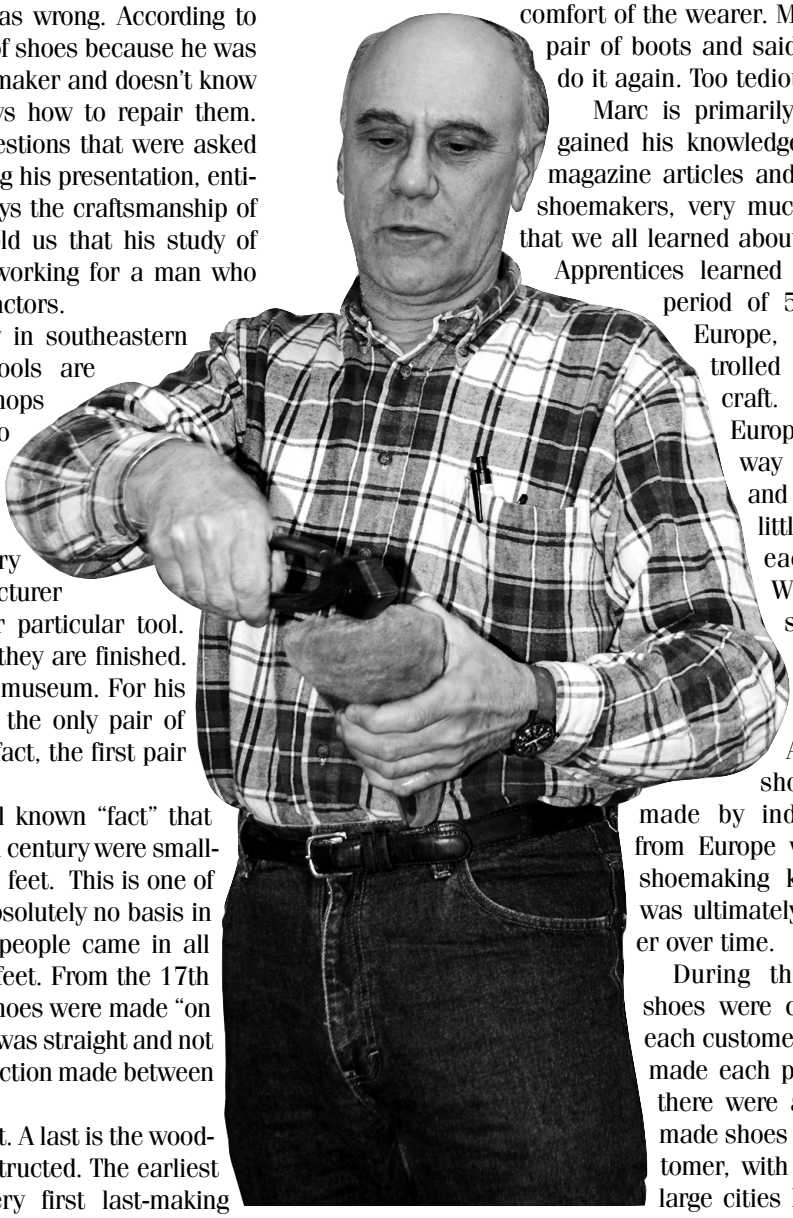
Do you know what a cordwainer is? I didn't either until Marc Benedict began his presentation at our April meeting. A cordwainer is a shoemaker. How about this: I thought a cobbler was a shoemaker but I was wrong. According to Marc, a cobbler can't make a pair of shoes because he was not trained in the craft of the shoemaker and doesn't know how to make them; he only knows how to repair them. These are but two of the many questions that were asked and answered by our speaker during his presentation, entitled Cordwaining 101. Marc portrays the craftsmanship of a 19th century shoemaker and told us that his study of shoemaking began when he was working for a man who was making leather items for reenactors.

Shoemaking has a rich history in southeastern Pennsylvania and shoemaking tools are readily available in the antique shops and flea markets, mostly because no one knows what they are used for. The tools needed to make shoes are very simple but the variety is overwhelming due to an industry where every inventor or manufacturer wanted the patent rights for their particular tool. Marc's pieces are sold as soon as they are finished. He sold his first pair of shoes to a museum. For his presentation he brought with him the only pair of shoes that he had, which were, in fact, the first pair he made for himself.

According to Marc, it is a well known "fact" that people from the 18th and early 19th century were smaller and subsequently had very small feet. This is one of those, so called, "facts" that has absolutely no basis in history. Just as today, back then people came in all shapes and sizes and so did their feet. From the 17th century through the 18th century shoes were made "on the straight", meaning that the last was straight and not curved, because there was no distinction made between the right and left foot.

All shoemaking begins with a last. A last is the wooden form upon which a shoe is constructed. The earliest lasts were hand carved. The very first last-making machines could not make asymmetrical forms. Since the shoemaker did not make his own lasts, when he needed one he went to the last maker, and relied on them to make whatever forms he needed. The shoemaker also did not make the heels for his shoes, that was the job of the heel maker, just as his leather came from the tanner. Each trade had their own secrets of manufacture. But the shoemaker did have the ability to take what items he could not manufacture from other trades and turn them into a pair of shoes.

When asked about making a pair of boots, Marc told us that it is much harder than making a pair of shoes because fitting the calf is extremely critical to the overall comfort of the wearer. Marc once made a pair of boots and said he would never do it again. Too tedious!



