The TOOL SHED
NUMBER 115 FEBRUARY 2001

A Journal of Tool Collecting published by CRAFTS of New Jersey

The Aesthetics of Tools and Tool Walls

by Arnold Goldstein

Last July I decided to set up in the parking lot at Martin Donnelly's first "Live Free or Die" tool auction, which was an exciting event for would-be tool fanatics like me. It reminded me of "a kid in a candy shop" with so many choices, and of "I want it all" (or at least most), except it's expensive if you have an eye for good and rare stuff.

Not unlike many of us who really don't need another tool to admire, fondle, or dust off, when I arrived at the hotel I dashed off to the parking lot and got down to the business at hand before eating or checking in. I scoured the numerous setups to discover treasures. In about five minutes I was totally swept away and found myself with several "have-to-haves" in my truck and without several hundred dollars in my wallet. On the other hand, I did sell several of my favorite tools that I was tired of seeing on my wall or felt that I had to upgrade to ones in better condition, you know what I mean.

The first meal under the wall at the Forge Restaurant in Sundance

After I set up and finished my own feeding frenzy, Hank Allen stopped to look at my personal spread of tools laid out on a fire-engine-red blanket. About one hundred tools and implements were arranged in appealing groupings [see the November *Tool Shed* cover], which highlighted their individual designs and, together, created an aesthetic composition. Hank admired my display and we talked about the aesthetic side of tool collecting and about my experiences creating custom wall installations. Hank suggested that I write an article for the *ToolShed* on the art of displaying tools on walls. I was both flattered and delighted and accepted.

I've been designing and arranging custom walls for several years now and, in fact, have had several magazines feature my personal collection as well as a few custom walls that I've done. *Country Living*, *The New York Times*, and other periodicals have carried articles and photographs of my work, so I suppose I must be doing something right.

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February 4 - CRAFTS Meeting
High Bridge, New Jersey, Masonic Lodge
Using the Stanley Nos. 45 and 55
1 p.m. program by James Travis

CRAFTS of New Jersey

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of New Jersey

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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 the Treasurer: John Whelan, 38 Colony Court, Murray Hill, NJ 07974 (write check payable to Crafts of New Jersey).

CRAFTS of NJ meets at the HOST Masonic Lodge, High Bridge. 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 12 P.M.; meeting starts at 1 P.M.

The TOOL SHED

Published five times a year for members of CRAFTS of New Jersey. Managing Editor: Bob Garay, 147 Dupont Ave, Hopatcong, NJ 07843 takeadip@att.net Production editor: Stuart Shippey, 251 Hillside Ave., Chatham, NJ 07928-1732. Articles, especially about early tools and trades, are encouraged and may be sent to the Managing Editor. Please send legible hand-written or typed text, or a PC disk with *Word Perfect®*, *MS-Word®* or ascii file, FAX: 973 701-2050 or e-mail: stushippey@prodigy.net

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CRAFTS 2001 Calendar of Events

Feb. 4 - CRAFTS meeting, High Bridge, N.J.
April 21 - CRAFTS Auction, Flemington, N.J.
April 22 - CRAFTS meeting, High Bridge, N.J.
June 3 - CRAFTS meeting, High Bridge, N.J.
Sept. 9 - CRAFTS Picnic, Lamington, N.J.

CRAFTS Website

http://craftsofnj.org

Speaker's Profile - James Travis

All-around woodworker James Travis will be our February speaker. He spoke to us in April 1998 about "Bending and Laminating Wood and Fibers Around Curved Surfaces." For some time he was a boatbuilder, starting with a racing trimaran in high school. After high school he worked for a boatbuilder on Cape Cod, and then joined a team in Florida to make a fiberglass catamaran for a trans-Atlantic race. Then off to Wisconsin to make mahogany runabouts for Lake Michigan's wealthy. Next came his move to Peapack, New Jersey, but his occupation had become woodworker. Initially he worked for Frank Klausz.

Now has his own business in Peapack, where he makes and restores cabinetry, fine furniture, and architectural interiors. He has a heavy-duty shaper for making moldings, but often cannot make moldings to match old ones or make some unusual ones that he wants to use on new projects. For these he has turned to the Stanley 45 and 55.

The Stanley 45 is a beading, rabbet, and slitting plane and was made from 1883 to 1962. Models made after 1915 have all of the patented improvements. The Stanley 55, the "Universal Combination Plane," was made from 1897 to 1963. It can do everything the 45 can do, plus make almost any traditional molding.

James uses the two models together, usually the 45 for beads and the 55 for ogees and other moldings. He has never read any instructions, doesn't know the names of many parts, and acknowledges that they are very complicated to use. Nevertheless, he has taught himself how to use them and gets great results from them when needed. He will demonstrate how he uses them at the February 4th meeting.

TOOL SHED Retrospective 2000

The February issue is when we thank the authors who contributed to your enjoyment and enlightenment in 2000. They are: David Englund, Bob Garay, Jay Gaynor, Joe Hauck, Herb Kean, James Laurent, Bill McDougall, Bob Nelson, Bill Pendleton, John Wells, and Karl West. And, thanks to Charlie Flynn for his photographs, and to Russ Ellis, John Gilmore, Ted Hopkins, Bill Phillips, and Roger Phillips for permitting us to photograph their tools. Please take the time to thank them when you see them.

So Long

After six years and 32 issues of the *Tool Shed* behind me, I need a rest and a change, so this is my last issue as editor. Thanks to Stu Shippey for crafting my stuff into presentable form for all 32 issues. Thanks to Joe Hauck for his support. Thanks to all of my friends who have supported me throughout. Finally, good luck to our new editor, Bob Garay. He'll be introduced in the April issue.

