TTTG Inc. Newsletter Number 76.
April 2004.
The Traditional Tools Group (Inc.)
www.tttg.org.au

NEWS 76.

TTTG Inc.
THE TRADITIONAL TOOLS GROUP (Inc.)
TTTG Newsletter Number 76. April 2004.

Contents.

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2003/2004 Subscriptions are due.

Subscription Rates:

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tttg.org.au

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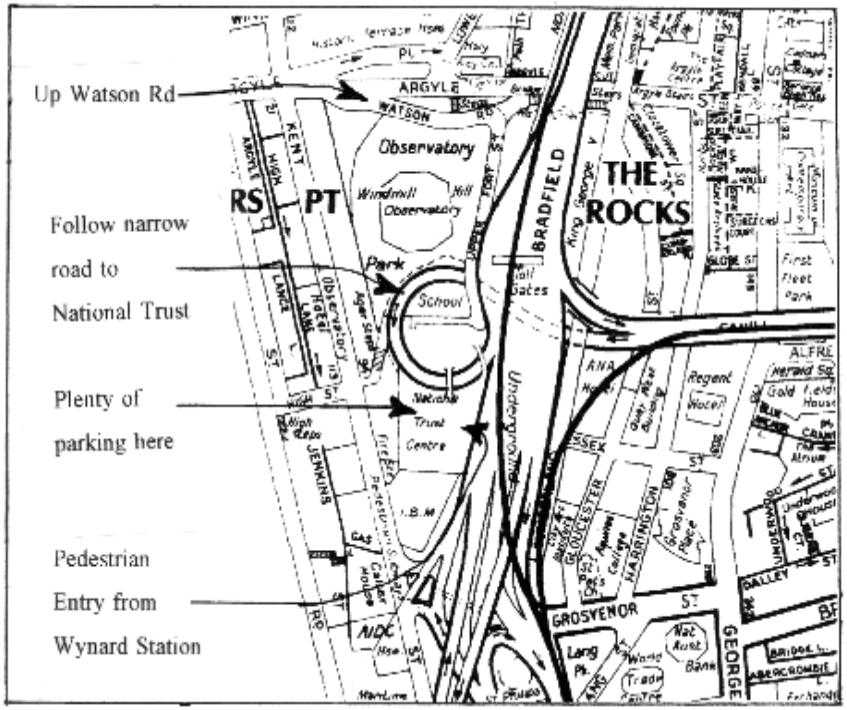
<u>Next Meeting</u> **Tuesday 13th April 2004**
National Trust Centre, Annie Wyatt Room
Observatory Hill. Commencing at 7:00pm



PROGRAMME

1. **THE GLOBE THEATRE CONSTRUCTION. MATT FENN IS A SPECIALIST ON TRADITIONAL ENGLISH TIMBER FRAMED CONSTRUCTION. HE WILL TELL US ABOUT THE BUILDING OF THE NEW GLOBE THEATRE IN LONDON AS WELL AS HIS CURRENT AUSTRALIAN PROJECT. DON'T MISS THIS ONE!**
2. **THIS WILL BE FOLLOWED BY FRED'S WOTSIT.**
3. **THEN OUR FUN AUCTION. (See the new auction rules overleaf).**
4. **SUPPER BY MARIO DATO.**

Previous Meeting.

National Trust Centre. **Tuesday 10th February 2004.**

Topic: Book Binding Speaker: David Newbold.

David Newbold is a leading Sydney bookbinder with over forty years experience in the bookbinding trade.
Those fortunate enough to attend this meeting soon realised that David is also a natural communicator with a keen sense of humour.
David shared his experiences working in the Government Printing Office, the Mitchell Library and in his own business. The audience gained an understanding of the trade and an appreciation of the specific tools of the bookbinding trade.
David's audience made numerous enthusiastic comments including the common theme, "when can we have a special visit to David's workshop?"
Perhaps it will be possible to arrange such a visit later in the year.
A hands-on demonstration of bookbinding would be a supplement to David's talk.