Marc is primarily self taught and gained his knowledge through books, magazine articles and talking to other shoemakers, very much the same way that we all learned about collecting tools. Apprentices learned their craft of a period of 5 to 7 years. In Europe, the Guilds controlled the shoemaking craft. Each country in Europe had their own way of making shoes and there was very little variation within each country. Without a Guild system, no one controlled the shoemaking industry in America and shoes were being made by individuals coming from Europe with their varied shoemaking knowledge which was ultimately blended together over time.

During the 18th century shoes were custom made for each customer. The shoemaker made each pair on order and there were almost no ready-made shoes waiting for a customer, with the exception of large cities like Philadelphia,

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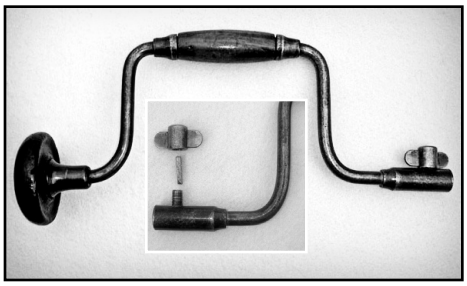
Charles Amidon-Part 2
Off to Buffalo
By Randy Roeder © 2011

Last issue we followed Charles Amidon as he started up a business with Levi Gunn while working at the Greenfield Tool Co. Due chiefly to the Barbers patent brace they did so well they took on capitalists partners and formed the Miller Falls Tool Company. Amidon's profitable Barbers improved patent brace allowed the company to be highly successful. Yet Amidon left this company to start up his own business. By 1876 he had fully exhausted his resources in failed manufacturing ventures. It seemed it was time to move on, as he was an inventive mind he looked to a past business partner for his next undertaking

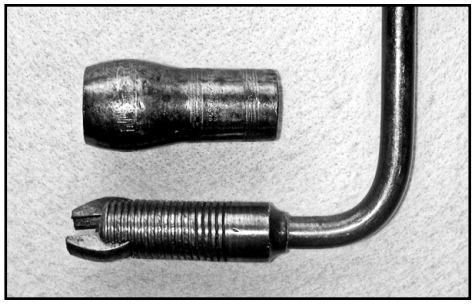
E.R. Saxton had done well since his departure from Gunn, Amidon & Saxton a decade earlier. He had become a partner in the Buffalo Forge Company, a steam forge founded by Henry Childs in 1863 that specialized in the manufacture of axles for rail cars and heavy duty shafting. Interested in the workings of his new hometown, Elijah Saxton became active in Republican Party politics and was elected alderman for Buffalo's Second Ward. His decision to purchase the equipment of the Amidon Bit Brace Co. factory was made with an eye to setting up an operation for the manufacture of small items for the hardware trade in Buffalo. The Greenfield newspaper reported that Saxton intended to manage the operation himself and to take on "an experienced mechanic from the East to oversee the workmen." The article made no mention of a role for Charles Amidon.

Two months after the sale, Charles Amidon assigned half of his patent for a brace wrench to Elijah Saxton. On March

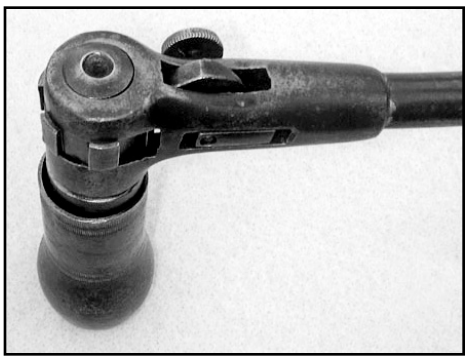


Amidon's 1878 patent thumb screw churck.

19, 1878, he assigned Saxton half interest in a thumb screw bit brace he had developed. The men became partners and set up shop at 31 Lloyd Street in Buffalo. It is not unreasonable to suppose that the interest in the patents formed a substantial part of the bankrupt Amidon's buy in. The relative strength of the men's positions in the firm is evidenced by the name of the enterprise—Saxton & Amidon, rather than Amidon & Saxton. On April 20, 1880, Amidon was issued *United State Letters Patent No. 226,646* for a chuck featuring a pair of short, springless jaws that were designed to be "simple, cheap and durable." The 1880 chuck, inexpensive to manufacture and elegant in its simplicity, would remain in production until the mid-1890s. An 1883 ratchet brace that used a single disk-type pawl to control the direction of the tool's rotation was not as successful. (Comparatively few have survived.) Amidon's partnership with Saxton lasted five years.



Amidon's 1880 patent short jaws chuck brace.



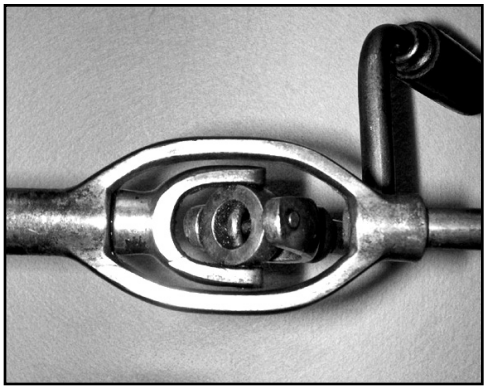
Amidon's 1883 patent disk ratchet brace.

Amidon's 1883 ratchet patent

On August 28, 1883, Charles H. Amidon was awarded *United States Letters Patent No. 283,844* for a ratcheting bit stock with a disk-shaped pawl. Although the use of a beveled edge, disk-type pawl was not new to Amidon's design, his idea was considered novel in that the disk pivots on a center pin held captive by a clevis that slides back and forth within a slot. As the spring-loaded disk is rotated, the angles of its beveled edges control the direction in which the brace's ratchet wheel is allowed to revolve. The similarity of Amidon's idea to an earlier design (Pflegar, 1876) may explain the two and one-half year wait between his application and the award of the patent. It could be that the inventor needed a fair amount of time to convince the Patent Office of the originality of his creation.