Hank Allen

PRESIDENT'S CORNER

The days are colder and the auction yields are few and far between. It seems the days of going to a country auction and finding lots of nice tools are gone. I have found in my discussions that some members are finding some good items at small sales where there may be only a few tools and no other collectors. It takes persistence and time to be successful in such a market. There is one sale however that always has plenty of great tools and that is our annual April auction, which has become one of the best-known sales in the country. The unique and scarce items, along with attendance by some of the most knowledgeable authorities in the country, make it a learning experience that can't be matched. By now your sheets have been turned in and your tools delivered, unless you live a good distance away. The exceptions to the rule, of course, are sparklers, which we do our best to accept whenever they pop up. Greg Welsh, our auction manager, has arranged to have our website updated for the sale. You can help by e-mailing our URL to anyone you think might be interested. Finally, if you know of an antique shop that would allow you to leave some auction flyers where customers could see and take them, that would also be a help. The flyers should be available at the February meeting or we can mail some to you.

This is a good time of the year to revisit some "old friends." What I mean are some of the items we have acquired but haven't looked at for years. Two categories come to mind: the first is books and the second is the "somedays" we have squirreled away. The number of tool books published has blossomed over the last ten years, but without periodically going back and re-reading these books we miss out on a lot of their value. My personal experience has been that I read a book soon after purchasing it and may not look at it again for years, assuming that somehow it has been totally absorbed. At some point I crack one of these classics open and am amazed to find information that either didn't register or was forgotten because it wasn't relevant at the time. To my regret I learn that some things that I passed up, should have bought, or more happily some "puzzler" is solved. As for "somedays," I continue to find these things around the shop and basement. Items I have acquired that needed a little work or investigation, and were put in a safe place only to be forgotten due to a busy schedule or the acquisition of some other tool that was more exciting. Maybe I am just a lot less organized than most. The best way to find these things is to pick a part of the basement or shop and just take everything out of the boxes and bags to consolidate and re-arrange and re-organize things. You might be surprised at what you find. You may even find a sparkler! See you at the February meeting.

Welcome to new members: Larry Kilgore, Juneau, AK; Peter Kessler, Port Clinton, PA; Don & Marjorie Peloubet (rejoined), Lake Hiawatha, NJ; Roger & Eleanore Phillips, LaJolla, CA; Guil Terry, Oneonta, NY; and Garry & Christie Young, Juneau, AK.

Joe

Meet Your Dealers

The purpose of this column is NOT to evaluate dealers, but simply to present useful & interesting information about tool sources.

MECHANICK'S WORKBENCH

In 1993 when I first visited the Mechanick's Workbench, I had never even seen an intact wooden plow plane. Anne & Don Wing, who operate this tool dealership, had at least 15 on display. It blew my mind and hooked me on tool collecting. Since then the Wings, who are residents of Marion, Massachusetts, have introduced me to a host of beautiful tools.

Anne & Don have been in business since 1970, specializing in British (and some continental) tools, 18th century planes, levels from Massachusetts makers, and other high-quality tools, but they have little to offer Stanley enthusiasts. They also deal in old catalogs and ephemera. Between 1977 and 1985 the Wings published *The Mechanick's Workbench*, a combination catalog and research journal, which occasionally turn up at tool auctions in the northeast.

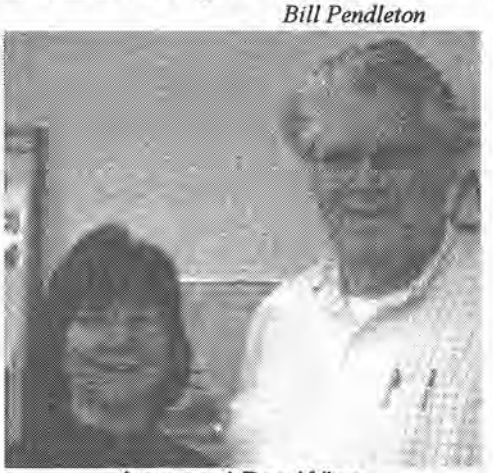
The Wings currently represent David Stanley Auctions in the U.S. and travel to England to attend David's March and Sept. international auctions. They serve as agents here for dispatching tools to England and for bidding on tools for American buyers.

As with many dealers the Wings are, first of all, collectors. At the heart of their collection are 18th century planes, 19th century machinist's tools, pristine Holtzapffel and other English tools, early rules, Stratton and Boston levels, early catalogs, and other paper. Their collecting and research focuses these days on early plane and rule makers. But their collecting interest doesn't end with woodworking tools. Scattered through their large house are old English watches and clocks, 19th century watch-making machinery, and scientific instruments. Don has a special passion - a vintage Jaguar undergoing restoration.

In his spare time, Don is Director of Physical Plant at Tabor Academy in Marion. He is also responsible for a small manufacturing business in Greenfield, which has been in his family since 1882. Anne is a full partner in Mechanick's Workbench and currently serves on the board of EAIA.

To close as I began, on a personal note, I have always found the Wings to be scrupulously honest in their business dealings and extraordinarily generous in sharing information on the tools they offer for sale. The Wings can be reached at 508-748-1680.

Bill Pendleton



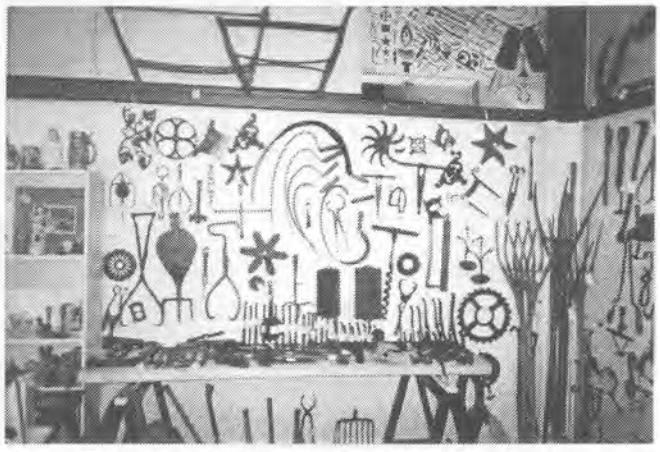
Anne and Don Wing

The Aesthetics of Tools and Tool Walls

by Arnold Goldstein (continued from page 1)