Next Meeting.
National Trust Centre. **Tuesday 13th April 2004.**
Annie Wyatt Room.
Observatory Hill. The Rocks. Commencing at **7:00 pm.**

Topic: **Rebuilding Shakespeare's Globe Theatre in London.**

We are privileged to have Matt Fenn address us at the next meeting. Matt was employed by an English timber framing and conservation company, McCurdy and Co and worked on the reconstruction of the Globe Theatre in London for 5 years from 1993 to 1998. He is currently building at Faulconbridge, his own two storey mortice and tenoned framed house (200 x 200 mm framed members) with strawbale external cladding. He has slides and photographs of both projects and will bring along a selection of specialised, traditional tools.

New Auction Rules
The fun auctions have been running us seriously overtime and reluctantly we must ask that you contact Bob Crosbie or Mike Williams beforehand (at least a day's notice) of what you intend to bring in for auction so we can bundle the lots or limit the number of items on any one night.
Future Meetings.
TTTG is actively seeking guest speakers.
If you know of a potential speaker please contact a member of the TTTG Committee.

2004 TTTG Workshops.

May 16.

Saw Sharpening.
How to sharpen saws for efficient hand sawing.

June 20.

Metal working skills.
Basic bench and metal machining skills.

August 22.

Hand planing.
How to use hand planes to achieve accurate work.

September 19.

Moulding planes, fillisters and ploughs.
How to set up and use moulding planes.

October 17.

Combination planes.
How to set up and use combination planes.

November 21.

Shaves and Scrapers.
How to use all types of spokeshaves and scrapers.

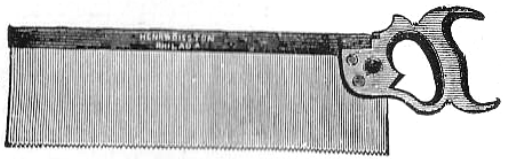
All workshops commence at 9.30 am and conclude at 3.30 pm.
All workshops are held at Asquith Boys High School. Jersey Road Asquith.
Members: $20
Non Members: $40

About the TTTG Workshops.

There are a number of skills based workshops available in Sydney
But TTTG workshops are arguably the best available.
Our workshops offer these features:

-The lowest cost.
-Quality teaching.
- Excellent facilities.

And some of our courses are not available elsewhere.
Where else can you learn saw sharpening or how to use specialist planes?



From the Editor.

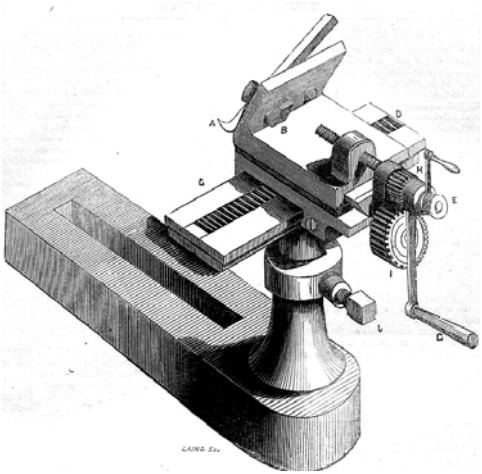
The editor has been receiving articles for News from an increasing number of TTTG members.
Which means News will become a more interesting publication.
The Editor can concentrate more on editing and less on writing.
So enjoy News 76 and hang on to the reprint included.
A limited number of Benn's Encyclopaedia of Hardware 1954 is available.
Keep those letters and articles coming!

What is it?
The mystery tools in News 75 were;

The first looks like a rule.
Some readers realised it was a type of measuring quadrant.
This rule is illustrated in Spons' Dictionary of Engineering Volume 11.
It is described as "Instrument to facilitate the drawing of the trajectory of any ball at an elevation with any velocity".

The second tools are illustrated in The Magazine of Science Volume V.
This book was edited by G Francis and published in 1844.
They were tools used in Italy to lay enamelled floors.
In Naples these floors were called Lastrico.
In Venice these floors were known as Terrazo.

What is this tool?