In October 1883, Charles Amidon partnered with Ansley D. White to set up a factory at 135 Main Street in Buffalo. The Amidon & White shop initially occupied two floors of the building with each floor measuring thirty-five by 150 feet. Once up and running, the operation employed forty to fifty workers who collectively earned anywhere from $300 to $350 each week and who manufactured $100,000 worth of goods per year. Since Amidon had retained the rights to his post-1877 braces, the operation sold a spring-loaded variation of his 1878 thumb screw bit brace and a series of braces featuring his 1880 chuck. The company named the thumb screw model the Universal Brace, and the 1880 chuck was featured on both ratcheting and non-ratcheting models.

In 1884, Amidon developed and patented a corner brace that would set the standard for the appearance of this type of tool. The basic design of the tool—an L-shaped frame with an angled crank that resembles a standard bit brace—became the predominant pattern for most of the corner braces manufactured in the twentieth century. It was described as "being indispensable to carpenters, bell-hangers and plumbers" and "the only practical tool for boring in corners and close to walls."



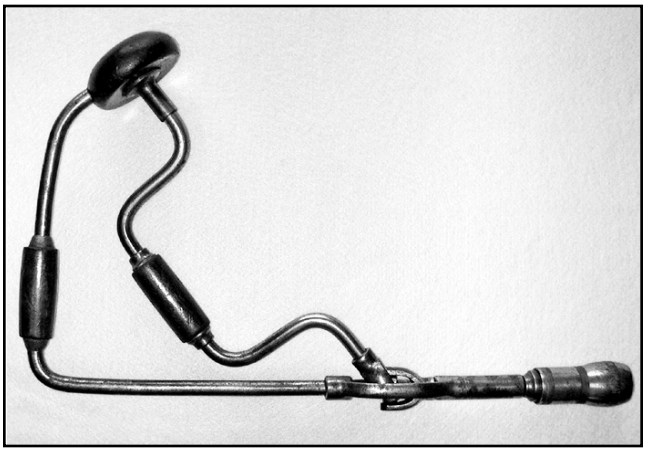
Corner brace unlversal joint.

Amidon's Corner Brace

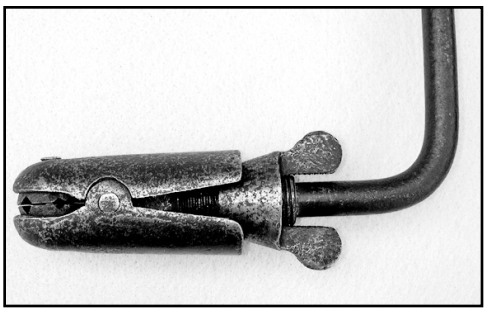
Charles Amidon patented a corner brace while in partnership with Ansley White. The chuck on the example seen above is marked "Amidon's Pat. May 13, 1884. Manufactured by Amidon & White, 135 & 137 Main St. Buffalo, N.Y." Amidon's patent (No. 298,542) made allowances for both universal joint and geared linkages. The brace seen here features a universal joint.

Far less successful was the odd-looking chuck Amidon designed later that year. Featuring oversized wing-type jaws with hemispherical inserts, the tool was clumsy, difficult to adjust and expensive to manufacture. Much was made of its ability to handle bits in a variety of shapes and tapers, but the tool never caught on.

Although Charles Amidon lost the rights to his Barber Improved Brace when he left the Millers Falls Company, nineteenth century attitudes toward deliberately confusing advertising were fairly relaxed, and Amidon & White felt little compunction in marketing a product with the misleading name "Barker Improved Brace." The Barker Improved was offered for at least a half dozen years, and there is no indication that the business was ever enjoined from using the name. At one time or another, Amidon & White marketed a ratchet brace referred to as "The Eclipse", a corner breast drill, and lathe chucks. The partners maintained a sideline in gold, silver, nickel and copper plating.



AMidon's 1884 patent corner brace.



Amidon's 1884 patented wing nut chuck

When Amidon and White parted company in 1887, Ansley White moved on to become active in the American Bit Brace Company. Charles Amidon went into business with Walter Bastedo at 1451 Niagara Street (Amidon & Bastedo 1887-1892). Amidon & Bastedo continued offering the Eclipse model, the Barker Improved Brace, Amidon's the corner brace and braces featuring the 1880 patent chuck. In 1894, Amidon affiliated with Charles Dumont to become part of the Amidon Tool Corporation, a firm that was located at the Niagara Street address. Amidon tool employed twenty-five hands, a number that included five shop boys under the age of sixteen.Although it continued to be listed in various business directories as late as 1901, Amidon Tool was formally dissolved in 1898. The primary focus of these latter businesses involved the fabrication of bit braces, but other products were offered as well. Amidon & Bastedo is on record as providing nickel plating services;

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A Trip to Colonial Williamsburg