My interest in tools began when I was a child. My dad was a jack of all trades. He'd been working ever since he was eight years old, had little schooling, but had, at least in my eyes, a magic touch. He could fix or make anything from any material using all kinds of tools. I could never get enough of watching wide eyed at how deft he was at making things, taking things apart to see how they were made, and knowing instinctively how to reassemble them. A couple of years after he died young of an accident, I asked my mother what had happened to his great tool boxes that were filled with incredible machine tools, watch-making tools, electronic tools, etc. She had given them away to the apartment super and others, and said she hadn't thought I had any interest in them. Losing those tools destroyed a part of my life, but, in an odd sense, created in me a thirst for the past, which is still a powerful influence to this day. I'm convinced that this has fostered in me a lifelong search and deep appreciation for work done by the hand, and a love for the tools that the hand guides to accomplish what the mind can imagine.

My background in school is architecture, sculpture, and jewelry design. I've used tools all of my life and began collecting them about 18 years ago. Some years back I was teaching sculpture at my studio in New York, which I advertised in *The Village Voice*. I received a call from an elderly gentleman who owned a collection of handmade sculpture tools that he wanted to sell. He claimed that he was one of the sculptors who used to climb ladders and work on scaffolds doing the fancy baroque figures in plaster for ceilings in the old RKO theatres, and for other elaborate, classic moldings in architectural settings. He wanted to sell his tools to a younger artist or sculptor and asked if I'd be interested. I agreed to buy his tools. There were metal tools for trimming and shaping plaster details, a number of riffler files, and several looped tools of varying configurations for modeling figures in clay before castings are made in plaster. He said he would sell the tools to me if I made a solemn promise to him that they not just hang on my wall as artifacts, but that I use them in my work. I left with all the tools and have used them ever since. I think about the work done by this man that I had actually seen, and I think of him whenever I use his tools.



Tools before they were sent to Sundance.

Arnold at work.

Arnold at work.

A few years passed before I seriously began to seek out tools for their own intrinsic beauty. Back in the late1970s and early 1980s I began travelling, frequently by car, showing my sculpture in galleries in the Southwest and Northwest. I was creating sculpture relating to American western and wildlife themes: figures of cowboys, Indians, horses, and buffaloes of one kind or another. They were quite detailed in the style of Remington and Rodin and, yes, my own style.

One trip took me through Fredericksburg, Texas, a short distance west of Austin. I stopped in a shop just outside Fredericksburg that was a World War II Quonset Hut large enough to hold several airplanes or huge amounts of equipment. It was filled with early Conastoga wagons, buggies, tractors, and about every kind of iron, woodworking, and ranching tool you could imagine. I was totally knocked out, breathless, dumbstruck, and speechless and didn't know what to look at, touch, or ask about first. The place was called "ED'S." I spent several hours walking through Ed's maze of neatly laid out items. I walked out leaving $1000 behind and with a third of my Chevy Suburban stacked with tools. I had never seen some of these tools before and could not walk away without them. Many are still hanging on my studio walls. Ed spent a fair amount of time explaining what various tools were used for. I left with an incredible headache and a great thirst to know more. I've been through Fredericksburg a few times since my first trip. Ed is no longer in business and the town is filled with stores catering to tourists, which is sad and unfortunate.

My first tool mentor was, and still is, a man many know as "The Primitive Man," alias Bob Cahn. Bob is the fastest-talking character I've met in years. He can spin a yarn, mostly true, somewhat fictional, but always dramatic and enriching, about a tool he pulls from one of dozens of tightly packed boxes jammed into his bus-like GM motor home. Bob is an amazingly knowledgeable fellow, and I've learned much from him. Needless to say I've also spent lots of money I didn't have to spare on items I never have seen again. He has a natural instinct like no other tool dealer I know for finding the most-unique, primitive-shaped gadgets and tools, most of them signed and dated by the maker. I think he's a one-of-a-kind character you meet once in a lifetime.

Arnold thinking about some sickles.

Arnold at work.

Arnold hanging sickles.

Two other people of special interest, who inspired my early tool collecting, were dairy farmers up in Napanee, Indiana: Freda and Will Anglin of the Wagon Shed. They sold off their dairy cows, got rid of the tractors, cleared out the barns, and, having known Amish farmers all their lives, began a fabulous acquisition period. They gathered incredible farming and ranching tools, cooper's tools, shipbuilding tools, farrier's tools, tannery tools, and tools from about every other trade you can imagine. Mostly they prefer primitives, and what an eye they have. As a result of knowing them I acquired a considerable collection. In 1986, *Country Living* did a double spread about many of my tools from the Anglins.

It was from the tools that I bought from the Wagon Shed that I began creating my own wall display. At one time I had almost 1000 tools hung over every wall in my studio. The layouts were dramatic. Eventually a few friends came by who were building a summer home for a weekend retreat on Long Island. My tool-wall commissions began when they convinced me to select about 50 tools and try to do a few walls in their kitchen and living room areas. The results excited all of us. Several friends of theirs began calling, and so began a series of home installations, mostly with the tools I wanted to sell, or tools I would pick and then find to fit a specific request. Since then I have done walls for collectors, architects, designers, decorators, and offices in addition to homeowners. Most of my custom wall installations have used tools and implements that have very graphic shapes, so what I seek when searching for tools are radical and unique forms and shapes for dramatic effect. My criterion for collecting tools is now that they have to hang on walls.

More tools before going to Sundance

For example, I did a wall where I installed 15 early handforged reaping hoops (sickles), all signed by the makers, in a circular pattern. It created a spiraling, whirling feeling and seems to be in motion, which is visually exciting on a wall. Another wall has 25 double calipers arranged as if they were space ships in flight, punctuated with a series of eel gigs and fishing spearheads, which look like octopus or squidlike forms . Together the wall moves and feels as if it, in itself, is in flight like wild, migrating geese.

