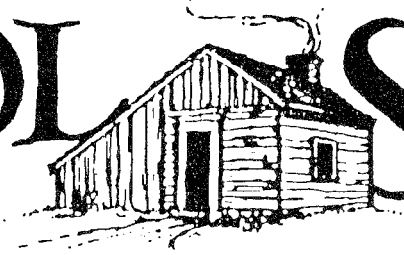


The TOOL SHED

NUMBER 64



NOVEMBER 1990

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HOPPUS' TABLES AND THE SYSTEM OF GIRT MEASURE

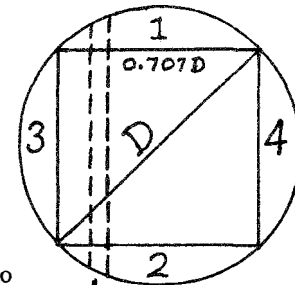
by Al Hodge

In The Dictionary of Woodworking Tools, R. A. Salaman mentions "Hoppus' table---the Timber Merchant's Ready Reckoner" several times. For example, it is mentioned under the entry for Timber Girthing Tape. Recently, I obtained a copy of this work entitled Hoppus's Practical Measurer or Measuring Made Easy to the Meanest Capacity published by S. Johnson & Son, No. 3 Oldham Street, Manchester (England) MDCCCXLV (1845). Mr. Hoppus did not believe in a subtle approach and clearly proclaims that no matter how dumb you are you can use his tables.

The system for obtaining the volume of round timber came as somewhat of a surprise to me and would perhaps be of interest to others. The basic tables are for square or rectangular shapes and work as follows: Using as an example a 2" x 18" plank, one enters a sub-table under the heading 2", proceeds down to the entry 18", and reads off the equivalent square (6"). One then proceeds to the main table under side 6", goes down the column to the required length and reads off the volume in cubic feet, twelfth parts of a cubic foot (called inches) and 1/144 parts of a cubic foot (called parts). An auxilliary table gives additions for 1/4, 1/2, and 3/4 foot. For volume of round timber or logs, Hoppus instructs the user to take the circumference by cord or pack thread, double said cord twice and read off the quartered circumference on the rule. If necessary, for a tapered timber, several such readings are taken and averaged. The effect is that one obtains a direct reading of the term $\pi/4D$. The surprise comes when the reader is instructed to use the tables for square timber in the usual way, obviously producing a result that is not a true measure of volume. It gives a result which is $(\frac{\pi D}{4})^2 L$, (where D is diameter, L is length), whereas the correct formula is $\frac{\pi}{4} D^2 L$.

This is not an accident as may be seen in the table for loads where 50 cubic feet of squared timber is considered a load (one ton), whereas only 40 cubic feet by girt measure of round timber is considered a load (one ton). The derating factor of 0.8 (ie. 40 / 50) compares closely to the extra $\pi/4$ (ie. 0.785) factor introduced into the calculation of volume by girt measure.

It appears probable that the system of girt measure predates Hoppus. I speculate that it was used because it was convenient and because it gave an appreciation of yield after sawing as may be seen from the following sketch.



Typical Plank to be sawn

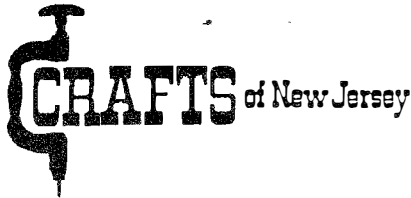
$$\begin{aligned} \text{Area of inscribed square} &= 0.5 D^2 \\ \text{Area of circle} &= \pi/4 D^2 = 0.785 D^2 \\ \text{"Area" by girt measure} &= (\frac{\pi}{4} D)^2 = 0.617 D^2 \\ \text{Area of inscribed square} \\ \text{plus segments 1 \& 2} &= \\ 0.5 D^2 + 1/2 (0.785 - 0.5) D^2 &= 0.643 D^2 \end{aligned}$$

In effect, if slabs 3 & 4 are discarded, what is left is close to the area by girt measure. The approximation will become closer if further correction is made for trimming the angled edges of sawn planks.