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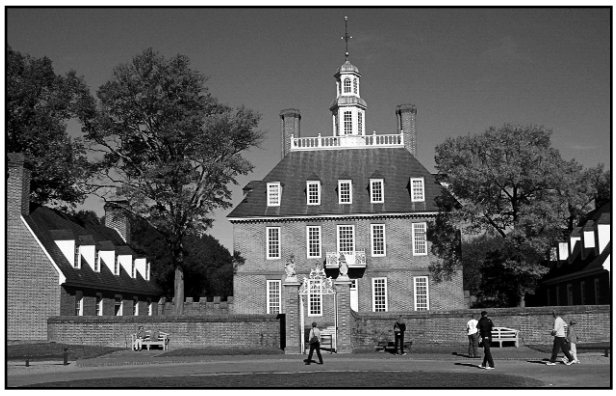
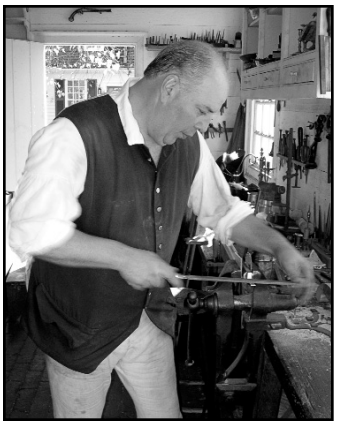
visitors. It was an actual shop setting as it would have been in the 1770's. I was amazed at all the different skills that went into gunsmithing and the primitiveness of what they had to work with. Yet the finished product was a piece of beauty. Making a gun barrel and a flintlock requires the ability to hand forge iron and steel into shape. The pieces of a lock are filed and fitted together then hardened and tempered for wear resistance. The stock is made from maple, walnut or cherry. The same tools any woodworker would use are used to inlay the metal parts into the stock and shape the stock to final size. Firearms are usually decorated with relief carving on the stock and engraving on the metal surfaces. The gunsmith also has to cast metals such as brass, bronze and silver to form the butt plate, trigger guard and side plate. It is amazing to see the technical complexity accomplished by these craftsmen. As the gunsmith explains; "Probably, the most important thing I've learned is that precision work is possible with hand-tool technology. For example, using equipment we have here, I've been able to ream the barrels so their interior diameters differ by only 0.0005 of an inch." The shop also made a boring machine and a rifling machine to groove the barrels to high quality standards. I was very impressed and delighted to handle the rifles.



Williamsburg Governor's Palace.

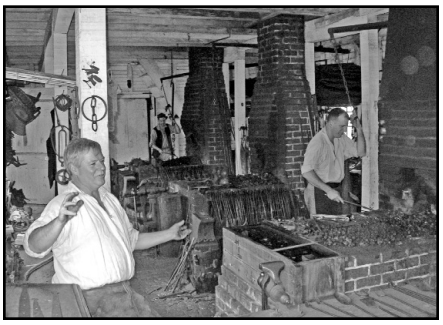


Gunsmith working at vise

Gun barrel showing hand forging

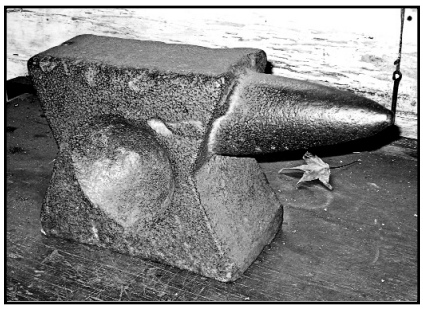
We walked a little further down the Palace Green and we were at the center of Williamsburg's main thoroughfare, Duke of Gloucester Street. As we gazed down its western tree-lined length we could make out the hazy outlines of The College of William and Mary at the far end of the street. Established in 1693 by royal charter, it is America's second oldest college. To the far eastern end of the street is Williamsburg's Capital building. Our next stop was at the Lumber House. It is here that you make a reservation for a carriage ride to tour the town. We also stopped in to meet Jay Gaynor as he was going to take us around to some of the different shops and explain some of the behind the scenes workings of Williamsburg. We were lucky that Jay could spare some time from his busy schedule and both Donna and I came away from the experience with a much deeper appreciation of the work done here due to his kind efforts.

The blacksmith shop is set a little off the main road but I could smell the furnace burning and soon I heard the ringing of the anvil. James Anderson's blacksmith shop had seven forges and was the largest and most successful blacksmith shop in the area. He was appointed the public armorer in 1766 and was responsible for keeping arms at the Powder Magazine repaired, and for the iron work needed by the Continental Army during the American Revolution. Anderson employed journeyman gunsmiths and blacksmiths, and he also employed nail makers and up to 9 apprentices at one time. With 7 fires lit, this was a very busy blacksmith shop. These blacksmiths also made and repaired hinges, household goods, farm implements, tools, and locks.



Blacksmith shop with blacksmiths at forges.

What I learned from Jay is that one of their primary missions is to research and accurately portray the buildings and trade work of the time. Like many of the original buildings in Williamsburg, the original Anderson's blacksmith shop had long since disappeared. Archeologists and architectural historians reconstructed the Anderson shop after studying the excavation of the original workshop site. The Anderson blacksmith shop today at Colonial Williamsburg is a reconstruction of that original shop. After careful study, local craftsmen reconstructed not only the building, but the forges to resemble what actually existed in the original workshop. As I entered the blacksmith shop they had a long

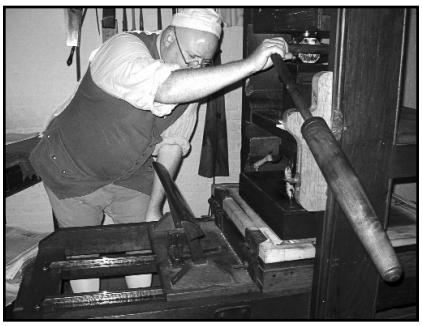


Anvil with ladle mold in side.