One recent wall I completed in March of 1999 was commissioned by actor/writer/director Robert Redford. He owns a mountain in Sundance, Utah, where he has built the world-famous Sundance Resort near the Sundance Film Festival. The resort has three restaurants. One is called the Forge and has old distressed wood beams, wide pine floors, and a rustic open kitchen and hearth. The Redford commission came to me from his daughter, Shauna, who lives in New York with her family. Shauna is a fine artist and painter herself. She also works for the Sundance Catalog, which offers jewelry and home furnishings several times a year through the catalog.

I show my custom silver work at trade shows around the country. My custom buckles, belts, bracelets, neckpieces and other accessories have a vintage look that seems to appeal to people who enjoy catalogs such as Sundance. Shauna has shown my designs in her catalog several times and, as we've gotten to know each other, I've invited her to see my line at my studio in NY. At one point she saw my wall of tools and suggested that the Resort was doing some renovation and that a wall of early tools would be appropriate and exciting. I mentioned having about 400 tools for sale. Shauna asked me to put a hold on the collection until she discussed it with her dad. About a month later I received a call from Brent Beck, Senior VP at Sundance and Redford's right-hand man. Brent said to ship the collection and asked if I would mount a sculptural tool wall for the Forge restaurant as soon as possible. You might say I got a little excited about the sale and commission.

When I got the call to do the installation, several other minor problems had come into the picture. Redford was in New York shooting a film, and the Resort people had to get his approval to clear the wall and paint it a subtle, light, barn-red or brick color. Also, I was initially under the impression that the wall was a clear "Canvas" 40 feet wide by 20 feet high. In fact, horizontal crossbeams of wood could not be removed because without them the wall of wood paneling would collapse. Thus, my display now had to be in 14 rectangular shapes. I had to redesign the wall and, in fact, came up with 14 compositions that created a clock-like wheel of tools all pointing to or surrounding the main entry. I must have climbed several hundred times up and down the ladder, screw gun in hand, over the three days it took to complete the wall.

I actually did not work from a plan but simply began with a couple of shapes and kept fitting other compli-mentary, or opposing, shapes where I felt they best served the overall com-position. It all happened "seat of the pants" in a spontaneous fashion by intuitive hunch. The photos in this article illustrate stages of the installation and show the finished result, which I'm led to understand by Sundance is being very well received. Redford apparently likes it as well. I never did meet him, but perhaps at some point I'll hear it from him directly. One thing for certain, I sure did enjoy doing it and didn't mind selling off 400 tools all at once.

When I search the markets for an old tool for my collection or to find one for a customer, I feel I'm searching the past looking for history that has been lost, or attempting to unearth items that bring back a feeling of purposefulness and meaningful work. They were made by people who made things out of a sense of need, who did it with a sense of pride so things would last, and who felt their work worthy of passing on to the next generation.

I will continue to collect and search for primitive and early tools because I simply can't walk away from finely made objects that speak to my heart and soul. We go through this life one time. I struggle each day trying to earn my keep, one moment at a time, one day at a time. Collecting tools for myself and others is like finding markers of time and place, and finding old friends of the past who help me get through life in the present.

Feel free to let me hear your thoughts. I invite your ideas, letters, and friendship and hope to see you at a tool show where we share in the use and exploration of objects that enrich our daily lives. You can reach me via CRAFTS or the *ToolShed.*

Buyer's Premium Revisited

In the April 1995 T*ool Shed* the Club Philosopher wrote:

"I still wonder what will happen when another respected U.S. auction house unlevels the playing field [on antique tools] and offers their good service AND a 10% less consignor charge by enacting the Buyer's Premium? I guess we'll just have to wait and see."

Now, all major tool auction houses have the buyer's premium, with Brown Auction Service the last to succumb. On November 10, 2000, Clarence and Mickey, pointing out that they had resisted the buyer's premium until they were alone, announced that they would institute one starting with their April 7, 2001 auction in Harrisburg. Their combined fee will not change. The following summarizes their position:

"We all have our days when we fight change, and often that fight is right. For years we have led the fight against the buyer's premium at our auctions. Today, we understand the need to be competitive for consignments and to maintain the highest standard of service. Therefore, with mixed feeling we have accepted the buyer's premium as part of our business for the 21st century."

This leaves only the club auctions without the buyer's premium. CRAFTS, with only a 10% consignor's charge and no buyer's premium (and no plans to ever have one), will now be more competitive for buyers. So, come on out to CRAFTS annual auction on April 21st and stock up on great tools. And, a tip of the hat to the Club Philosopher!

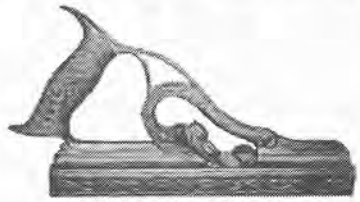
Brown Auction Services

18th DEALER SHOW & INTERNATIONAL ANTIQUE TOOL AUCTION
RADISSON INN CAMP HILL, PA APRIL 6 AND 7, 2001

DAN CONNOLLY AUCTION OF AMERICAN ANTIQUE TOOLS

THE DEALER SALE

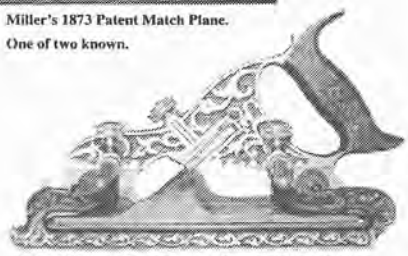
Friday's Dealer Sale offer's you the opportunity to purchase, examine, and observe the finest antique and collectible tools available in one place at one time. Outstanding dealers from the US, Canada and Europe have been invited to assist you with your most sophisticated tool needs. Be prepared to take advantage of their vast store of knowledge and get the first look at this winter's special tool finds.



Miller's 1873 Patent Match Plane.
One of two known.