A smaller item of interest occurs in a table "of the Prices of Weights of Nails" where a footnote says:

"Note-- A thousand of nails is 1200, there being 120 to the hundred". A similar definition appeared in the June 1990 Chronicle, page 40,

(Continued on page 7)



Collectors of Rare and Familiar Tools Society
of New Jersey

President _____ JOHN M. WHELAN, Murray Hill
Vice President _____ JOSEPH G. HAUCK, Lebanon
Secretary _____ BARBARA FARNHAM, Stockton
Treasurer _____ HELEN WHELAN, Murray Hill

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 ten dollars for the membership year of July 1 to June 30. Membership fees may be sent to the Treasurer: Helen Whelan, 38 Colony Court, Murray Hill, N.J. 07974.

The Tool Shed

Published five times a year for members of CRAFTS of New Jersey. Coeditors: Frank W. and Mary Alice Kingsbury, R. D. 1, Box 316, Glen Gardner, N.J. 08826. Articles, especially about New Jersey tools and trades, are encouraged and may be sent to the editors.

WINDSOR CHAIRS SUBJECT OF NOVEMBER SPEAKER

The next meeting of CRAFTS of New Jersey will be held Sunday, November 18 at the Hobart Masonic Lodge in High Bridge. The formal meeting will begin promptly at 2:00 P.M. following the Tailgate Swap & Sell in the parking lot.

The program for the meeting will feature a talk by James Rendi on the techniques and tools used in the construction of Windsor Chairs. He will be both demonstrating and illustrating his talk with slides.

Following the speaker and a time of refreshment (and for examining the special displays at the meeting), we will again be identifying your What's Its?, so be sure to bring those tools that have had you wondering about their name or use.

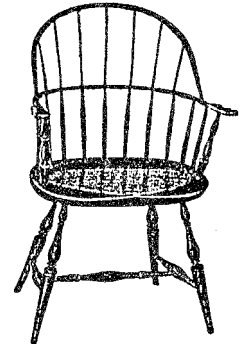


SPEAKER'S PROFILE JAMES RENDI

Our guest speaker, James Rendi, who will be addressing CRAFTS of New Jersey on Sunday, November 18, has called his business "The Philadelphia Windsor Chair Shop". There, located in Aston, Pennsylvania, he produces Windsor chairs in a variety of styles and colors. As his brochure reads, "we can provide all types and sizes of Windsors in any finish".

Our speaker states, "I wholeheartedly believe that the 200 year old techniques and tools are still the best and I am committed to maintaining their use and will explain why." It is probable that this conviction is also held by his teacher and mentor, Michael Dunbar, a well known maker of Windsor chairs in New Hampshire.

The Windsor chair is "the only piece of furniture that is considered original American" and is "a treasured part of our heritagecrafted at America's beginning".



Windsor Sack Back Chair

For each of these lovely chairs with pleasing curves and flowing lines, Rendi begins by splitting (riving) the log with a froe. Demonstrating his techniques and illustrating them with his slides, he will disclose the details of the construction of a Windsor chair.

* * *

PROGRAM CHAIRMAN RESIGNS

It is with sincere appreciation that we wish Fred Shippey a well deserved rest. We are thankful for his many years of taking the responsibility of locating, contacting and then introducing, at each meeting, a great variety of excellent speakers to CRAFTS. He has rendered an invaluable service to the club and deserves all the commendations we can give him.

Our new Program Chairman, Don Kahn, has already assumed his duties and not only has obtained this month's speaker, but has a tentative schedule of speakers for the 1990-1991 season.

FAREWELL MERK

The tool-collecting world lost one of its original patriarchs this summer----"Merk" Beitler. He was well known here in the Northeast, and there was hardly a serious tool collector anywhere that hadn't at least heard of the "kindly gent". He didn't travel far, but attended almost all sales and auctions within a hundred or so miles from his home in Philadelphia.