Many historical reenactments take place during the day.

counter displaying the different products they manufactured there for visitors to pickup and study. Along the walls there were work benches sitting under large windows supplying plenty of light. In the middle of the shop was the work area with large fire hearths with massive bellows. The anvils are close by with the blacksmith's post vise attached to heavy timbers set deep in the ground for sturdiness. As one of the blacksmiths described the work to the visitors another blacksmith was busy at work making a tool for use at another shop in the village. As I talked to the blacksmiths and took pictures of the shop and tools I realized my wife had left. I went outside to find her sitting under a shade tree on a bench enjoying the beautiful surroundings. I could have stayed at this shop for a couple of more hours but I could see that we needed to move on in our tour.

There are many shops and taverns along this street and it was quite busy. We stopped at the Printing Office & Bindery. It is around the back and in a basement-like room under the post office. This building was the central hub of communication for 18th century Williamsburg. Here tradesmen used hand presses to print copies of Williamsburg's 18th-century newspaper. In 1730, printer and publisher William Parks opened this printing office and his successors maintained the business at this site from 1746 to the spring of 1780. Some of their products included almanacs, acts of the Assembly, handbills, pamphlets, Virginia Gazettes and tickets. As I watched the presentation I thought about how this printing office would play a key role in spreading news and information that influenced the choices Virginians made during the Revolutionary years.



Printer printing handbill on an 18th century press

Duke of Gloucester Street has many fine taverns and as we walked down the street the smells of southern cooking wet my appetite for some lunch. We stopped into the Kings Arms Tavern and got seated right away in a small room upstairs. We enjoyed some southern style soup and sandwiches but for desert the bread pudding was absolutely delicious. As we left the tavern there was a lot of commotion in front of the Tavern. They were saying that Benedict Arnold was coming to speak to the town about the Revolution. We followed the crowd down the street to the Capitol. Here a large group of tourists gathered for a reenactment of the speech of Benedict Arnold, who took over the town of Williamsburg for two days after his betrayal to the Revolution when he joined the British forces. The reenactment was pleasantly realistic and educational. As the audience actually grew hostile to Arnold due to his reputation as a traitor to the American cause for freedom. At Williamsburg it is easy to get caught up in the times of this period.

As we walked back to the center of town there was one shop that was high on my must visit list – Hays Cabinetmaker's shop. Nestled back in a shady quiet area of the town Hays Cabinet shop is a keystone for knowledge and mastery of the cabinetmaker's art, preserving eighteenth-century skills. The shop is filled with workbenches and tools, many that are represented in my antique tool collection. As you enter the shop a cabinetmaker greets you and presents samples of furniture made in the shop. But I wanted to see the shop itself where shavings litter the floor and antique tools hang on the walls. As you enter the shop sunshine streams through large windows as the cabinetmakers are busy working on projects. As I talked to Mack Headley, the shop's master cabinetmaker, I discovered that the tools they were using were reproductions of 18th century tools made here in Williamsburg. Because of the nature of their work they did not want to use actual 18th century tools as they were historically valuable. Thus they studied the tools in their archives and made historically correct copies to use in the shop. It was amazing the fine craftsmanship and detail they produced using these hand tools. As I was allowed to browse the work area I explored the details of a desk they were making and a cabinet maker's tool chest. It was very evident I was in a shop of all master woodworkers. I thought to myself what skill these woodworkers had to not only produce such masterpieces but to also understand and instruct visitors on their historical nature.

Hay's Cabinetmaking workshop with workbench.

Cabinetmaker working on a chair.

Saw made at Williamsburg.

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April 2011 Meeting

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Baltimore and New York where there was an assembly line approach to manufacturing along with an abundance of labor and material to allow a pair of shoes to sit on a rack waiting for a customer to buy them. Itinerant shoemakers went from town to town and farm to farm knocking indiscriminately on doors looking for customers with all of their tools and material strapped to their backs. When someone needed shoes, the shoemaker was invited in and stayed with the customer, eating and sleeping with them, for whatever length of time was required for the shoes to be completed. When finished, the shoemaker was paid, packed up his belongings and moved on to the next town, village, farm, etc. If the population supported it, the customer would come to a central location, probably a shop in which the sales and manufacturing was in the front and the shoemakers living quarters were in the rear. During the 18th and 19th century, it was common for the whole family to be involved in the business, each member making shoe parts, along with an apprentice or two if the business were large enough.

A customer's shoe size was determined by a sizing stick. The length was determined by the length of the customer's foot on the stick. English sizes were fairly standard and were measured to the third of an inch. The English inch was the length of three barley corns laid end to end. A half size was one barley corn long. Women and children's sizes were different from men's sizes. They were always one number lower. None of the early sizing sticks measured width of the foot which was determined by wrapping a piece of paper around the foot and marking or putting notches in it at various points so that the shoemaker could find a last that would fit the customer's size. If he didn't have a last that would fit he had two options. He could carve away some of a larger last or he could add to a smaller last by using pieces of leather. By the middle of the eighteenth century shoe sizes were standardized in America. Anytime you see a last with nail holes on the bottom, you know that shoes were made on it. As a customer, you also had options to get the best shoe possible. Depending on your financial status, you could have a shoe last custom made for yourself by a last maker and then take that last to the shoemaker to have him make a pair of shoes that would fit you. The shoemaker could not possibly be expected have in his possession all of the lasts that were required to fit all of his customers, there were just too many variations. Leather could also be supplied by the customer and along with the last and presented to the shoemaker to guarantee the size and quality of the finished product.