THE AUCTION

More than 700 lots selected just for The Auction. A few of the highlights: **Millers Patented Planes of 1870, 1872 and 1873, Sandusky Center-Wheel Plow.** Nearly **Complete set of Stanley Planes from 1 to 444. Bed Rocks.** Near mint **Disston 43 Combination Saw.** Patented planes by **Rodier, Morris, Bailey, Evans** and others. **Rules. Levels. Crown Molders** and **American Wooden Planes** by **Nicholson, Sleeper, Spicer, Little** and many others. A large selection of **Complex Molders. Log Rules and Calipers. Plus an outstanding selection of top quality user tools.** The Auction to kick-off 2001.



Stanley Miller's Patent No. 42 Gunmetal Combination Plane with hook. Original box, cutters and 95% finish. One of three known examples and only one in the box.

LARGE ILLUSTRATED CATALOG #18 will mail in late February. All tools fully described and graded with estimates. Prices realized after auction. Many items illustrated in full color. Absentee bidding available. **Catalog $28.00. US and Canada. $32.00US Overseas Airmail.** Or get the April Catalog and the next four issues of *The Fine Tool Journal* at a 10% savings. Only $50.00 in the US, $55.00US in Canada or $70.00US for airmail anywhere else in the world.

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Book Review

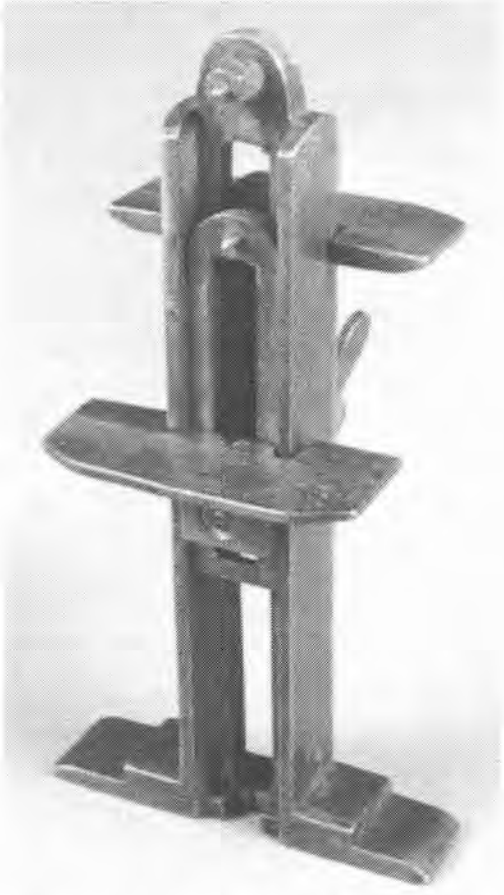
American Marking Gages, Patented and Manufactured
by Milton Bacheller, Jr.

2000, hardcover, 445 pages,
$75 (incl. priority shipping)
Available from the author:
185 South Street, Plainville, MA 02762

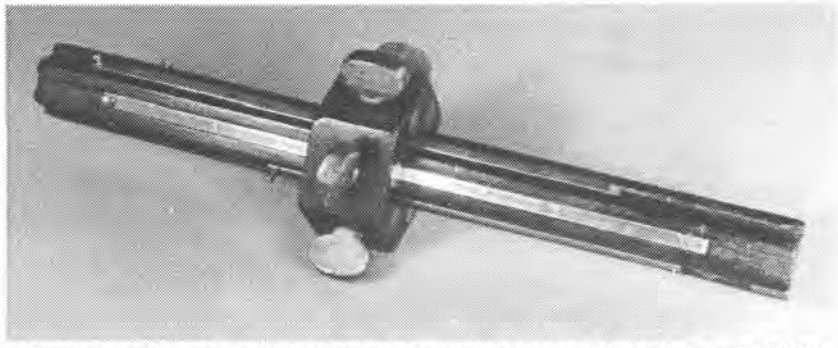
Most New England tool collectors know Milton Bacheller. I've seen him at auctions for years, but had never spoken to him until we talked in Nashua last September. Milt lives near several early centers of American planemaking; Wrentham, Norton, Dedham, Holliston, and Hopkington are all nearby. His first antique tool was a Sheffield brace, which he received as a Christmas gift. But, his initial collecting centered on 18th century wooden planes from the area, including Nicholsons and Chelors. Somehow, around 1990, he became interested in gages and now has 650 in his collection. He's been researching gages and their makers from the beginning, and extensive traveling to the sites of gage patentees and manufacturers has added to his knowledge.

Milt had two decisions to make in preparing his book. First, what gages to include and, second, how to organize the book. In his research he had found 2000 patents for devices that could be considered gages of one kind or another. He has chosen to write about only woodworking tools that have one or more metal points for marking a line on a piece of wood parallel to its edge. Included are marking, mortising, panel, cutting or slitting, and butt or hinge gages. In addition, Milt has added a few personal favorites as exceptions to the rule, such as Nester's patented weatherboard gage.

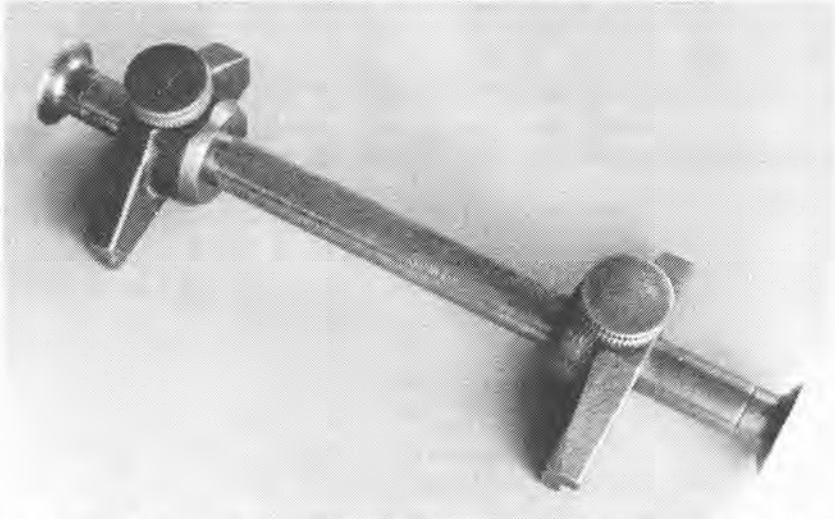
Narrowing the 2000 patents according to his rule reduces the number to 287 gages, although only 76 of these are known to exist. Patented features include the method of locking the fence (or head) on the bar (or stem), the cutting or marking device, multiple bars or fences that allow marking more than one distance without adjusting the gage, marking around curves, and special applications such as for installing hinges. New York leads the states with patents with 32, Massachusetts and Connecticut are tied with 29, and Pennsylvania is fourth with 22. Justus Traut leads the