Viewpoint.

Rusty Old Tools: What to do?

TTTG's Treasurer Clynt Sheehe began this discussion on Oztools.

I'm interested in how all other members treat or restore old tools.
There are some people who suggest that it is a sacrilege to do anything to them; however, it would be very unpleasant to hold or use the old tools I come across if left in the "as found" state.

Typically, an iron plane bought at a garage sale for a couple of dollars will have been lying on a workbench since its late owner's death in the 1970s until his widow now moves into a nursing home. Depending on the conditions in the late owner's workshop, the plane will have powdery rust or be rust-pitted.

I would dismantle the plane and de-rust all iron or steel parts using a rotary untwisted wire cup brush on a small angle grinder, taking care to minimally disturb original paintwork. If heavily pitted, I would employ "electrolytic" de-rusting. I would then tune the plane, sharpen it, oil the handles and wax the steel to minimize future rusting.

I was recently looking at www.thebestthings.com/
This was very critical of people who do anything to old tools.

Referring to a pictured slide caliper : "It has been polished-up by a fool but is still a very nice tool ...". The picture shows a caliper, which is heavily pitted, and one can imagine the state it was in when unearthed.

I would not have polished it but cleanup with the rotary wire brush leaves, what I think, is a nice finish with no apparent scratch marks, except, I suppose, those visible under a microscope).

I can't afford expensive antique tools (which I would be very wary of cleaning) but would like to hear how you treat the old rusty tools you may come across.

What do you think?

John Bates and George Radion were quick to respond.

Rusty Old Tools: What to do?

The reply from John Bates follows.

I'm with you in respect of the 'restoration' of old tools.
Can't say I've ever come across a tool 'protected' or 'preserved' by rust.

I go in for metalworking tools and machinist gear. Typically these tools were made with finished surfaces; some ground, others scrapped and a few with oxide or other applied finishes to protect them.

I think that restoring scrapped or ground surfaces is best done using the technique which created it but with far less gusto; such as by the application of an Arkansas or India stone to replicate the grinder marks.

What I try to do, if possible, is to restore the working surface without changing the dimensions of the tool.

If the tool has been treated with an applied finish eg blacked, blued or browned it is impossible to remove the rust without removing the original coating. But in this case it can be replaced if you have the means at your disposal. I have used cold treatments such as Blackfast with good results though the cost of these kits is not small.

Heavy pitting can be a real problem on any machinist tool especially if the steel has been heat-treated. My experience suggests that these pits continue to act as corrosion source points despite the most effective cleaning by mechanical means. The only real solution (no pun intended) is to chemically treat the tool by pickling or the like.

Those who advocate the benign neglect ideology are to my mind more intent on preserving some notion of what will enhance the tool's market value. I doubt that they ever have any intention of actually using the tool. My aim is usually to press the tool into service at some point so I'm not surprised at all that we part company on conservation technique.

Anyway Clynt has raised a very important issue which can be extended to consideration of what to do - or not to do - with non-ferrous tools and tools or parts of tools made from other materials such as wood, plastics, glass and the like.

I remember only too well my attempt to release the seized plunger of an old dentists syringe, and cracked it in the process - bugger!

Rusty Old Tools: What to do?

John’s concluding comment was

I'm sure there are a lot of lessons to be shared and different points of view to be aired on this topic! Let's hear what you think.

George Radion replied and offered these insights.

My main focus at the moment is wrenches and spanners. There is nothing less collectable than an old rusty wrench.

I sometimes see wrenches that have been either burnished or polished to within an inch or their lives in antique shops. Happily, not so often nowadays. The Yanks take de-rusting to new heights.

I prefer the electrolysis treatment, which, after a go with the mechanical wire brush, still retains some patina, and is ready for a final treatment. The final treatment in my collection is an application of shellac (dissolved in metho). This has the advantage of easy removal (- ie soak in metho), and the retention of some patina, but not the ugly RUST.

Anyone who dislikes my treatment is easily able to remove it.

And the TTTG Editor had to get in on the act.