Construction Details:

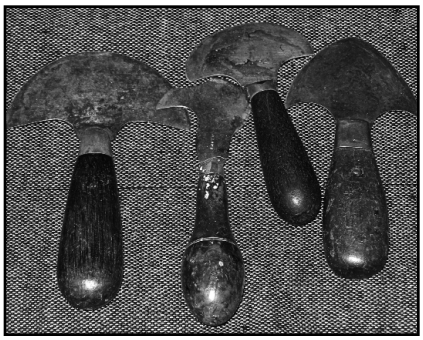
Patterns were necessary for the quarters, the part that covers the heel and for the vamp, the part that covers the top of the toe. The vamp and the quarters, when sewn together create the upper. A heel counter provides extra strength to the heel and the vamp could also have a cap on the inside to give it a little more stiffness and longevity. Sewing is accomplished by using a single thread with a needle on each end and as the needles pass through the same hole an overhand knot is tied. Many times the sewing was done by the women or children of the shoemaker's household or an apprentice. Because leather wants to retain the same shape in which it left the tannery, i.e., flat, a secret elixir is used to make the leather conform to the foot. The secret is water. Water makes the leather very stretchy. Shoemaking is often called the gentle art because it was done quietly. The exception is when it is applied to the last which requires the use of lasting pliers along with a lot of grunting and groaning to pull the leather around the last and nail it down. Once it has

Shoemaker's hammers.

Marc Benedict's toolbox

Silversmiths workstation.

dried the leather will retain the shape of the last and the nails are removed. All of the nails used in a shoe are taken out before completion. Pliers and stabbing awls, along with and a knife and hammer are the only tools necessary, so far. There is now a gap between the upper and the insole that has to be filled. This is done with odd bits of scrap leather.



A few shoemaker's knives.

The next operation is put on the welt. A welt is a piece of leather that runs around the exterior of the shoe to where the heel begins. The shoemaker's problem at this point is: how to take three layers of leather and attach them with one stitch? A welted shoe will have the sole attached to the bottom. If you ever needed to replace the sole you could take it off, leaving the welt which is attached to the upper, keeping the integrity of the shoe intact, making it easy to replace. Without the welt the rigidity of the shoe would be in jeopardy and the shoe could collapse.

When making holes for stitching, a special awl with an S curve is used. During the 18th century, linen thread was used to sew the shoe together. In order for the thread to be forced through the curved holes made by the stitching awl a boar's bristle, with the linen thread attached was just flexible enough to do the job. Needless to say finding boar's bristles today is problematic. Marc was able to find a supply in India but says he doesn't know where to find them when his supply runs out. A shank was an odd piece of sole leather that was laid down at the waist of the shoe for support. The heel is made up of pieces of compressed leather which are stacked and then sewn on.

The 18th century shoe, for the average man in America, was made to be tied on; buckles were for the wealthy and the English aristocracy. The final step was to burnish the bottom of the shoe. A little water to moisten the sole followed by rubbing a hard smooth piece of wood across it does the job. This does nothing for the shoe but gives it a better appearance for the buyer. By the end of the 19th century the art of the shoemaker began to die out because hand work was no longer required to make a shoe, machines had taken over almost all of the handwork.

Marc finished his talk with a terrific question and answer session which included a discussion of the many tools he brought with him; there were at least a hundred spread over three eight foot tables. I think the meeting could have gone on for another hour. Marc's excellent portrayal of the 19th century shoemaker provided us with another view of how things were made prior to the industrial revolution and the age of machines. ■

A Trip to Colonial Williamsburg

Continued from page 7

There were many more shops we visited during our stay at Williamsburg. The Wheelwrights, The Silversmiths, The Cooper, The Basketmakers, The Brickyard, and more. Of course there are also many stores and historical homes to visit and tour as well. I could easily have spent a whole week at the town and I think I still would not have my fill. As I traveled around the town and talked to the craftsmen I realized that they weren't just pretending to work. They were actually making products that were going to be used. The cobbler informed us that the boots he was making would be used by a new employee as part of his costume. All those barrels the cooper was shaping were being used as trashcans on the side of the road. The blacksmith informed us they had an order for 3000 nails to construct a new building in town, which he was making one by one. We talked to a man making shingles from a log. He split the wood into boards with an axe, and then used a froe to split the boards into the proper shape. They were to be used to re-shingle a building in town. Many of these craftsmen have been here for quite a while. The cabinet maker had been here over 25 years. These people had devoted their careers to a particular craft, the way it had been done two hundred years ago. They were not just acting to work, but were really doing the trade to educate the visitor how it was accomplished during these early times in America. As Jay informed us, these are living, practicing experts. Thru their experiences and studies they have a keen understanding of the trades as it was lived in the 18th century. They may not have a background in academic history - most were tradesmen before joining the museum - and part of their duties is to act a roll in a grand play for tourists, but the Colonial Williamsburg tradesmen show that you can in fact practice history. And you can do it well. ■

18th Century braces from the Williamsburg collection.

Silversmiths workstation.

THE RIGHT TOOL IN THE RIGHT CONDITION

Recently I had a request to corroborate on a story of the Apollo 1 Fire with a magazine writer. He was trying to sensationalize the events with some elaborate conspiracy theory. There have been many accounts of this terrifying incident, with some even hinting of a cover-up. But I have never found any of this to be true, and consequently turned him down.