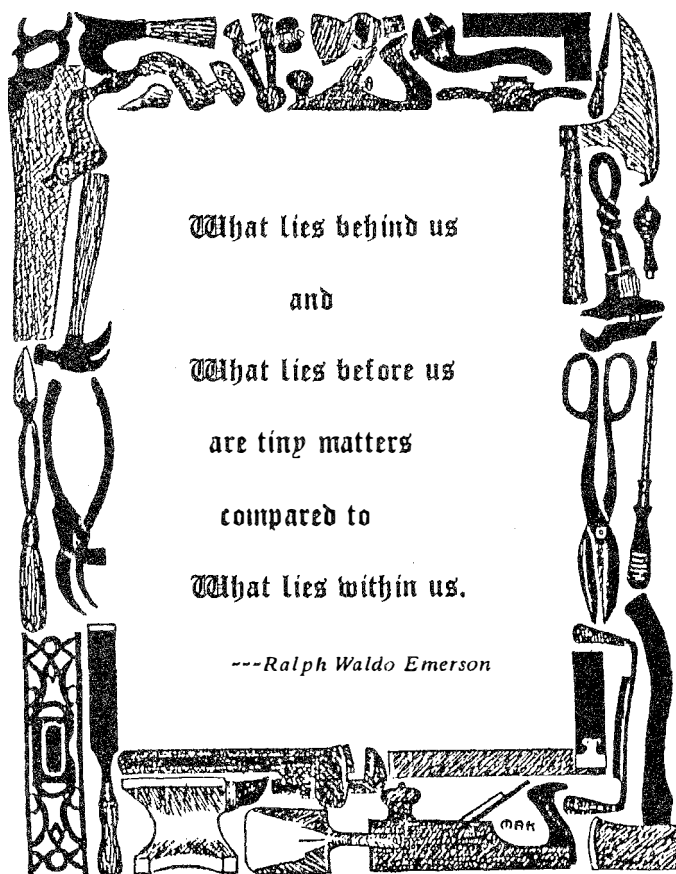
As with all interesting people, the stories of his character will live on long after all his accomplishments are forgotten.....and Merk had plenty of both! Thirty five years as a collector and dealer yielded one of the largest accumulations of desirable tools anywhere in the world. It was a polite joke that the preponderance of these tools was almost "life-threatening" when you tried to walk around in his booth at the Black Angus, or even at his home. But Merk cared much more about the people coming to his booth than whether they would buy or not. His only real "sales campaign" was related to the canvas tote bag that he carried to every auction and flea market. He felt that everyone should have the convenience of this bag, and as such had them made for all his customers.

He was always willing to share his wealth of knowledge with anyone who would take the time to chat with him. He had tidbits of information that would rarely be found elsewhere. And who could forget him peering through his tiny telescope so he could get a better look at a tool that the auctioneer was holding?

His collection will take over a year to liquidate, but the memory of this grand old man, surrounded by his tools, will never disappear.

Herb Kean

Nov. 2 -- As we go to press, we were saddened to receive a call to inform us of the death of Harry O'Neill. He will be greatly missed by all of us. We offer our sincere sympathy to Virginia. His obituary will be in our next issue.



What lies behind us

and

What lies before us

are tiny matters

compared to

What lies within us.

---Ralph Waldo Emerson

NATIONAL GEOGRAPHIC ADS

1910 THROUGH 1920 (AUTOS)

- | | |
|-------------------|------------------------------------|
| 1. Cadillac | 18. Pierce-Arrow |
| 2. Dodge | 19. Maxwell |
| 3. Studebaker | 20. Pathfinder |
| 4. Rolls-Royce | 21. Apperson |
| 5. Willy's Knight | 22. Thompson |
| 6. Moon | 23. Mitchell |
| 7. Packard | 24. Kelly (truck) |
| 8. Winton | 25. Denby (truck) |
| 9. Paige | 26. G M C (truck) |
| 10. Lafayette | 27. White (truck & passenger car) |
| 11. Stevens-Durea | 28. Ohio (electric) |
| 12. Chandler | 29. Detroit (electric) |
| 13. Matheson | 30. Rauch & Lang (electric) |
| 14. Marmon | 31. Locomobile (custom car bodies) |
| 15. Saxon | |
| 16. Franklin | |
| 17. Hudson | |

Submitted by Robert S. Garguili

CRAFTS PICNIC 1990

What a perfect day for a picnic! The attendance on Sunday, September 16th surpassed all previous CRAFTS picnics. The displays of tools to swap and sell stretched almost out of sight. Everyone enjoyed the displays of collections interspersed along the way or housed under the pavillion. Jack Whelan showed his lapidary equipment, including his home made faceting machine, facet saw, trim saw, etc.; Ruth Lutz had a beautiful collection of painted & inlaid antique serving trays and other items; and Chuck Granick, Joe Hauck & Bob Zarech combined their Philadelphia-made beauties in one outstanding plane display, just to name a few.



