The TOOLSHED

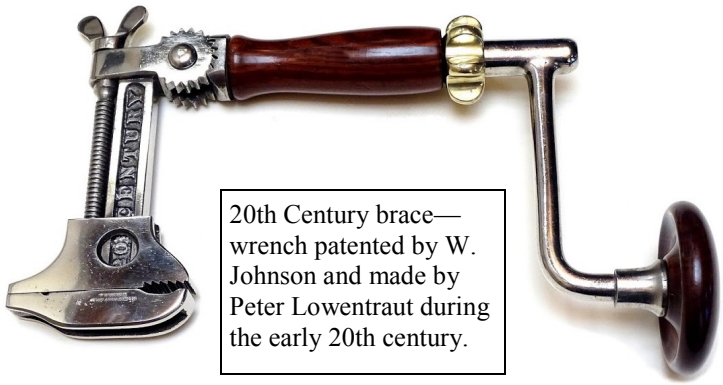
NUMBER 188 JUNE 2017

A Journal of Tool Collecting published by CRAFTS of New Jersey

Peter Lowentraut—New Jersey Tool Maker

By Stan Morgan

Our story begins in Hesse-Darmstadt Germany where Peter, the third of seven children, was born in April 1836 to Peter and Anna M. (Maus) Lowentraut, also natives of the same province. At the age of sixteen years, Peter Lowentraut Sr. entered military service for the next twelve years, eleven months. Some of his exploits included capturing a Richmond flag of the English soldiers in Spain at Fort Master. Another time he captured five enemy soldiers and their flag followed with being presented a Captain's commission signed by Napoleon Bonaparte the next day. Later, he was taken captive in a battle with the Spaniards and held as a prisoner for two years. After being released, he was transferred to the 1st Regiment of Infantry where he remained until the end of the war. Following the end of the war, he was given the position of Harbor Master at Germersheim which he held until his death in 1847.



20th Century brace—wrench patented by W. Johnson and made by Peter Lowentraut during the early 20th century.

In 1849, following Peter Sr.'s death, his oldest son, Frederick W. made derogatory remarks to the Duke of Hesse-Darmstadt while at a party. Soon afterwards, due to this event, the Lowentraut family was obliged to leave Germany. The family landed in America in 1851 on Christmas day in New York. In the years following their arrival in America, Frederick learned the trade of Japanning and in 1854, he and Peter went into business in New York. They operated the business until December 1859 when their shop and machinery were destroyed in a major fire amounting to a loss of $150,000 and putting 200 men out of employment.

On Oct. 6, 1860, Peter became a US citizen and on the naturalization form, Peter's address was listed as 115 Avenue & A, NYC and occupation as a carver. The witness to the naturalization was a Charles T. Linder of 78 Avenue & A, NYC, also a carver. Peter's first child was also born in 1860, William Lowentraut, to his first wife, Maria.

In 1861, Peter's older brother, Frederick and the Lowentraut family moved to Bloomington Illinois hoping to recover from their shattered fortunes. Peter would have his second child, a girl named Caroline before returning east to Newark, NJ by 1864.

Peter's next occupation would be simply listed as Lager Beer, Liquors and Saloon. In the 1870 Census, his occupation is listed as a flour and feed dealer and shows the addition of two more daughters, Bertha, age 6, and Anna age 2. In 1871, Peter's occupation is listed at Peter Lowentraut & Co., owners Peter Lowentraut and John Metzler, flour and feed, 108 Market Street, Newark, NJ, which was also listed as his residence.

In 1872, Peter's occupation for the first time is listed as a "tool maker" at 256 Lawrence Street, Newark, NJ. The location of his business in 1873 and 1874 would be 254 Market Street and then in 1875 he would move to 15 Fair Street, Newark, NJ.

His business would grow until in 1879, his business address was listed as 9 to 17 Fair Street. In 1880, he moved his business to 276 Halsey Street and in the 1880 Census, his son William is listed as a clerk at his factory.

(Continued on pg. 3)

June Issue Contents

Lowentraut - NJ Tool Maker - Stan Morgan ……...…...…...1, 3-5
President's Corner. ...…….…….…….……...2
Eagle Square Co. & Predecessor Square Makers - Ted Hopkins …...6-9
Michael Kneass Unique Plane - Ken Hopfel ……...10
CRAFTS April presentation - Carl Ohlson ..…….…….…11
Want Ads..…….…….……...…….…..……11
Tool Events ……...…….……12

June 4, 2017 CRAFTS Meeting
Masonic Lodge, Highbridge, NJ

Collectors of Rare and Familiar Tools Society
of New Jersey

President……..…..…IVAN RAUPP, Bloomsbury, NJ
email, ivanraupp@aol.com
Vice President……..….JOHN CZEKAJ, Neshanic Station, NJ
Secretary……..….ANNETTE VLIET, Danielsville, PA
Treasurer……..……..HANK ALLEN, Glen Rock, NJ

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: Ivan Raupp, 6 Pine Ct. Bloomsbury, NJ 08804 (write check payable to CRAFTS of New Jersey).

CRAFTS of NJ meetings are held at the HOST Masonic Lodge in High Bridge, NJ. Take I-78 to Route 31 exit at Clinton. Go north on Rte. 31 two miles to second traffic light at the High Bridge exit. Turn right and go about half a mile to Dennis Ave. 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: Bob Garay 15 N. River Styx Rd. Hopatcong, NJ 07843—(973)398-5875 - Articles, especially about early tools and trades, are encouraged and may be sent to the Editor. Email—takeadip@optonline.net

CRAFTS WEBSITE

www.craftsofnj.org

Containing general information about CRAFTS and its activities including: meeting schedules, Tool Shed articles, etc.