Yes, I was deeply involved with the aftermath of the Fire, as I was called to Cape Canaveral (now The Kennedy Space Center) immediately after it happened. I was Division Manager for the Hermetic Switch Division of Edison Industries. We made the hermetic switches for the Apollo Command Module and the Lunar Module. Only a few hours after the smoke cleared, one of our switches was a suspect for the cause of the fire!

The details of my stay at Canaveral do not apply to this column. However, the details of the Fire itself are available in the Congressional Record, and there is one part of this Record that I feel DOES apply to Kean Kuttins: **Having the right tool in the right condition**. If the technicians on Level 8 of the Apollo 1 gantry had the proper wrenches and gas masks, they would have gotten the hatch open much faster.

Here is the story — as told to me at Canaveral, and later published in the Congressional Record:

When the previous Mercury capsule (with Gus Grissom) landed in the ocean, the explosive bolts on the hatch triggered accidentally and the hatch flew off. The capsule filled with water and sank, with Grissom escaping miraculously. But he was blamed for it. Both he and the other astronauts disputed this, and NASA decided that no matter who was at fault it would not happen again. So they redesigned the hatch, removing the explosive bolts and replacing them with a complex set of hatches that required manually spinning off the bolts **from the outside**. A wrench was kept at entry level (Level 8) in the drawer of one of the technicians. Also in that drawer were gas masks in the event that smoke would hinder the removal of the bolts. ———————- So was the plan of mice and men.

When the small handful of technicians at Level 8 knew there was a fire, they immediately went for the wrench. Toxic smoke was pouring out from a seam break in the Command Module, and it was necessary to use gas masks. But when the masks came out of their containers, they fell apart with age and were useless. There was no electric-power wrench on that level. The fire was spewing bits and pieces of red hot material down onto Level 7 and the techs at that level had to run for their lives and could not help their buddies on Level 8.

Although the escape rocket was not armed, the techs at Level 8 didn't know it, and they stayed — even thinking that the **whole thing could explode at any minute**. They worked out a plan for each man to hold his breath and remove a few bolts and then pass the wrench onto another man. What should have taken less than a minute, took almost five minutes. Everyone knew the inevitable.

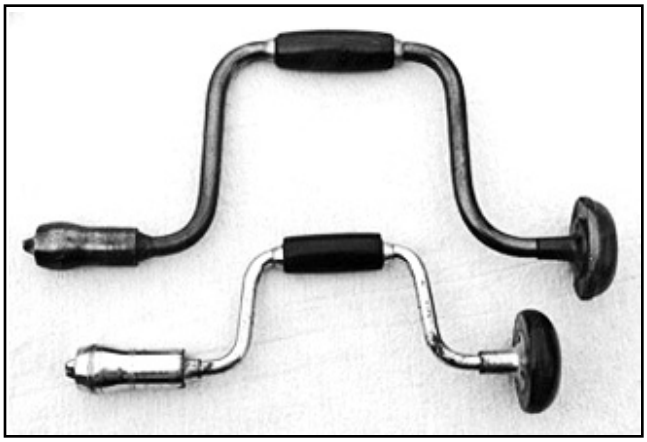
But if the techs were prepared properly, they would have had the right tool. And if they checked on a regular basis, they would have known that the gas masks were faulty. Would it have saved the lives of Grissom, White and Chafee? It was felt NOT, particularly after reading the minute-by-minute account of the toxic smoke that appeared. But it certainly would have been the right thing to do, and should have been a hard-and-fast procedure. There were many monumental corrections in the days following the Fire, but it was never brought out as to the seriousness of the wrench and mask mistake. I suppose that it was just too embarrassing for all concerned.

But as tool people, we should be concerned with the moral of this story: **Whatever you are doing - Have the right tool in the right condition**.

P.S. I am happy to report that Frank Borman (the astronaut in charge of investigating the Fire) gave me my clean release after the third day of accusations. The switch was no longer a suspect. A wrench that was found jammed under the floor boards of the Command Module was ballyhooed as the culprit. It was blamed on a worker at North American Aviation (the prime contractor from California). But the wrench wasn't the cause either, and it wasn't cleared until sometime later. In the meantime, that poor guy from North American must have been on the verge of flying off to some island somewhere — as I felt, during those three days. ■

Charles Amidon-Part 2

Continued from page 3



Charles Amjdon may have had more to do with the overwhelming success of the Barber brace than William H, Barber. In addition to recognizing, along with Gunn, the commercial potential of the brace, Amidon developed a set of jaws far superior to those designed by Barber. It is interesting to note that more Barber braces were sold with Amidon's jaws than were ever equipped with Barber's.

Amidon Tool Corporation manufactured hacksaw frames.

Had Charles Henry Amidon remained with the Millers Falls Mfg. Company, he would have become a wealthy man. It is ironic that the success of the firm was in large part due to the solid foundation provided it by the enormous sales of braces featuring his Barber Improved Chuck. A solid mechanic with at least twenty-two patents to his name, Amidon lacked the temperament to successfully manage his own business or to remain in a partnership for any length of time. Amidon may have been well aware of his shortcomings as a businessman. When asked his occupation by a federal census taker in 1880, Charles Amidon replied with the word "inventor." Amidon died sometime after 1900.