Sliding adjustable gage, Skinner & Greenhalgh, Patent August 22, 1854



Pentagonal gage with five bars, Brown & Berry, Patent July 7, 1868



Double marking & butt gage, Wilbur Berry, Patent Mar. 6, 1883
Mfg. by Braunsdorf-Mueller Co Elizabeth, NJ

patentees with 8 patents (Stanley has 18 among its employees), Lucius Barrett had four, and Christian Bodmer, also of Stanley, and William Gelbaugh had three each.

How to organize a book on gages? Milt has chosen to have two main sections. The first, "Patented Gages Known to Exist" provides information about the patentees of 55 patented gages in patent date order, supplemented, in some cases, by information about the manufacturer. The second section "Manufactured Gages" provides information in alphabetic order about the manufacturers who put their mark on gages. For the most part this section deals with non-patented gages, many of them made by names familiar to collectors of American wooden planes and other tools. But, also included in this section are 21 patented gages, 18 of them belonging to the Stanley Rule and Level Co. One could argue that all manufacturers should be in this section, rather than divided. However, for the most part there are cross references between the two sections, and using the index, of course, solves any problem of this kind. The space allocated to each patentee or manufacturer is graphically attractive and, as if by magic, almost always fills a complete page or pages.

Patent drawings of the 76 known gages are reproduced in the two sections. For the rest, the patent drawings are in an appendix. And, there are two other appendices, each listing all of the 287 patents, one in patent date order and one in alphabetic order by patentee.

Milt has delved deeply into the history of patentees and manufacturers. To the extent that they made other tools, this information will be of interest to collectors of those tools. For example, he has discovered that the plane imprints attributed to William Ward of New York City and Saddle River, New Jersey, represent a father and son with the son being W.J.C. Ward. This had escaped the experts on wooden planes.

Two patented gages were made in New Jersey. There were eight gages patented in New Jersey, but only one is known to exist, the extremely rare lever-lock gage of Charles Bellamy of Arlington. Another gage, patented by Wilbur Berry of Chicago, was made by the Braunsdorf-Mueller Company of Elizabeth, New Jersey, who made a variety of tools 1888-1927.

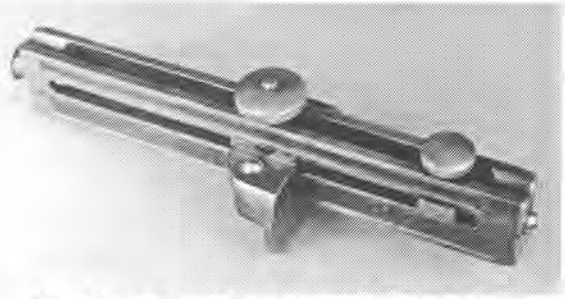
In the "Manufactured Gages" section are over 80 listings. About a dozen are manufacturing companies, of which the Stanley Rule and Level Co. is the featured one. The rest are individual makers, including Johnson, Lyon, Quigley, and Wheatcroft from Newark, New Jersey. Among the individual makers are 18 well-known planemakers, including William Ward of Saddle River, New Jersey and the Pennsylvania makers Auxer, Bibighaus, Carpenter, D. Colton, Parrish, and Stamm.

The information presented about some patentees and manufacturers gets into their personal lives and can be interesting, but probably not to everyone. Two were my favorites. First, the earliest patented marking gage was by James Ballard dated April 18, 1854. It introduced the fence for guiding the gage along the edge of the work and featured friction rollers on the fence that moved along the side and top of the work and also underneath the handled cutter to run on top of the work next to the scribe line. The first Ballard came here from England on the ship Mary & John, which got my attention because my ancestor Samuel Allen came on the same ship. And second, Frank Mossberg was the founder of the Mossberg Wrench Co., which made the Winslow gage. Unknown to me, he was one of America's greatest inventors with over 200 patents. He was pals with Thomas Edison and Henry Ford. Around 1900 he was working on both electric and gasoline engine automobiles at the same time Henry Ford came up with his own gasoline engine model. How different life would be today if Mossberg had succeeded with his electric automobile. Among his patents were the roller bearings for the locks on the Panama Canal.

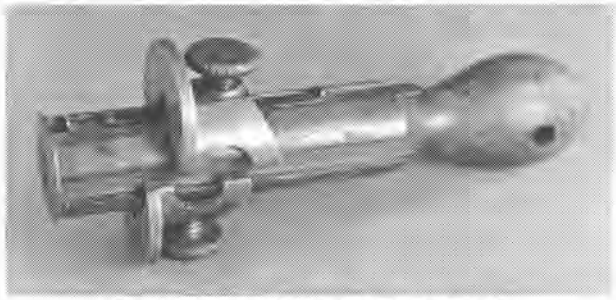
There is a fantastic color section picturing 35 gages, some patented, some manufactured, and some craftsman made. Milt has provided five other pictures from the book, which are included in this review.

I respect anyone who makes the huge commitment to add a book to our literature. And, for this very complete and interesting book about the humble gage, Milt deserves our thanks. It's available for $75, including priority shipping, directly from Milt at 185 South Street, Plainville, MA 02762.