NEW MEMBERS

Eric Craig	Princeton, NJ
Sean Crowley	Easton, PA
Scott Curtis	Rutherford, NJ
Phil Dzialo	Maplewood, NJ
James Fromm	Abington, PA
Jean - Louis Granby	Burkingham, PA
Janice Lapkiewicz	Brukingham, PA
John Hemmendinger	Medham, NJ
Steve Kester	Kingston, PA
Liston Morris	Dallas, TX
James O'Brien	Lyndhurst, NJ
Rod Radice	Andover, NJ
Doug Seidenburg	Flagtown, NJ
Andrew Stednitz	Easton, PA
Mark Wallace	Wantage, NJ
Clifford Zink	Princeton, NJ

President's Corner

Happy Summer to all CRAFTS members! The warm temperatures that we wish for during the Winter and early Spring have finally arrived. Fortunately, we got a bit of "old fashioned" Spring this time around with moderate temperatures for a change. I have been enjoying my outdoor time planting my garden, mowing my ever-growing lawn and enjoying a few country auctions.

I would like to extend my thanks to all our fine speakers. We are very fortunate to have very talented and experienced members who are happy to step up and share their knowledge. We strive to provide solid and useful education. If you have topics of interest or would like to make a presentation to CRAFTS please let me know.

CRAFTS directors will meet on June 11th to review the auction results and to plan events for the rest of 2017. We had a terrific auction and we continue to look for ways to do things better. Thanks to all the team who made this critical event the success that it continues to be. There is a lot on our plate this time of year!

It is with sadness and profound respect that I tell you that our Treasurer, Hank Allen, has had to step down as CRAFTS treasurer for health reasons. Hank has set the standard for the fiscal management of CRAFTS for many years. His duties included management of our membership files, welcoming new members, banking, bookkeeping, and tax and financial reporting. His work behind the scenes has positively impacted all of us. I thank him and wish him a steady recovery.

We are facing a major and serious challenge as we consider someone who can take over Hank's responsibilities. We are actively looking for treasury candidates from our membership or responsible parties known to our membership. The ideal background would include book keeping and Excel computing skills. We are fine for now but it is important to have backup, especially in this important process. We will work with you and bring you up to speed gradually. I am inviting all interested members to step forward to help us now.

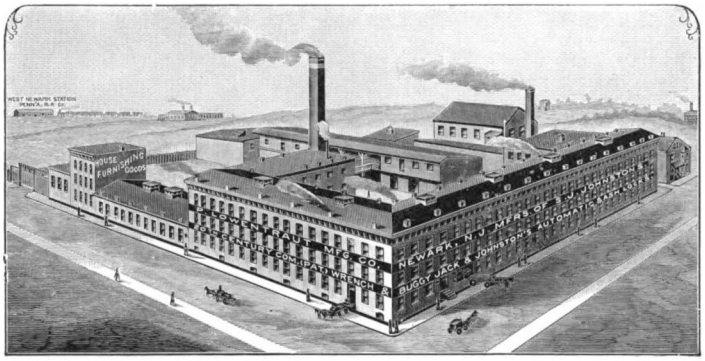
Meantime happy tool collecting! Enjoy the wonderful weather and the wonderful country that we live in! Looking forward to seeing you at our next meeting!

Very best,
Ivan Raupp
President CRAFTS of NJ
Ivanraupp@aol.com

(Cont. from pg. 1)

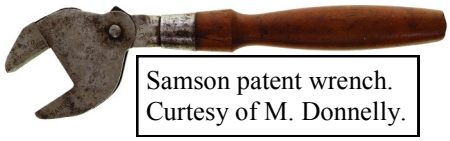
Sometime before 1883, Peter issued a Price List of Hardware, Mechanic's Tools and House Furnishing Goods but there is no address listed. The Price List included dividers, calipers, saw sets, punches, scrapers, hooks, knives, hammers, saws, chisels, washer cutters, pliers, scissors, edge tools, Ritchey and Sons patented padlocks, along with other miscellaneous items.

In April 1883, Peter filed plans with the Department of Buildings for a new factory to be built at the corner of Kent and Brenner Streets. The factory was to be a three story brick building, 200 X 32 feet with a one- story brick and stone extension, 63 x 32 feet. The factory was to be used for the manufacturing of roller skates and hardware.



P. LOWENTRAUT MFG. CO., BRENNER STREET.

In February of 1884, Lowentraut announced the manufacturer of a self-adjusting wrench where the handle was pivoted to one of the jaws and its end was formed with cogs which engaged with the other jaw which was a sliding jaw. When the handle was pivoted, the jaws would close tightly on the nut while turning it to tighten it or loosen it. The U.S. patent, 226,490 issued on April 13, 1880 was preceded by Canadian patent CA-10,613 issued Nov. 5, 1879. The wrench was advertised and sold as Lowentraut's SAMSON self-adjusting wrench.



Samson patent wrench. Curtesy of M. Donnelly.

By the end of 1884, Peter was selling his wares exclusively through the John H. Graham & Co. of New York and would do so for the duration of the company's manufacturing history.

During the 1800s, the popularity of ice skating grew in Europe and skating clubs soon opened in Philadelphia (1861), and New York (1863). Sometime before 1890, Peter would begin to manufacture ice skates which would become one of his core products. In 1891, he was listed in Graham's Price List as producing Columbia, Eureka, "U.S." and "XXX U.S." Club Skate lines. In April 1895, it was announced that a fire had damaged the Lowentraut factory with main concern being the fulfillment of orders for Skates and they assured customers that there would be no delay in filling the orders. By November of 1895, it was announced that they were actually producing more skates than before the fire due to improvements made.

Above - Lowentraut's US Club Skate. Right - Close-up of maker's name and product information.