I agree with Clynt and I also agree with everything John Bates has suggested. But I will add this caution, do not improve! Try to keep the original surface. Unless the pitting is very deep this is usually possible.

Replicate grinder marks as John recommends, if it was lapped then do the lapping again, if draw filed then draw file again. BUT only do this if you have the skill to do a first class job.

Some rusted tools, such as Saws, can not be restored to “as new”. Refinish a saw and you lose the tension in the blade etc. If a tool has a smiths' finish, hammer marks and heat colours, these should not be removed. A worked surface can be de-rusted and the colours replicated, if you know how to burn off oil etc. It's all in the old texts but be careful. Mercury quenching may give a superb result but it can kill!

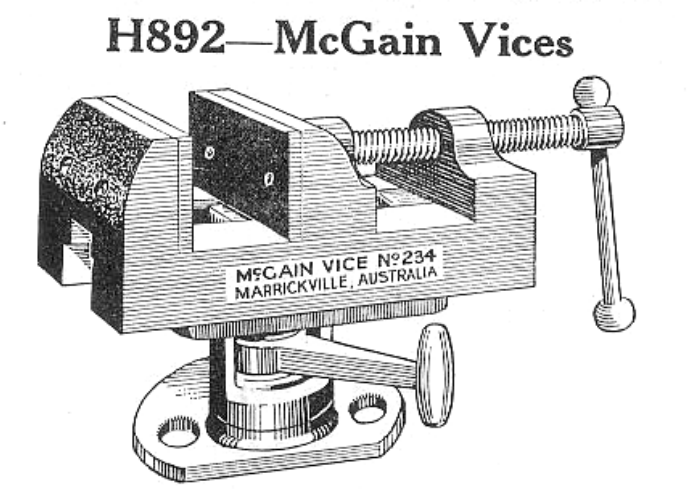
Correspondence.
Ken Turner has written to the Editor canvassing two important issues.

Back issues of News.
Ken feels his requests for back issues of News have been ignored.
All we can plead is “not by intent”.
The situation is this, we have some back issues of News in stock but full sets of News are not available.
To meet this demand the Committee intends to reprint the back issues.

Loan of old printed material for reprinting by TTTG.

Ken has generously offered to make available copies of old printed material in his collection to TTTG for reprinting.
He is however concerned that we require original copies.
This concern is understandable. All we need are good photocopies.
Ken has a wealth of material and TTTG greatly appreciates his offer.

John Bates is seeking information on the vice illustrated.

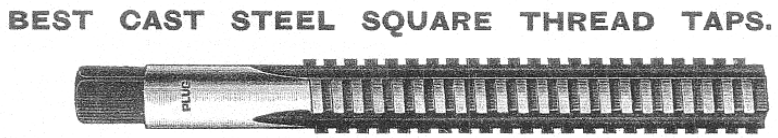


The vice appears in Goodall & Co. Pty. Ltd. Sydney Catalogue 1955.
The wording on the vice is McGain Vice No 234 Marrickville Australia.

Information.

Square Threads.

Regarding your reference to the lack of information on square thread taps.
The Selson Engineering Co.Ltd. Catalogue 1921, lists these taps under the heading Best Cast Steel Taps.
A table lists sizes from 1/4" to 1.1/2", 18 different sizes, noting that other pitches could be made if requested!
Graeme Askew



Australian Made Tools.

Graeme Askew has the following Australian made tools:

-a 12"single sided engineers rule
marked G.E.JENSEN Co. Made in Australia
-a pair of 6"spring dividers [Moore &Wright type]
marked CLRCOLUS INSTRUMENTS PTY LTD SYDNEY AUST. The CLR are likely to be initials but there is no gap between them and COLUS.

Maybe these makers have come to your attention before, or maybe they are another mystery to be solved!

Steve Flint has found a punch made by James Watt Tools Aust, in the shape of a centre punch at the moment but may have been different in it's earlier life.