In 1900, a patent for a tire pump was issued to an individual named Charles H. Amidon who resided in Buffalo, New York. The pump is unlike any of the other Amidon designs and may be the work of the other Charles H. Amidon living in the city at the time—a younger man who also worked as a machinist. Charles H. Amidon and Harriet Rounds parented at least one child. Their son, Charles W. Amidon, was born in Millers Falls in 1872 and died in 1923. He is buried in Forest Hill Cemetery, Fredonia, New York. ■

More information on the history of Charles Amidon and the Millers Falls Company can be found on the outstanding website by Randy Roeder—www.oldtoolheaven.com

Patents by Charles Amidon

Patent Number	Date	Description
14,454	March 18, 1856	co-patentee, with A.C. Hitchcock, of wood chisel
36,761	October 28, 1862	wringing machine
47,079	April 4, 1865	improved wringing machine
50,214	October 3, 1865	bit stock
64,931	May 21, 1867	bit brace
64,932	May 21, 1867	clothes wringer
73,279	January 14, 1868	bit stock
Reissue 4,199	December 13, 1870	assignee, with L.J. Gunn, of A.C. Moore bit stock patent no. 16,931
134,237	December 24, 1872i	mprovement in drills
134,623	January 7, 1873	baby carriage
140,451	July 1, 1873	drill and bit stock
161,086	March 23, 1875	child's carriage
193,632	July 31, 1877	brace wrench, assigned 1/2 interest to Elijah R. Saxton.
201,379	March 19, 1878b	bit brace, assigned 1/2 interest to Elijah R. Saxton.
210,075	November 19, 1878	bit brace
217,672	July 22, 1879	bit brace
226,646	April 20, 1880	bit brace
263,455	August 29, 1882	bit stock
283,844	August 28, 1883	bit stock
298,542	May 13, 1884	corner bit brace
305,263	September 16, 1884	chuck
348,182	August 31, 1886	machine to install heads on bit braces
641,253	January 16, 1900	tire pump—possibly designed by another Charles H. Amidon living in Buffalo at the time

WANTED
Member's email addresses

If you have not been receiving notices from Stew May, and would like to be included, please send your email address to hankallen@verizon.net. Thanks and happy holidays!

The TOOL SHED

CRAFTS of New Jersey
15 N. River Styx Road
Hopatcong, NJ 07452

Upcoming Tool Events

Jul 28-30 - MJD Tools, Open house, listed auction and joint meeting with 4 clubs, AVOCA, New York, Martin Donnelly, 800-869-0695, www.mjdtools.com

JUL 15-17 - Jacktown - Blue Mountain Antique Gas & Steam Engine Association Show - Flea Market. Bangor, PA. www.jacktown.com, 610-588-6900 www.mjd-tools.com

AUG 28 - M-WTCA Area P Meet, M-WTCA, CRAFTS, EAIA, PATINA - All invited. Richard Stark, 717-367-5207 Starkcd@aol.com

Sept 9-10 - Live Free or Die Antique Tool Auction, Holiday Inn, Everett Turnpike, Nashua, New Hampshire Martin Donnelly, 800-869-0695, www.mjdtools.com

Sept 11 - CRAFTS Picnic, Camp Brady, Pottstown, NJ, Bob Garay - takeadip@optonline.net

Sept 21 - Tony Murland Combined General and International Antique Tool Auction, Suffolk, England, Tony Murland, 011-44-1449 722992 - www.antique-tools.co.uk

Sept 24 - 58th David Stanley InternationalL Auction, Hermitage Leisure Centre, Whitwick, Leicestershire, England, David Stanley, 011-44-1530-222320 - www.davidstanley.com

Sept 25 - Western New York Antique Tool Collectors Meet, Holiday Inn, Batavia, New York, Just off the New York State Thruway at Exit 48, Chuck Wirtenson, 315-363-7682, cwirten1@twcny.rr.com

Oct 1 - EAIA Regional Meet, Stones Farm & Home Museum, Muncy, PA. M-WTCA, CRAFTS, EAIA, PATINA - All invited. PAT REHEHAN, 570-435-0993, PRTools@verizon.net

Oct 28-29 - 39th International Antique Tool Auction – Brown Auction Servjces, Radisson Inn, Camp Hill, PA, Clarence Blanchard, 800-248-8114 - ceb@finetoolj.com

Nov 6 - CRAFTS of New Jersey meetingT, Host Masonic Lodge, Highbridge, NJ, Bob Garay, takeadip@optonline.net

Want Ads

WANTED - Member's email addresses. If you have not been receiving notices from Stew May, and would like to be included, please send your email address to hankallen@verizon.net. Thanks and happy holidays!

VINTAGE TOOLS for woodworking, machining, leatherwork and more. See us at New England area tool meets and online at www.TimelessToolsandTreasures.com or write - jane@janebbutler.com.

WANTED- Bell System tools and electrician's pliers. Ted Davidson (609) 731-6915.

NEED HELP disposing of your tools or home items? Entire or partial house clean-outs available. Call Steve Zluky, (908)534-2710.

JIMBODETOOLS.COM - The Largest Antique Tool Website on Earth Buying and Selling Fine Antique Tools Ph: 518-537-8665 email: jim@jimbodetools.com

TOOLS FOR SALE – Stanley planes, patented braces, Disston Saws, and more. Visit my eBay auctions, new tools every week. Bob Garay - eBay seller – TAKEADIP - or visit my website - takeadiptools.com - Email me at takeadip@optonline.net

WANTED - Molding planes made of apple wood. Also better molding planes from Hudson River Valley makers. Joe Hauck - 908-236-2072

FOR SALE - 16" Walker Turner wood/metal bandsaw has 10 to 1 speed box. Needs an overhaul. Joe Hauck 908-236-2072

Next Meeting • November 6, 2011 –1PM • HOST Masonic Lodge • Highbridge, NJ