Peter Lowentraut was issued two patents for skates including 597,992 issued on January 25, 1898, and 789,165 issued on February 26, 1904. An article in the Virginia Enterprise, on January 8, 1897, titled Making Skates, highlighted the process that Lowentraut used to manufacture skates as they were producing 2,500 pairs of skates per day! It is interesting that most of the skates were produced by machines with little to no manual processes needed. The runners were stamped from raw material, three inches wide by twelve to fifteen feet long by a steam hammer. Because steel that is rolled has a grain, the blades were cut with a straight edge and then another thump with the hammer gave them a slight curve. Twenty seconds against a wet grindstone would reduce the raw blades to the right thickness. A few seconds on another grindstone gave the hollow edge and made it sharp. The blades would then be soaked in a bath of hot lead until they were cherry red and then dipped in salt water to keep its temper. After this, emery dust on a hard wheel gave it a polished surface while the more elegant blades were electroplated with nickel and buffed to a brilliant shine.

The article noted that Mr. Lowentraut was the first to find ways of using machinery throughout different stages of the process. Using cookie stamps, steel strips were tuned into foot plates, heel plates, clamps and washers. With the drop of a hammer, flat steel plates are turned into a shoe with two wings that hold the heel, while another stroke cuts out the lever and another binds it into shape. The main screw was produced on a lathe that rounded the ends, ran the threads, cut the neck, shaped the head and then saws the end of the finished screw and began the next one. The small parts were tumbled in revolving barrels to smooth rough edges. Most of the work was done by boys and small parts were accumulated and put together in slack months so that when the busy months came at the beginning of fall, there were enough for 100,000 pairs.

The only hand process done to Lowentraut's skates was to tack the foot plates to the runners because machine-riveted skates had a way of not holding up and would fall apart. After January, the rush was usually over and they went back to making the smaller parts and moved some of the workers to

Continued on pg. 4

(Cont. from pg. 3)

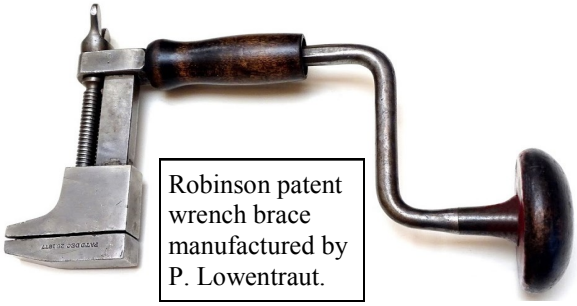
the tool department. It was noted that they continued to make some skates year round.

Another very successful product for Lowentraut was their line of punches for railroad conductors and other similar ticket uses. Their gas line pliers were a top seller and in 1908, seventy-five percent of their workforce was placed on this line. They also produced the Eureka pipe wrench patented by Dwight Morse De Silva, 296,540 issued on April 8, 1884 (Canadian patent CA-20,659 issued Nov. 29, 1884) that had a set screw that adjusted the size range of the opening and cams on the inner end of the handle to provide the final gripping bite.

Lowentraut 10 inch gas and burner pliers, stamped "Forged" with the PL-Diamond logo, and with "Cast Steel" stamped on the lower jaw.

Peter's first patent was for a peg-float, 222,714 issued on Dec. 16, 1879. Peter was also assigned ½ of a patent issued to George F. Hall, 383,808 issues on May 29, 1888 for a rocking chair and also assigned full rights to patent 681,662 issued on Aug. 27, 1901 to William Tomaskoff for a pancake-turner.

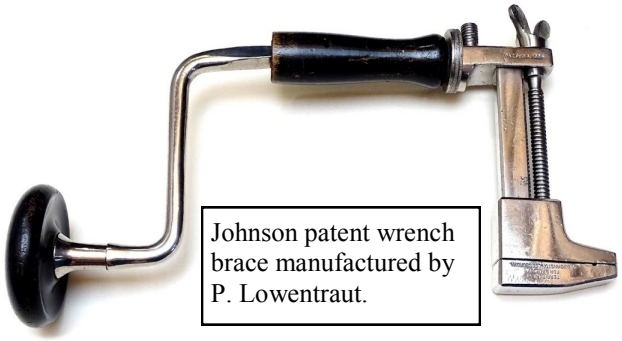
Before 1900, they added combination wrench/bit braces first patented by Sylvanus Robinson, 198,685 issued originally on Dec. 25, 1877. The patented wrench/bit-brace was an improvement on Robinson's previous patent for a wrench, 159,119 issued on January 26, 1875. His claim for this improvement was that the brace-arm attachment to his wrench possessed numerous advantages. It made an adjustable socket-wrench and bit-brace, each



Robinson patent wrench brace manufactured by P. Lowentraut.

changeable into the other; a bit-brace separable into parts, so it would take very little room in packing or carrying. It allowed a person to make a bit-brace of his wrench with jaws opening far enough to grasp any kind of boring-tool and any ordinary-sized nut or bolt. It made a bit-brace that could be instantly separated and used as a hand vise or clamp; and fastened to any table; it makes a convenient bench-vise.

A second combination wrench/bit brace they produced was originally patented by Samuel Johnston, 530,419 issued on Dec. 4, 1894 and he then patented a modified version, 601,302 issued on March 29, 1898. Johnson would further modify his design with patent 674,735 issued on May 21, 1901 which was manufactured with "20th Century" forged into the wrench shank and is commonly called the 20th Century wrench/bit brace. This wrench/bit-brace is a highly sought after collectible as are the other Lowentraut wrench/bit braces. (See front page photo.)



Johnson patent wrench brace manufactured by P. Lowentraut.

In another article in the Aug. 21 1896 issue of The Wheel and Cycling Trade Review, it was noted that Peter used his expertise in designing clamps for ice skates to produce a very reliable clamp for holding wooden bicycle handle bars to the frame which did not require the removal of the hand grips to slide the clip on and only requires one bolt on the underside of the bar. The construction allowed the handlebars to be drawn close so that the gauge of the bar did not need to be anywhere nearly correct and presented a nice appearance. This same design is still in use today.