Steve asks if it is the norm to donate things of Australian manufacture to the group. He comments, " I feel with hindsight that the Esdaile manometer should have perhaps been donated to the group & not sold? I don't have a lot of room at present so space is a problem for me, Working on the big shed this year. Let me know if you want the punch or any of the files for the group or maybe even a magnetic pointer".

Is anyone willing to be the TTTG Curator of Australian made tools?

<u>Web</u> <u>Page.</u>

Directory of American Tool and Machinery Patents.

Literally years of browsing at this site!

To check it out I looked for patents for Mortising Machines and for patents for Spokeshaves.

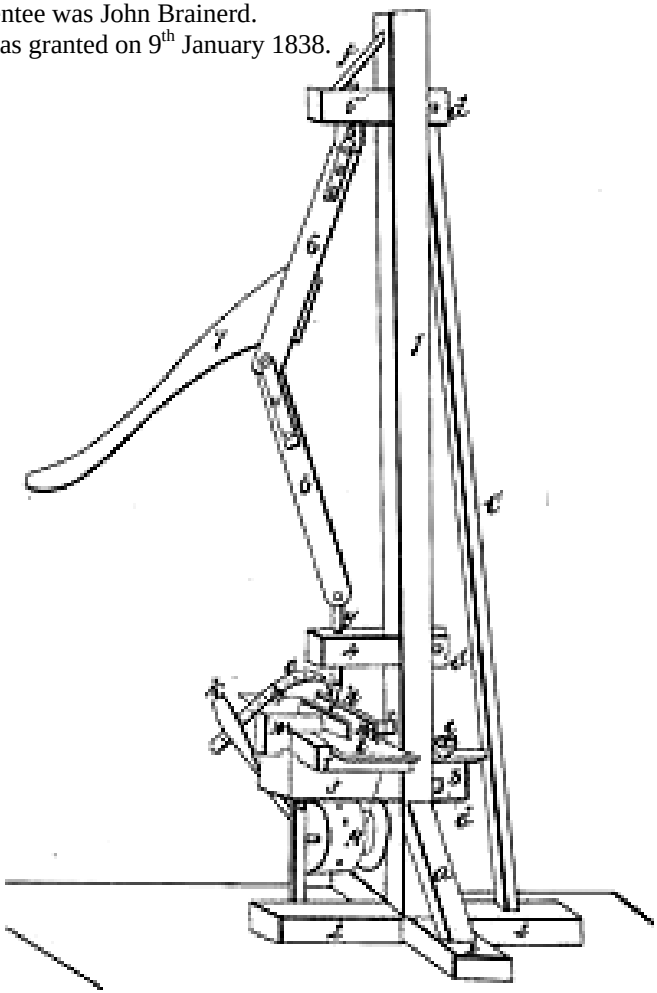
I stopped browsing at Patent 937.

Over twenty patents for Mortising Machines were granted before 1839.

Below is Patent 570, Machine for Mortising and Dovetailing.

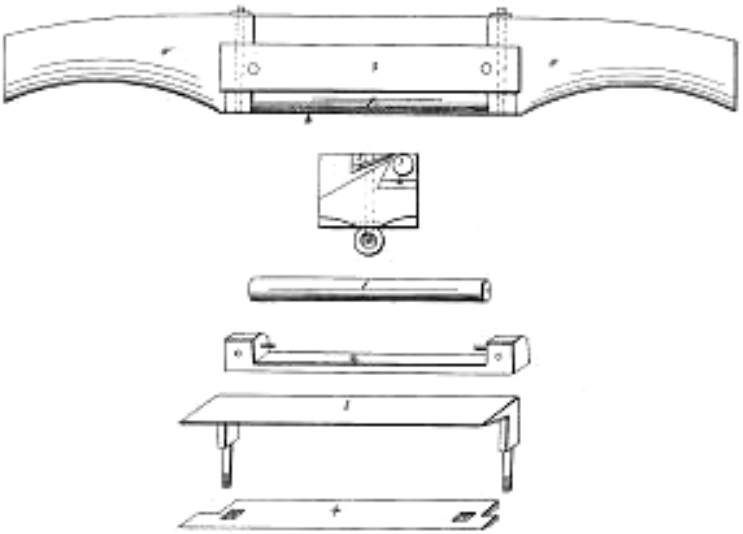
The Patentee was John Brainerd.