The Parking Area Before Dinner

Of the fine displays, worthy of acclaim, the judges conferred first place honors on the Yankee Screwdriver display by Charles & Suzanne Jacob. It would be great to see even more participation in this activity next year.

Of course the main feature of any picnic is food, and it was excellent, from the catered hot and cold staples to the wonderful desserts concocted by our ladies. During the meal, and even out among the displays, we were entertained by Mark Osterman's banjo and various other kinds of instrumental music as a very pleasant addition to our picnic.

After dinner, everyone scattered to participate in the various games, to put in their bids on the Chinese auction and to register their



Markay Zluky, Helen Whelan & Kathy Fulgum
Registration & Lapidary Display

guesses on the "number of objects contained in jars" contest. Bert Bouman's addition of games for the little kids was very welcome, and the swings were also popular with the small fry. The loss of one of the wrenches in the wrench toss brought a conflux of searchers together until it was located.

The participants in the men's, women's and youth contests demonstrated their skills and techniques at darts, horseshoes, and (of course) the wrench toss. Steve Zluky took first place in the men's division in both horseshoes and the wrench toss. Ann Rokita won at darts, Annette Vliet at horseshoes, and Pat Bouman cornered the wrench toss victory. The winner at darts in the youth category was Eric Vliet.



Some of the Displays Along the Way

The drawing for the various objects that had been contributed for the Chinese auction brought us all back indoors together. Thank you to those who thoughtfully donated them.

The best guessers were then rewarded for their "guestimates". Joe Hauck's reckoning of the number of nails was the closest to the correct amount. On the jar of noodles, Wilma Siegel took the prize for the best calculations, and Danielle Price won for her guess at the number of candy pieces.

The tool contests brought results of much interest to the participants. The "most beautiful tool" was judged to be Dominic Micalizzi's trepaning brace. Ray Schaffer's venetian blind stringing tool became the "most unusual tool". The "ugliest tool" was a very rusty old shoe sole cutter. An old bench plane with leather repairs



Mark Osterman and His Phonofiddle

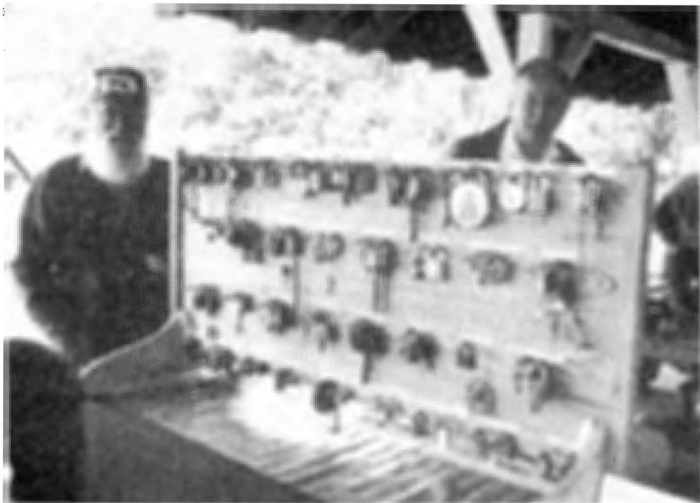
was Vincent King's entry, as the "best repair or make do tool". As people departed there were quite a number of happy winners & tool buyers among them.

The volunteers who organized each of the sports are deserving of a note of appreciation, as are the judges who selected the award winning entries in the tool categories and also those willing helpers who so cheerfully set up for the refreshments, the meal, and the various activities. Many thanks to all of you from our picnic chairman, Ken Vliet, and from all of us!

Last but certainly not least, Ken Vliet deserves our congratulations, appreciation and heartfelt thanks for another great picnic---a job well done!



Roddy & Tweed in Their Flourescent Outfits
(Brought by Kathy Comerford)



Display of 75 Padlocks
(with Jack Knives on the Reverse)
by Frank W. & Mary Alice Kingsbury



The Lunch Line Was Worth the Wait.