Along the way, Lowentraut started to mark his tools with a diamond shape with the initials "U.S." in the middle of the diamond and his advertising called out his tools as the "U.S." brand.

Lowentraut "U.S." 5 inch bicycle wrench, stamped with "P.L. Mfg. Co." and "Newark, N.J." inside a diamond, with "Drop Forged" and "Made in U.S.A." around the outside edge of the diamond. The reverse is stamped with "U.S" in a diamond on the fixed jaw (see lower inset).

Above top - is P. Lowentraut Mfg. Co. 18" dividers. Above left shows markings of "U.S." inside a diamond logo and also stamped "Made In America". Above right is markings on smaller 5" leg calipers with P. Lowentraut Mfg. Co. Newark, NJ - also with "U.S. inside diamond logo. These logos and markings indicate his worldwide market for his high quality tools.

In 1887, Peter's nineteen year old daughter, Anna, married a young twenty-one year old man, John Gutman. IN 1894, John Gutman is listed in the Newark city directory as a "tool maker" and his residence was listed as 396 Bergen Street, Newark, the same address listed as Peter's residence. By 1897, John was listed as a "Manager" at 38 Brenner Street, Newark, the location of the P. Lowentraut Mfg. Co. In 1899, P. Lowentraut Mfg. Co. was incorporated by Peter Lowentraut, John Gutman Jr., and Edward J. Schmidt, capital stock $200,000.

In the 1900 Federal Census, Peter is listed as a skate manufacturer and his marital status is single. Other residents listed are Peter's daughter, Helen Lowentraut, age nine, and John and Anna Gutman and their son, William Gutman. John is listed as a superintendent at the skate factory. Later in the year, Peter, age sixty-four years, married a lady named Anna (previous name unknown), age forty-three years.

By 1906, John Gutman, Jr. was listed as the Vice President of the P. Lowentraut Mfg. Co. while Peter was listed as President and Treasurer. The next year, 1907, Peter is listed as the President and Treasurer of an additional company, the Pioneer Strap Mfg. Co. located at the corner of S. 19th Street and 12th Avenue, Newark.

In 1910 at the age of seventy-four, Peter Lowentraut died leaving his business to his wife, Anna. I have not been able to find the exact date of death for Peter but Patent 951,401 for a machine for grinding and polishing ice skate runners, issued on March 8, 1910, was assigned one -half to Anna.

Anna would be listed as the Treasurer of the P. Lowentraut Mfg. Co. for the next four years. In 1914, Anna Lowentraut would incorporate the P. Lowentraut Mfg. Co. for $125,000 along with Frederick J. Greenburg and Theodore J. Woodring. Along with the incorporation came the announcement that they were going to erect a new plant for the manufacturing of skates and hardware. John Gutman is not mentioned in the new corporation but he would pass away on Oct. 21, 1918 which may indicate a medical problem that hindered him from continuing his involvement with the company.

In 1916, Anna is now listed as the Vice-President of the P. Lowentraut Mfg. Co. Theodore J. Woodring is listed as the President and Fredrick J. Greenbury as the Treasurer. The company address remained 36 Brenner St. so the new plant must have been built at the same location the previous plant had existed.

In 1917, The Ice Rink Construction Co. signed a contract with the P. Lowentraut Mfg. Co. to use their "US" Ice Skates exclusively in all of their rinks. At this point, they were manufacturing over forty different styles of skates. In 1918, Lowentraut was awarded a contract by the US Government's Quartermaster Department for hardware.

P. Lowentraut curved box scraper. Inset is makers mark- P. Lowentraut, Newark, NJ.

But in spite of this success, the end was soon to come for Anna and the P. Lowentraut Mfg. Co. The F. D. Kees Mfg. Co. of Beatrice, Nebraska, purchased Lowentraut's manufacturing dies and equipment in 1920 and moved them to Beatrice. They had also purchased the Brown Spring Ice Skate Co. which gave them a substantial variety of patterns.

Also in 1920, the firm of William Johnson, a manufacturer of carpenters', plumbers', and other mechanical tools and hardware purchased the Lowentraut factory, renovated it and added new equipment which gave them more floor space than they had at their previous factory.

And so ended the P. Lowentraut Mfg. Co. after 51 years in business being founded in 1869. Many collectors still prize Lowentraut tools and skates, a reminder of a time when skating was king and craftsmen needed quality tools in the midst of the industrial revolution.

Eagle Square Co. & Predecessor Square Makers

By Ted Hopkins

The Eagle Square Company based in Shaftsbury, Vermont, was a vital part of building America because of the importance of the improved two-foot square in just about every kind of construction in the 19th Century. The markings on the Eagle Square provided a wealth of information used to calculate board feet, forty-five braces, and octagons. The two-foot square was used to lay out stairways and rafters and even such complicated detail work as eyebrow windows and elliptical circles. Fred T. Hodgson wrote a number of books on squares, the first of which was published in 1902. There had been squares in Europe and Belgium for two hundred years before Hodgson's book was published, but they were not, "like the American squares" that we know today.

The two-foot square was the equivalent of a calculator, greatly simplifying woodworking calculations for carpenters. Half a century ago, I remember carpenters still took great pride in their ability to read a square. It was common for them to spend time at lunch teaching each other new tricks on the square.

This article is an overview of the Eagle Square Company and its predecessor square makers (See list at end.) from its founding in the mid-Nineteenth Century until Mr. Wilbur, a Chicago Banker who had a summer home in Manchester, Vermont, bought the controlling stock as a business for his son in 1910. Six years later on April 1, 1916, Wilbur sold Eagle Square to the Stanley Company. The main reason that Stanley wanted Eagle Square was that the company had never had a two-foot framing square in their line. Besides selling the company, Wilbur was awarded the position of Secretary with the Stanley Company in New Briton, CT. He remained the Secretary until his retirement.