Patent was granted on 9th January 1838.



Directory of American Tool and Machinery Patents.
I had a quick browse for Spokeshaves.
The Spokeshave below is Patent No. 184.
The patent was granted on 29th April 1837.
The Patentee was Ira L Beckwith.

This spokeshave substitutes an adjustable roller in place of the conventional fixed wear-plate.
Additionally, the blade has a cap added to it in order give "wheelwrights and other mechanics the important power of shaving against the grain."



The address of this web site is
http://datamp.org/index.php

CARTER Tools.

The TTTG Committee is examining the possibility of having an Exhibition of Carter Tools.
TTTG is interested in any documentary material on Carter Tools.
Advertisements, invoices and packaging material are sought.

THE LEDGER

Do you have friends who are interested in tools, their use, their maintenance, their history or their preservation? If so, why not urge them to join The Traditional Tools Group and experience the pleasure and benefits your membership brings to you? Persons paying to join in the last three months of the financial year (April, May or June) receive membership right up until the end of the following financial year.

New Members

On behalf of the TTTG Committee and Members, the Treasurer extends a welcome to the following new Members:

Cliff King
Barry Walsh
Jeremy Granville Smith
Michael Robertson
Tim Knowles
Ross Easton
Rick Frith

Michael, Tim, Ross and Rick were so impressed with TTTG's Sharpening Workshop on 22nd February that they joined on the spot.

The Recalcitrants

As of 25th February, the Hon. Treasurer has not yet received 2003-04 membership subscriptions from those members whose number is listed at the bottom of the adjacent Overdue Subscription Notice
Your membership number is shown on the label attached to the envelope containing this Newsletter.
Would these members please expedite their payment?
Why not consider sending $60 to cover both 2003-04 and the 2004-05 subscription, which falls due on 1st July 2004 and you won't have to be bothered for another year.

Recalcitrant members will shortly cease to receive their Newsletter.

TTTG SUBSCRIPTION RENEWAL NOTICE

2003 – 04 SUBSCRIPTIONS ARE OVERDUE

(TTTG Memberships are based on the financial year 1st July to 30th June)

IF YOU HAVE NOT YET PAID, PLEASE FORWARD A CHEQUE FOR *$30 (MADE OUT TO TTTG Inc.) TO :

The Treasurer
TTTG Inc
PO Box N240
GROSVENOR PLACE
SYDNEY NSW 1220

* If you live more than 50 km from Sydney or you are a pensioner, then you MAY CHOOSE TO PAY only $22.50

Please advise if you have <u>CHANGED</u> your address from that shown on your Newsletter address label.

It would be helpful if you would write your name and Membership Number on the back of your cheque. (See Newsletter envelope address label for your Membership Number.)

Should you require a receipt, please enclose a stamped self-addressed envelope with your payment or see the Hon. Treasurer, Clynt Sheehy, at a TTTG meeting.

The Treasurer has <u>NOT YET RECEIVED</u> 2003-04 subscription payments from the following members (as at 15th March, 2004). Would these members please expedite their payment.

75	**180**	**214**	**237**	**256**	**269**	**274**	**282**
87	**188**	**221**	**244**	**257**	**270**	**277**	**283**
114	**195**	**222**	**245**	**259**	**271**	**280**	**287**
116	**206**	**231**	**249**	**267**	**273**	**281**	

John's Page. John Daniel

J Woodhead – Patentee - Brisbane

"This is the product of a resourceful fellow", was my thought as I handled a piece of iron-mongery during a recent "sort-out". Occasionally when space becomes scarce, or out of the mouth of a babe, "you sure have a lot of junk grandpa" and then to soften the observation, "but it's all good junk though".