Hank Allen



Angular adjustable gage, William Briggs, Patent October 11, 1887



Double gage, Mfg. by E. B. Cook (no patent)

The Wheelwright's Tapered Reamer

by Hank Allen

A few years ago Charlie Flynn and I paid a visit to Stines Corner, Pennsylvania, to photograph a few of Bill Phillips' tapered reamers. Those pictures have been gathering dust until I have finally figured out how to present them.

I've known all along that I would have to explain why the boring in a hub would be tapered. When I ran out of excuses, I got out *Knight's Mechanical Dictionary* and *Wheelmaking* by Don Peloubet to read about hubs and axles. [See Speaker's Profile in the April 1996 *Tool Shed* for some information about Don.] Well, the connection of hubs to axles gets very complicated, so Don has helped me with the explanations that appear later in this article, and I thank him for that. If you have an interest in this subject, Don has a new book, *Carriage and Wagon Axles,* coming out later this year.

Photo 1. Tapered hooked reamer.

Photo 1 shows a typical hooked reamer, but without its T-handle. Photo 2 shows a closeup of the hook. Why a hook? Well, after boring a straight hole through the hub and placing the wheel in a horizontal position, the wheelwright placed the hook into the hole and tied a weight on the hook. This weight was sufficient to draw the reamer into the hub; all the wheelwright had to do was turn the reamer. Wheels were usually assembled before the hubs were bored, so the wheelwright had to move around the wheel to taper the hub, and pressing down at the same time would have been awkward.

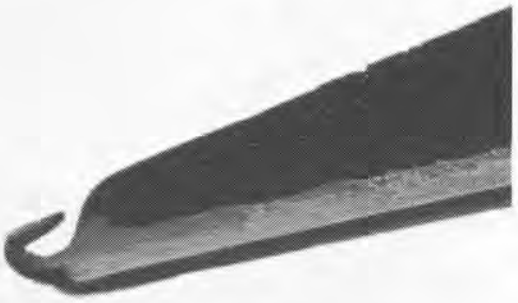


Photo 2. Closeup of hook.

Photo 3. Reamer and 8-foot handles.

Trying to needle Bill a bit we asked him why he would want to have a reamer without a handle. Totally unperturbed he replied, "Oh, they're up there," pointing to the rafters in his barn. With a ladder he retrieved two eight-foot reamer handles and attached one to his reamer. See Photo 3. I had never seen one of these giant handles before, but, it's clear that with one, two workers could move around almost any wheel to taper the hub. Photo 4 shows another tool I had never seen before. Have you? It's a handforged reamer with a wooden T-handle; the reamer blade can be interchanged with the other blade shown. The surprises never end at Stines Corner.

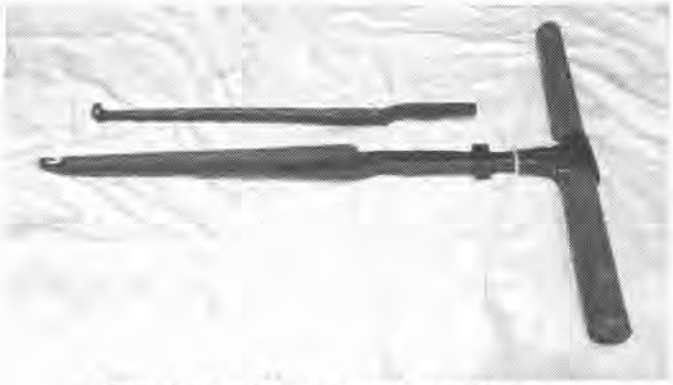


Photo 4. Handle with interchangeable reamers.

As we were about to leave, Bill said, "Don't you want to take a picture of my tapered reamer swage?" Now Bill loves huge iron stuff, and from a mound of swages he pulled the swage in Photo 5. If you look at a handforged reamer you can see the hammer marks left by the blacksmith while forging it into shape over a swage. A different style of tapered reamer swage was lot 243 in last October's Brown Auction (see its photo on page 30 of the auction catalog). It was described as "museum quality" and estimated at $900 - $1200. It went for only $225. A more common swage, lot 245, which would probably be very desirable to a working blacksmith, was estimated at $300 - $500. It went for $425. Utility won the day over museum quality by almost 2 to 1.

What follows is my simplified version of why the holes in wheel hubs are tapered. It applies to pre-1850 wagon and carriage wheels, which were almost exclusively made by hand. After that date most wheels were completely machine made, more precise in construction, and more satisfactory in use. An axle has a beam that attaches to the frame of the wagon, and it has an integral arm on each end that extends beyond the body to receive the hub of a wheel. It's safe to say that most American axle arms have been tapered and that the hubs have been tapered to match. We know the hub taper was made with the tapered reamer, but I wondered if there were a tool used to form the tapers on the arms. Alas, no! The axle tapers were cut initially with adzes and drawknives and later by machines.

Photo 5. Tapered reamer swage block.

Why was the connection of axle arm and hub tapered? If the axle arm and the hub boring were straight and the wheel spokes ran perpendicular to them, there would be stresses on the inner end of the arm that could cause it to break. Stresses on the arm would come from the wagon swaying and from the wheel operating higher or lower than the opposite wheel (ruts or uneven roads). The solution is a dished wheel, and almost all American wheels have been dished, some almost imperceptibly. Dishing is beyond the scope of this article, but basically the spokes of a dished wheel are mortised into the hub so that they are inclined outward, thus forming a "dish." Now for a dished wheel to run so that each spoke is perpendicular as it reaches the ground, the axle arm and the hub boring must be tapered and the bottom of the arm's taper must be parallel to the ground. The amount of angle bend on the axle arm is determined by the amount of dish. In this configuration, the axis of the hub is inclined upward toward the wagon. Dish