South Shaftsbury, Square Capital

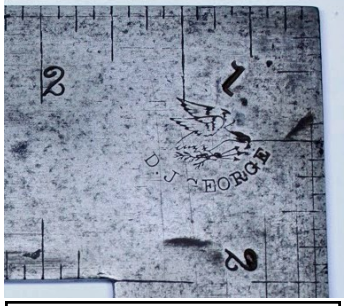
I have been a carpenter for 60 years in Manchester, Vermont, fifteen miles north of Shaftsbury. I never realized there was such a thing as antique tools. To keep me entertained on a flight about thirty years ago, my wife bought me Barlow's Price Guide to Antique Tools. I realized that I had quite a few highly collectible tools in my woodworking shop. That got me motivated to start collecting. Living 15 miles from the Eagle Square plant was a big help. At one time, South Shaftsbury in the southwestern corner of Vermont, in Bennington County was the square capital of the country.

I met many knowledgeable people at the plant and was asked to do a number of demonstrations. At the closing of the Shaftsbury and Pittsfield, Vermont, Stanley plants, I had the opportunity to go and get what I wanted for my collection. An old friend, Ron Cushman, an experienced antique tool dealer, told me I should stay focused. Living close to the Eagle Square Stanley plant, I realized that Stanley Tools would be the way I wanted to go. I did a lot of shows and demonstrations for the Eagle Square Co. and some for Stanley, and now I have a large Eagle Square collection.

The Founders and Key Players of the Eagle Square, Co.

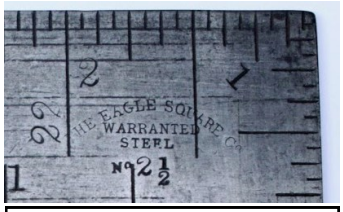
It was said that Silas Hawes, a local area blacksmith, invented the first square when he welded two broken handsaws together in 1819, but that is not a fact of life: squares were being made in Europe as early as the Eighteenth Century. On Silas Hawes' squares can be found the stamp "Hawes Patent." Nobody knows what he actually patented, the reason being that the U.S. Patent Office in Washington, D.C., burned in 1836. He could have reapplied without a problem, but he never chose to, so there is no record of what he actually patented.

Hawes Patent stamp on R.W.Bangs square 1826-33.



D.J.George square with eagle logo - 1833-59

When Silas Hawes started making squares, many people in the area realized the opportunity for employment and began to make squares. (See the attached list below of local manufacturers of squares.) I do not fully understand why so many people made squares in the area. There must have been a reason – either having to do with a market for the squares or the availability of skills to do it. The Shaftsbury area was rural community where people made a living from farming and logging. Square making requires mechanical ability, skills that farmers and loggers would have had.



The Eagle Square Co. hand stamped square 1859-74

In my collection, I have squares crafted by many of the square makers listed in the below list of early local manufacturers of squares. Still others elude me and I have not seen squares made by them.

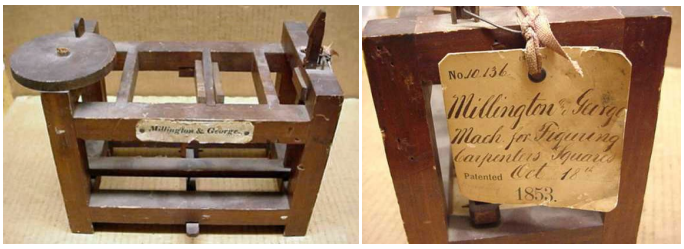
One of the great pleasures of a square collector is the constant search to find that rare square to add to the col-

Eagle Sq. Mfg. Co. board & brace square 1874-1916

lection. One big advantage is living in the area where they were made. The Eagle Square Co. was started in 1817 by the blacksmith Silas Hawes. The other founders were Dennis George and Herman Whipple.

Eagle Square Mfg. Co. A-100 Eagle in circle logo 1874-1916.

In 1850, two people who were involved with the Eagle Square Company, Douglas and Bottom, bought a defunct tannery business on the Roaring Branch River in East Arlington Vermont. Their plan was to start a business called The Square Works and they were set up to make squares. For some reason or other, however, they never made squares. Instead they made chisels. Since then, the area has always been known as Chiselville, about which I hope one day to write an article. In my view, Eagle Square agreed not to make chisels and the Square Works agreed not to make squares.



Millington & George patent model that revolutionized the square industry.

I recently purchased a patent model by Millington and George, who took the model to Washington to get it patented on October 18, 1853. The patent number was #10,136. It was used to regulate the marking system on squares. It brought the dies into proper position to be struck on an anvil with a hammer. The Millington and George invention allowed square makers to mark the squares one inch at a time by striking the die with a hammer with the square on an anvil, always keeping it in the proper position. It sped up the marking process so significantly that it put most of the other square makers out of business. They could not compete by the old method of hand marking and numbering each line individually.

The model I bought is not complete as some parts of it are missing. I hope somebody who reads this article and understands the patent better than I can help me so I can make the missing part of this unique device. This information would enable us to show exactly how it works. In my opinion, this was the most significant patent of the Eagle Square Company.

In 1906 Henry Harris patented the Eagle Square take-down square. One of the major drawbacks to the "two-foot carpenter square" was that it stuck up out of the tool box and was difficult to transport. It was a real problem for city carpenters on buses, subway, trolley cars, and trains to transport their tool box with a two-foot square sticking out of the box. This made a great market for the take-down square. The dove fitted into a keyed dovetail slot with a locking roller-skate type key that locked it into position. Henry Harris came to work for the Eagle Square Company in 1874, at age eighteen, with three years of experience. He patented different types of finishes for the squares and countermeasures. He started work at Eagle Square in the bedstead shop. When the woodworking part of the company closed in 1920, he moved to the square shop. His last twenty-five years he was plant superintendent, master machinist, accomplished blacksmith, and a highly-skilled worker. One of the reasons that Eagle Square remained so successful is the quality of people that worked there.