The piece of iron-mongery was a floor cramp. It certainly belonged to the "good junk" category. It was hand wrought, made and patented by J. Woodhead of Brisbane. The 12 inch long handle on this cramp makes it the smallest floor cramp of this type that I've seen. At first I thought that it may have been a prototype for display, however, I now feel that it may have been used for cramping single boards such as in the case of secret nailed flooring.

It is quite apparent that all the parts were hand shaped with no evidence of any filing or drilling; all parts are straight off the anvil. The cramp is very easy to locate on the floor joist and is easily moved along to the edge of the board and is very efficient in action. Although the cramp is reasonably light in construction, it is very strong and would be a useful addition to a builder's toolbox.

A collector friend in the New England area has a large pair of floor cramps by the same maker which are similarly stamped, also some time back, at a farm clearing sale near Canberra, I saw a single large cramp by the same maker. It seems that J. Woodhead floor cramps were widely distributed.

Who was J Woodhead? We know that he made floor cramps. Did he make other tools? Perhaps a Queensland member may be able to shed some light on this Australian Tool Maker. There would most certainly be an interesting story to tell.

As for my "sorting out". My small cramp has now been adopted by a pair of larger cramps and is residing in a very interesting collection up country.

Photo 1: *The J. Woodhead floor cramp in position on a length of 4" x 2".*

Photo 2: *The underside of the J. Woodhead floor cramp. It is evident that all parts are straight off the anvil, not a file mark to be seen. The holes for the pins have been punched through, not drilled. One could confidently conclude that this hand tool was completely hand made.*

Profile:

Jim Davey.

Jim is an active TTTG member having recently been the star presenter at two of our workshops. A strong believer in technique Jim leaves any participant in his classes with the conviction "now I know how to do it".

There are several ways to sharpen edge tools and several ways to tune woodworking planes.

Jim lays it on the line
"This is my way, this is how I do it, you decide for yourself".

The editor has conducted several workshops alongside Jim and can endorse Jim's techniques.

If Jim says it is sharp then it is sharp.
A plane tuned by Jim is a pleasure to use.
Jim's tuned planes are exceptional value.

Jim sells a range of sharpening equipment and reconditioned planes.
For a number of years the editor has asked Jim to advertise in News.
Perhaps he didn't want to be seen as pushing himself through TTTG.

Examine Jim's products at the next TTTG meeting or phone him.
He will also be demonstrating at the 2004 Sydney Timber and Working With Wood Show on the TTTG (Inc.) Stand.

Volunteers Wanted.

The 2004 Sydney Timber and Working With Wood Show is on 4/5/6th June.
TTTG is again calling for volunteers to staff our Stand.
Benefits include free admission to the Show and refreshments.
The Show is an enjoyable experience so why not volunteer?
We will also be demonstrating at Rouse Hill on 1st and 2nd May at the "Out of the Woodwork Festival". Please see Bob Crosbie if you are available to help.

Full details of all future events where TTTG will be represented are to be found on the TTTG Web Page:

www.tttg.org.au

Jim Davey Products.

STANLEY PLANES.
Old Stanley Planes fully fettled (tuned) and ready for the workbench.
A plane **fettling service** is also available.

USER BEDROCKS.
Stanley's Premium Line of Planes from 1911-1943.
This is the design Lie-Nielson and Clifton have copied.
Bedrocks are more solid than the traditional "Bailey" design.
These User Bedrocks have been fully fettled.
They are **razor sharp** and ready for the workbench.

ACADEMY BLADES.
HSS blades from Paul Williams at Academy Saws.
M2 HSS, 2.6mm thick.
Hardened to Rc62-64 then Deep-Cryo treated for a **long lasting** edge.
These are best plane blades made.

DMT DIAMOND PLATES.
The diamond plates with the swath pockets.
Probably the best diamond stones available.
DuoSharp plates are flat and retain their cut for longer than other brands.
Available at **Trade Price**.

DIASHARP PLATES.
Also with **Monocrystalline** Diamonds but a continuous flat plate.

KING & ICE BEAR WATERSTONES.
Superb Waterstones **from Japan**.
Fast cutting and fine polishing Stones for a Razor Sharp edge.