THE AUCTION SCENE

by Jack Whelan

This has been the busiest tool auction season I can remember. Between Bill Gustafson's, June 15--16 at Keene, NH, and this writing, my checkbook has been assaulted by seven of them, and there were at least six more that I missed. Dick Crane's big one at Nashua, NH (Sept. 21 & 22) was a feast of tools from the John McNiery and Tom Ward collections; Bud Brown's at Morgantown, PA maintained his high standard with goodies from the collection of Norb and Mary Sand, and much more. David Stanley's Oct. 8, 9 in London had a mouth-watering catalog, but we haven't the results from this one yet.

Barry Hurchalla will be busy for some time to come with the enormous collection left by Mr. Beitler. The first of these auctions (Oct. 6, Gilbertsville, PA) was a preview of what will be monthly events, displaying much in the way of fascinating but inexpensive primitives and unusual tools and studded with major pieces. The second will be Nov. 10.

We can't cover all of this action here, but will hit highlights. Patent planes continue to bring in big money. A Foster's patent turntable plane brought \$2400. A Hardt patent (California) iron smooth went for \$1600, a Kinney's ripping plane for \$850. Holly's smooth plane hammered at \$900, a Mayo patent combination at \$700, a Howkins model C combination went for \$280. Two Fales patent combinations (at different auctions) went for \$320 (with fences and cutters) and \$200.

Stanley and related planes remain strong for the rarities. A Miller's patent (the one shown on p.226 of PTAMPIA) brought \$6000. A Bailey's split frame iron jointer was bid to \$5500 but didn't make the reserve. A #9 Cabinetmaker's Block, new in the box and with the side handle, soared to \$4000; another without it went for \$700. The #64 Butcher block at \$1150 and the 12 3/4 scraper plane at \$1025 held up their reputation, and a Four-square block, almost new, in the box soared to \$775. A #51 shootboard and plane only brought \$450, a nearly fine low angle #62, \$460. The little #1 smoother remains popular, bringing \$600, \$570, and \$450 for a pretty one with a throat chip. A near mint Ohio Tool #01 breezed by them at

\$950. A fine #196 curved rabbit brought only \$875, a #97 pianomaker's \$350, a #57 corebox \$375. The #444 dovetail went for \$400. Miller's patent #41 ranged from \$1800 for a pre-slitter model through \$460 to \$240.

Eighteenth century wooden planes continue their growth. CHELOR is still spinning in his grave if news of what his planes are bringing reaches him. One of his plows brought \$4300. Two other planes, a "poor" groove (\$2200) and a "fair" hollow (\$1900) sold, a "fair" astragal was bought in at \$2000. His former boss, F. NICHOLSON, fared less well with two of his nosing planes dying short of the reserve at \$1900: at another auction, a "poor" rabbit went for \$450. Two planes by M.Daub, as yet undocumented but early, brought \$650 for the crown molder and \$320 for a panel raiser. An S.Doggett yellow birch panel raiser sold for \$1400. A trove of 22 planes by the rare S*POMEROY/N+HAMPTON, most in mint condition, sold in the range of \$800 for a Roman Ogee to \$60 for a worm-damaged dado. A THO.GRANT panel raiser went for \$450, a JO,FULLER with and unusual mark for \$550. A D.HEISS halving plane sold for \$220, two NAPIERS for \$230 and \$160.

While common plows haven't been doing too well lately, the unusual ones are still lively. An excellent Sandusky #140 boxwood center wheel brought \$4200, another elsewhere died short of reserve at \$2750. Chapin-Rust patent plows brought \$1500 and \$1400. An applewood E.W.Carpenter with ivory inserts went for \$800, ebony plows in various conditions for \$1800, \$240 and \$270. Curly box, Box and ivory, rosewood and box were good for \$700 to \$425. An unusual skate on a Dallicker plow, curving upward and fastened to the top of the stock, was enough to bring the price to \$490.

The unusual and beautiful are always price leaders. A set of rosewood and brass Carriagemaker's planes with S-handles brought \$1600 and a set of custom molders by B.Sheneman & Bro. \$2000. Eleven exotic wood Shipbuilder's planes, some with ivory inlays, sold for \$1600. Raremakers seem to get mixed response; the market is a bit thin yet but it only takes two who really want them to boost the price. A Richards, Philadelphia (four stars in Pollak) sold for \$825, but other rarities fared less well. The rare function may well be worth

money: a mother plane for a single-iron sash, unmarked but of yellow birch, went for \$600.

Crown molders, another class that has been in the doldrums of late, are still exciting interest if they have the extra feature of interest. A J.PERRY brought \$2800: eight others went from \$170 to \$600.