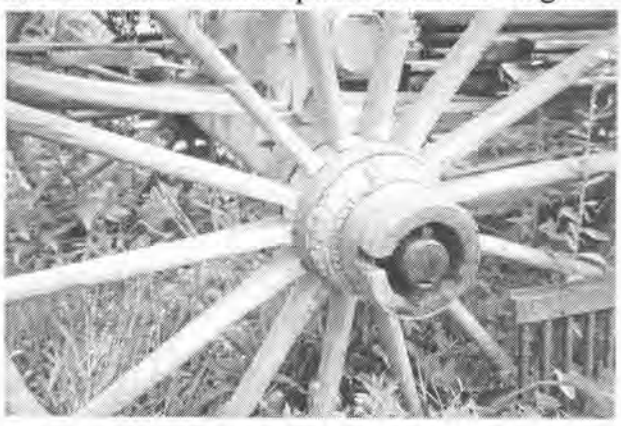


Photo 6. An early hub with linch pin.

is measured as the distance from the spokes at the hub to a straightedge placed across the rim near the center of the wheel. In practice, on heavy wagons 3/4" of dish per foot of wheel diameter is common, on carriages it is much less. Generally, the more weight the vehicle is to carry, the more its wheels are dished. The outside end of an axle arm must be thick enough and strong enough to receive whatever holds the hub on the arm. In early wheels this was the linchpin, which is shown in the wagon hub in Photo 6.

Early on, wheelwrights learned that wooden hubs turning around wooden axle arms was not the way to go. Even with regular greasing the wear would be too great. So, metal strips, or bands, were fastened along the axle arm, and metal bushings, or boxes, were inserted in the hubs, providing metal-on-metal contact. This was an improvement, but these axle bands were to be replaced by skeins. Metal skeins were cast or forged to fit over the tapered axle arm. Some skeins had an extension that ran under the axle and was bolted to it. The outside end of the skein was threaded to receive a nut to hold the hub on the axle. Exit the linchpin.

Rock elm seems to have been the preferred wood for hubs, but other woods were used. Wooden hubs were roughly 12" long with a diameter that depended on the depth of the spoke mortises and the size of the axle arm, which, in turn, depended on the load the wagon was intended to carry.

After 1850 most wheels were entirely machine made. An early hub boxing machine patented in 1852 is shown in Photo 7. Machine-made wheels were interchangeable with each other, a nightmare in earlier days. Also, the hub boring was centered on the rim of the wheel and not on the hub, which made for much smoother running.

Thanks again to Don Peloubet for his help. Now that I'm into this, I can't wait for his new book.

AUCTION SCHEDULE

Feb. 3, March 3: N. Kingstown, Rhode Island. Bill Spicer's tool auctions managed by Bud and Vera Steere. Call Vera for information or to get on Bill's mailing list 401-884-5049. Send $2 for a list to 110 Glenwood Drive, N. Kingstown, RI 02852.

Feb. 17: Boyertown, Pennsylvania. Barry Hurchalla's regular monthly auction. Call Barry 610-323-0333 for information or to get on his mailing list.

March 4, June 3: Fine Tool Journal absentee auction. Call Clarence Blanchard for information or subscription 207-688-4962 or CEB@FineToolJ.com. Website is FineToolJ.com.

March 2-3: Baxter's, Indianapolis, Indiana. Tom Witte's Tool Show and Auction. Call Tom 616-668-4161 for a catalog or information.

March 10-11: Damascus Volunteer Fire Dept. Activities Building, Damascus, Maryland. PATINA's annual Spring Dealer Sale (10th) and Auction (11th). Tailgating encouraged. No buyer's premium. For dealer sale info call John Williams after 7PM weekdays 301-439-8812. For auction info call Bob Rothen 301-972-1672.

March 31: England. David Stanley's 37th International Catalog Auction. You can contact David at 011-44-1530-222320 or at Tools@davidstanley.com. Check David's website at www.davidstanley.com. Call Mechanicks Workbench for a catalog 508-748-1680.

April 6-7: Radisson, Camp Hill, Pennsylvania. Brown's18th Annual Dealer Show and International Antique Tool Auction featuring the Dan Connolly collection. Contact Clarence Blanchard for a catalog or information at 207-688-4962 or CEB@FineToolJ.com. Website is FineToolJ.com.

April 11: LIATCA annual tool auction, Wednesday 7 PM, Brush Barn, Routes 25 & 111 Smithtown, Long Island. Call Jeff Baum 718-347-1845 or Larry Russo 631-567-4097 or lrusso@peri.com for info.

April 21: CRAFTS annual tool auction, Elk's Club on Route 31 Flemington, New Jersey. Call Greg Welsh 908-439-3266 or Steve Zluky 908-534-2710 for information. Send $2 for an auction list to Steve Zluky, Box 243, Whitehouse, NJ 08888.

Photo 7. Dole's 1852 patent hub boxing machine. Made by Silver & Deming, Salem, Ohio.

April 26-27: Holiday Inn, Nashua, New Hampshire, Live Free or Die Auctions. Listed sale for users, collectors, and dealers on the 26th and a color catalog auction on the 27th. Dealer Show Friday night. Free Tailgating. For information 800-869-0694 or mjd@mjdtools.com. Website is www.mjdtools.com.

Very-Complex Molding Planes II

In the last *Tool Shed* I reported on Roger Phillips' 5-iron, very-complex, French molder by J. POLET of Village Dijon. There was a sketch of the profile in the photo, which did not come through. Therefore it's shown below. The first CRAFTS member who can correctly name this profile according to the terminology originated by Jack Whelan in his book *The Wooden Plane* will receive a one-year CRAFTS membership extension. Send your entries to Jack at his masthead address; his decision will be final. Joe Hauck is declared ineligible at Greg Welsh's request.

I also mentioned that there would be a five-iron, ogee, screw-arm sash plane by L.& I.J. White in the October Brown auction, which had a pre-sale estimate of $2,250-3,000. It went for $1,800 to the gentleman from Womelsdorf. Some plane aficionados were muttering that it was only a three-iron plane because it's two nickers shouldn't be counted. So, maybe Roger has the only legitimate five-iron moulder. Anyone disagree?

Hank Allen