Eagle Square Factory & Crew1909.

After-Market Squares

Some entrepreneurs bought Eagle Squares and made after-market squares out of them. One example is a take-down square that is very different than most of the take-down squares, which were made in two pieces. This one is folded by pulling up the tongue about a half inch. The square then pivots on a pin and the body folds down. It is very well made and was likely expensive at the time. I do not believe many were made and I have only seen one other than the one in our collection. It was made on with an Eagle Square No. 82. The tip of the body to the folding edge are marked with numbers 1" through 20". These numbers may have been used for quick reference.

On August 16, 1881, Patent No 245844 was issued to Lester Low of Ryegate, Vermont. The application was filed on April 26 of the same year. I believe Mr. Low saw the possibility to improve the square and the opportunity for a profitable business. He realized that by starting with an Eagle square he could make a top-quality tool. We have three of them in our collection: a No. #3, an 8" by 12", and a 16" by 24". In the No. #3, there are notches every quarter of an inch down the total length of the inside of the square. A small diamond hole on the inside of the corner of the tongue is used (I believe) for marking circles. The No. #14 Eagle has the notches at the ¾" mark going down the inside of the tongue for six inches. It is a 16" by 24" square. Unmarked square, 12" by 8", has the notches all the way down the tongue. They are the same notches as on the No. #3 Eagle. The patent drawing shows diamond holes above the ¼" mark. They had three different awls to fit in the notches, or you could use a pencil. The feature would be very handy to make a parallel mark down the side of a timber. Its main function was a quick and accurate way to lay out a mortise. The only drawback that

Continued pg. 8

Continued from pg. 7

I can see is that you could not use the inside of the square to mark, which is the most accurate method of marking. I have never seen any of the three awls. If anyone has one, I would love to hear from you.

The Importance of Highly-Skilled Craftsmanship

Many highly-skilled craftsmen were involved with the Eagle Square company, making it very difficult for others to compete in the manufacture of squares.

On December 31, 1833, Rufus Bangs and S.D. Walbridge patented the construction of rollers for rolling of iron and steel of different materials and different thicknesses and widths to a true taper. Before this, they all had to be pounded out with a hammer and it would not guarantee you a true taper. It was used on the Eagle Squares, making them lighter and easier for a carpenter to carry them under their arm. I have heard some say that it was to save metal, but I have no documentation to prove this. The tapering of the squares continued until aluminum squares went into production.

On April 17, 1849, Jeremiah Essex received Patent No. #6332 for a mechanical graduating machine. He also received numerous other small patents in the improvement of the marking system. Jeremiah Essex also patented the Essex board measure, a method used for scaling the amount of lumber in a log that is still in use today.

Three Robinson ruling devices: No. 1, No. 2, and hand stamped square. Often called "Bridge Squares"

The Robinson Ruling Device was patented on January 8, 1870. Eagle Square is thought to have bought the patent for this unique square. The photo above highlights the design of the square, with top and one side measuring two inches and the other side measuring an inch and a half, which created a U-shaped three-sided square. A wooden bar with clamps across both sides would create the angle for you. They made a No. 1 and a No. 2. The only difference I can see is that the No. 1 is marked off in eighths and the No. 2 is marked off in quarter-inch layout. I have a hand stamped one that has no Eagle Square stamp with a patent date of January 8, 1870. Whether Robinson made it or Eagle Square made it, is a question. The markings do look like the Eagle Square markings. We hope that someone may know whether Robinson ever made any of them or whether it is a patent model They are also called 'bridge squares.' My guess is that some of the covered bridges around here have complicated truss rafter systems, which would make the Robinson Ruling Device ideal for marking angles rather than putting stair guides on a square. I do not believe they made a great deal of them. They are fairly scarce or many have not survived to show up in the antique tool world. They were a specialty item and the average carpenter was happy with a two-foot square and a bevel square.

Mill Work at Eagle Square

In 1860 Eagle Square also had a country store with all the items a typical New England country store would have had: clothing, tools, hardware, household items…and Lovelis Liver Syrup. Further expansion of the company took place on December 31, 1860, when the company bought a bedstead business from Dennis George. Eagle Square also acquired a 2500-acre wood lot in Glastonbury and a second lot, the Hardwood lot. This provided lumber such as maple, oak, basswood, and birch used for boring machine, bases, brush handles, and softwood used in their mill for millwork. They also made silos and all types of woodwork imaginable at that time especially for use in the Shaftsbury area. They made a line of cottage furniture and 30,000 spool beds but none of it was ever marked. You have to find somebody who has handed it down in the family to be sure of the origin. The photo above shows a dresser from the Robert Millington Family, which came to Shaftsbury in 1768. Robert's grandmother's grandmother was the eldest daughter of Stephen Whipple, who was Silas' Hawes business partner. It is one of the very few documented pieces of Eagle Square furniture that I know. The logs for Eagle Square furniture and millwork was logged with horses and oxen. Oxen were slower but more powerful. The millwork part of the business ended in 1920.

Dresser produced by mill work division of Eagle Square Co, courtesy of Robert Millington.

Eagle Square Boring Machines

The original power for the factory came from Parran Creek. Like all other manufacturers in New England, water was the method of powering the plant. On the side of the original plant was written "Squares and Boring Machines." They made two models of boring machines: a fixed-angle of 90-degrees and an adjustable angle one. Most of the boring machines took a ½ - 2" augur bit. We have both in our collection: a Rufus Bangs Eagle tenon square with a one-inch slot in the body – probably the most popular size of tenon. You would sit on the boring machine and crank the handles to advance the augur bit, which was fed into the timber by the boring machine. It would have to be true on the timber to have the mortise at the correct angle. Then you could take the slick to remove the wood in between holes, which was a key factor in building mortise and tenon construction. In my

30 years of looking at boring machines, I have not seen very many Eagles.