Goosewing axes are being seen a little more often, and were good for \$250 to \$425. The unusual level is chased: a micrometer level brought \$950, a decorated iron model unmarked but undoubtedly by Davis \$825, a unique lighted model by Stratton Bros. (1905 patent) \$875. An ivory calliper rule by Stearn went for \$425, two lumber calipers (with wheels) for \$375 and \$300.

Other items of interest included a Buffalo horn Ultimatum by Wm.Marples at \$1100, two advertising signs at \$500 and \$200, a pump auger set of seven augers and two handles for a disappointing \$200. A puzzling plumb bob equipped with a vane brought \$300, a rosewood, brass and ivory bowdrill \$325. A Thatcher cylindrical slide rule (a real antique; I used one in school) went for \$450.

In spite of these prices, your reporter wasn't completely shut out. A few bargains sneaked by. A true dove-tail plane (not the shouldering plane which is often mistaken for it) is rare; an I.Cox was a steal at \$15. An old style bilection sash plane (cutting down from the face of the bar) by S.Green went for \$55. Liberated and repatriated were a leather lace cutter from Elizabeth, NJ and a caliper gauge from Smithtown, NJ (Does anyone know where this is?).

Since our esteemed Editor won't publish this unless I include at least one wrench: a hand-forged adjustable with a curved handle ending in a turk's head, sold for \$110.

* * *

A LETTER TO THE EDITOR

Sept 18, 1990

Dear Frank:

I will be giving a talk on Early New Jersey tools for the Historical Society of Chatham Township at 2:30 on Sunday, October 21. I also am sched-

AUCTION ALERT

It is already time to think about CRAFTS April 1991 Auction. Forms, including your very necessary consignment number, will be distributed at our November meeting or can be obtained by mail on request from Joe Hauck.

We have adopted a new commission schedule. Lots selling for less than \$500 will be 10% while those over \$500 will be 5%.

You may write Joe Hauck at:
85 Brunswick Avenue
Lebanon, NJ 08833.

* * *

HOPPUS' TABLES

(Continued from page 1)

citing Josselyn's 1638 list of tools for a family of six colonists calling for "one hundred weight of spikes, nails and pins, 120 to the hundred, a share", but this seems to refer to weight, not count.

The entry for "hundred" in the Oxford English Dictionary is too lengthy to quote but it appears that in Old Norse a duodecimal system of numbering gave the name hundred to 120. It also states that the great or long hundred (usually six score) was applied to the sale of various commodities. The various quotations apply to sheep, deal boards, and fish with no quotation referring to nails. Hoppus also states that deals (fir planks) are numbered 120 to the hundred and says they are always imported. Apparently an Old Norse numbering system persisted for some uses until at least the middle of the 19th century. Does anybody have any more information on this practice?

* * *



uled to talk on New Jersey tools at the Historical Museum where Dorothea Connolly is director/curator for one of their programs in May of 1991.

It was nice seeing you and Mary Alice at the picnic.

Sincerely,

Alex Farnum

COMING EVENTS

SATURDAY, NOVEMBER 10....Hurchalla Auction of the Beitler collection at Gilbertsville, PA Preview at 8:00 and Auction at 9:30

SUNDAY, NOVEMBER 18.....CRAFTS meeting at High Bridge. "Techniques and Tools Used in Constructing Windsor Chairs" by James Rendi.

THURSDAY, NOVEMBER 22
Happy Thanksgiving

DECEMBER 25 TO JANUARY 1, 1991
Happy Holidays

THURSDAY, JANUARY 3.....**deadline**

THE TOOL SHED needs you and your comments, suggestions, letters, pictures and articles.

SUNDAY, FEBRUARY 3.....CRAFTS meeting at High Bridge. Program to be announced.

* * *



Tools & Art



C-90

CONGRATULATIONS!

TO HERBERT P. KEAN & EMIL S. POLLACK for writing and publishing their 209 page, 8 1/2" X 11" book, COLLECTING ANTIQUE TOOLS. It is truly a book we might all wish we had written. It should be in the library of all antique tool collectors.

THE EDITOR

* * *

WANTED

TWO-BLADED New York State Molding Plane.

Joe Hauck

* * *

LAUGHTER is like jogging on the inside!

* * *