I am sure the manufacture of boring machines ceased with the transition of construction from post and beam to stick building and with the electric drill.

Eagle Square Co. boring machine.

Conclusion

A few years ago, I bought a tool chest full of tools at the Martin Donnelly Auction. It belonged to a carpenter from Shaftsbury, Vermont, by the name of F. Eddy, who worked in the 1880s. The chest contained two Eagle Square steel rules – a 12-inch one and a 30-inch one. I had never seen or heard of rules made by Eagle Square before and was sure the two in the chest must have been used for in-house measuring only and have been removed from the Eagle Square Company factory. Knowing that F. Eddy was a Shaftsbury man and how things can disappear from factories, I put two and two together and figured I had the answer. Months later I was looking through some Eagle Square paperwork when I found a price list of Eagle Square rules for sale. I had been mistaken in my thinking and was guilty of giving out false information to tool collectors. It is our obligation as tool collectors to preserve the tools for future generations but also to get the facts straight.

Tool collectors come from all walks of life, but they all have the same passion. Because of their love of tools that built America, they are constantly looking for information on the tools and consequently play an important role in ensuring that history is recorded accurately. Museums cannot do it alone. As this article shows, you do not have to be a great writer to participate. There are always people willing to help with the research and the writing. If you have the passion and have acquired specialized information on tools, please write it down to share with other tool collectors, which will preserve our knowledge for history.

From top to bottom: R. Bangs Tenon Square, Lester Low Notched Carpenter Square, 12" Eagle Square Rule, 30" Eagle Square Rule.

When Mr. Wilbur sold the Eagle Square plant to Stanley he gave all the records to the University of Vermont. Mr. Paul Kababian, who was head librarian for UVM, took good care of them, facilitating the production of A Guide to the Records of The Eagle Square Manufacturing Company at The Bailey/Howe Library, University of Vermont (Mary Gelinas, 1982).

Eagle Squares were a great part of the building history of the U.S. because to do any kind of building you need a square. Living near the Eagle Square factory and knowing many of the people who spent generations there brought the history alive for me, as I hope this article has done for you.

This article is dedicated to my loving wife Lois and all the people who have helped us create the Little Stanley Museum in Vermont. Thanks also to Cristina Mansfield for putting this all together for me.

Resources:

Jim Hayden, The History of Chiselville

Paul Kababian, Early Vermont Square Makers and the Eagle Square Company.

Sue Batchler, "Silas Hawes Early Square Maker," Early American Industries Association, The Chronicle, Vol. 63 No. 4, 160-166b (Dec 10, 2010).

Russ Ellis—photos of squares with early makers marks and Eagle Square Mfg. Co. maker's marks.

Local Manufacturers of Squares (As stamped on squares)

Silas Hawes (patented)	George Hawes
G.P. Hawes	Stephen Whipple
Rufus M. Bangs	Denis J. George
Draper and Corkins	Douglas and Bottom
Cookins and Draper	Whipple and Douglas
Charles Hastings	Norman Millington
Herman Whipple	L. Beach
George Briggs	Milo Pierce
Hawes Loomis and Co.	May and Blackmer

S.A. Whipple (son of Stephen)
Bronson Harmon (B. Harmon Co.)
H and B (Hastings and Bates?)
Jeremiah Essex (J. Essex and J. Essex, father & son)
C.S. Galusha (found with Hawes' name on a square)

Bond
W

Michael Kneass Unique Plow Plane

By Ken Hopfel

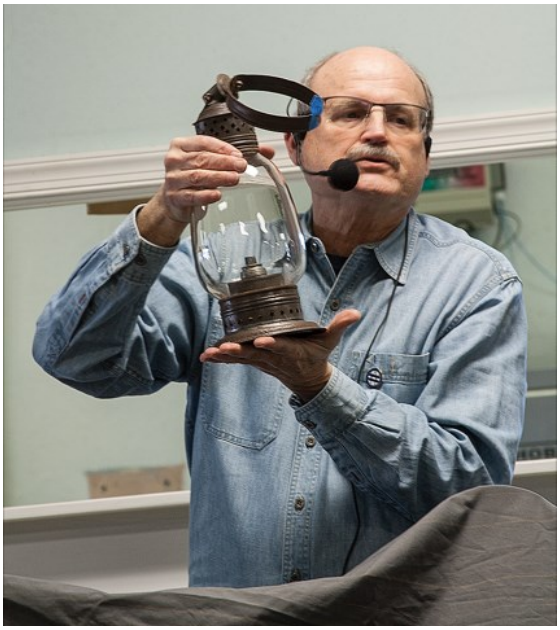
Michael Kneass was the first one in his family to be documented as a planemaker in the city of Philadelphia in 1817. This would be the only time the he would be shown working at Franklin Court. The following year Frederick Kneass would partner with Michael and form KNEASS & Co. Plane and Tool Manufacturing and relocate to South 8th Street. Michael would continue to hold the title of "Planemaker" whereas Fred would be documented as a Plane Manufacturer and cutler. This additional expertise was probably a welcomed asset in their endeavor for they were making wood working planes in a city that had over a dozen other plane makers at the time. This partnership would only last five years before they separated to make planes on their own.

Kneass planes can be found occasionally with a little effort, but it is rewarding to discover any plane that has a unique characteristic.

Above are photos of the Michael Kneass plow plane. It is unique having the brass washer nuts instead of wood. It is wonderful to see the original ink markings on the toe of the plane - "Pannel Plow $9.00"

APRIL CRAFTS PRESENTATION - Railroad Lanterns

Carl Ohlson was a high school teacher for 35 years and has been collecting railroad lanterns for over 30 years. Along the way he developed a keen interest in the origins and evolution of lighting. His presentation included over 16 lanterns from his collection. Carl used a PowerPoint presentation to give an overall look into early railroad lanterns (1832) and changes over the years to around 1880-90. He then used actual early lanterns called "fixed globe" types to explain and illustrate how early glassblowers made free form glass globes ; followed by tin smiths affixing chimneys, bails, and bases. Fuel for these early lanterns was whale oil . Due to the heat from the flame and the properties of glass expansion, these globes were rather large and heavy. Carl pointed out that globes were either cast with the railroads initials or had the initials cut into the globes.



Carl discussing one of his early railroad lanterns at the April CRAFTS meeting.

As time progressed, the whale oil supply diminished and got more expensive, and the demands of railroad usage dictated a change of fuel and design. Hence the development of the removable globe lantern (railroads could now replace cracked globes), and tin frames with wire guards to protect globes from breakage. Carl had many examples of lanterns of this type, where the frames were now marked with the railroads initials as well as the globes. The fuel of choice during this time was "signal oil"...a concoction of animal fats, petroleum oils, flax seed oil, etc. The size of the globes was somewhat reduced due to the lower flame temperature.

In the late 1890s , things in lantern technology began to change. Carl discussed the emergence of borosilicate glass; the conversion of railroad lantern signal oil to kerosene; and the development of tubular lantern frames by Dietz lantern company. He showed us several examples of these early to mid 20th century lanterns. One of the difficulties that confronted railroad signal glass was the development of the color of red glass. He had several examples of different shades of red and actually lit the wicks to show us the variations of shades of red. After the use of selenium in red lenses, along with borosilicate glass (Pyrex), globe sizes shrunk, and tubular lanterns intensified flame brightness so trains would be able to see signals over great distances and have time to come to full stops during emergencies. He had other lantern examples on display, and showed several of them with lighted wicks so we could see the various differences. Upon conclusion of his presentation, Carl stayed to answer and/or discuss lantern questions, etc. All in all it was a very entertaining and informative session. Did you miss Carl's presentation? Shoulda been there! Try not to miss our next one!

WANT ADS

Help With Tool Collections - I can assist you with tool collection. Finding buyers for your tools., total shop cleanouts. Call Bob Garay (973) 398-5875 or email- takeadip@optonline.net.

Authentic Tools for traditional trades – jane@shorthillstudio.com www.TimelessToolsandTreasures.com - 603-588-2603

Need Help disposing of your tools or home items? Entire or partial house clean-outs available. Call Steve Zluky at 908-534-2710.

JIMBODETOOLS.COM – The largest antique tool website on earth buying and selling fine antique tools. Call Jim at 518-537-8665 or email jim@jimbodetools.com.

The Tool Exchange –Australia's home of fine old tools for sale. Our website has over 18,000 photos of tools. We ship to over 30 countries. www.toolexchange.com.au

WV Tools: CRAFTS member and eBay seller concentrating on bitstock tools and more.

Check Out – Tom Lamond's yesteryearstools.com, an internet magazine on hand tools, their makers and their markings.

Wanted - Bell System tools and electrician's pliers. Ted Davidson 609-731-6915

Antique Tool Restoration - John Porritt, Spencertown, NY. 518-392-0603, email - PORRITT3@GMAIL.COM

Whitney House Antiques Tool Shop - Antique & user quality tools for sale - Lafayette Mill Antique Center, Lafayette, NJ - www.whitneyhousetoolshop.com

Wanted - Stanley rules in Very Good to Fine condition: Nos. 4, 14(6", 2f), 59, 70, 76, 77, 78. Stew May, 201-907-0823

The TOOL SHED

CRAFTS of New Jersey
15 N. River Styx Rd.
Hopatcong, NJ 07843

TOOL EVENTS

June 24 - M-WTCA Area P Meet, Adamstown, PA, Members set up free tailgate at Black Angus flea mkt. Come to buy or sell. Don Stark, - Starkcd@aol.com, 717-367-5207.

July 1 - 9– Kutztown Folk Festival, 68th Annual Kutztown Fair Grounds, PA www.kutztownfestival.com

July 14-16 – Jacktown 45TH Annual Antique Gas Engine & Tractor Show, Bangor, PA. www.jacktown.org. Many CRAFTS members set up & sell at this event.

July 20-22 – MJD Tools Open House, Listed Auction, Avoca, NY. Martin Donnelly. www.mjdtools.com, 800-869-0695. It is the "Woodstock" of tool events.

Sep. 10 – Crafts Annual Picnic, The Life Camp, Pottersville, NJ. Ivan Raupp - Ivanraupp@aol.com Members set up & sell for free at tailgating event in AM. Tool displays with antique tools awards for displays.

Sept. 30 – MWTCA Area P Meet. Adamstown, PA Don Starked@aol.com (717)367-5207. Members set up free tailgate at Black Angus flea mkt. Come to buy or sell.

Editors Ramblings

I have a little extra space at this spot so I figured to fill it with some CRAFTS thoughts.

Stew May is gearing up to send out the CRAFTS membership dues renewal mailings. When you get this mailing please consider sending in the $15 yearly dues right away so you don't forget. CRAFTS offers so much and we keep our dues down so many can enjoy our activities at a very affordable cost.

The Picnic is around the corner and a big part of that is the tailgating and displays. It is free for members to set up tailgating and it is a great way to organize your collection and get rid of unwanted tools, offering cash to purchase tools that fit the collection better. Also displays by members are always interesting, and quality antique tools are offered as awards for displays. Usually most displays receive some type of award for their efforts put into presenting a display.

Lastly as editor I have been very lucky to receive many chances to work with members on articles for the tool Shed. I am very grateful to these members for the hard work in offerings great information to CRAFTS members. I look forward to working with more members who have submitted articles for publication. Thanks, Bob