2004 SYDNEY TIMBER and WORKING WITH WOOD SHOW.
Demonstrations of all my products on the TTTG Stand.

TO CONTACT JIM DAVEY:

Phone 02 4447 8822 (work).
Email JDAVEY@bigpond.com

Or write to: PO Box 967
Nowra NSW 2541

Plumbers Mate. David Haworth

Fluxite is the one of the old plumbers' trade secrets but the biggest problem facing the plumber doing reconstructions of historic plumbing systems is finding the correct fittings.

Being in TTTG Inc. I am willing to share some of my trade secrets with fellow members. If there is enough interest I am even willing to be a guest speaker at a TTTG General Meeting. Any old Plumbing tools to identify?

My current problem is to find some original fitting for an installation in the Butlers Pantry of an historic house.
I need five (5) wrought iron/steel ¾" square backed female elbows as on gas and water services prior to about 1930.

To contact David phone (02) 97442486
or email gayehaw@hotmail.com

Any leads would be greatly appreciated.

Two man Hacksaw. G.D.Stamper.

I purchased the hacksaw illustrated recently in Portland New South Wales.
The hacksaw came from a blacksmith shop that had been on a property in the area.
On one side of the top rail is the Crowns' broad arrow.
On the reverse side of top the rail are the letters LID.
The hacksaw is quite heavy and would need two men to use it, though the weight would have been a help with the cutting.
Does any one have additional information about this type of hacksaw?

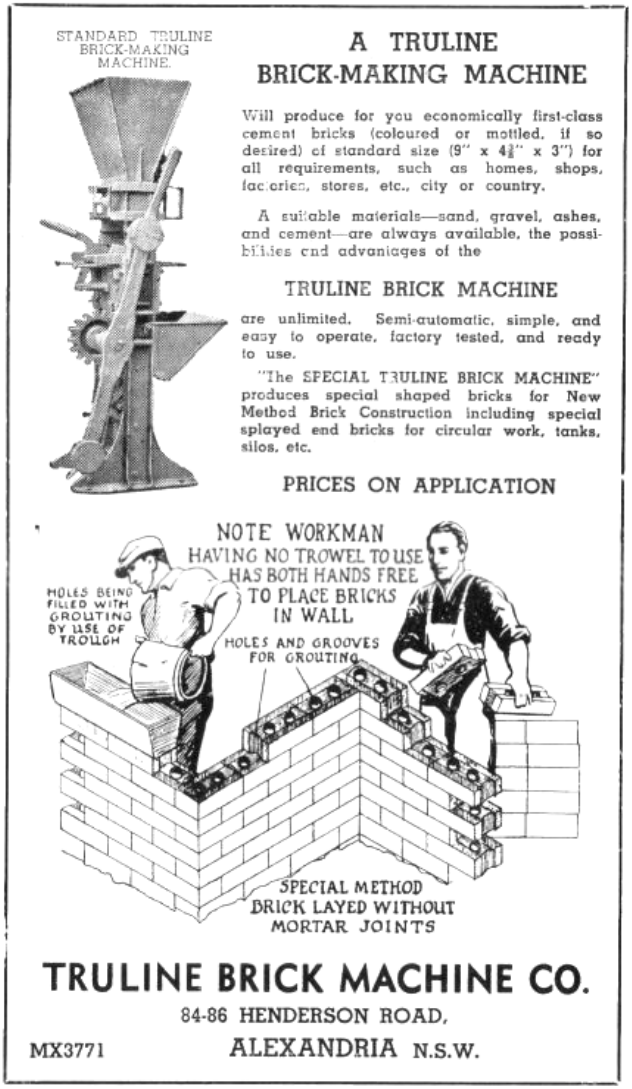
Another Aussie.

The Wing Gauge and Instrument Co. Melbourne.

A possible Australian made tool. A tap and die set of mine, the set looks original but all taps and dies are from the US. The tap wrench and stock have no makers' names on them so it is possible that these were made by Wing and then the sets were assembled.
Steve Flint.

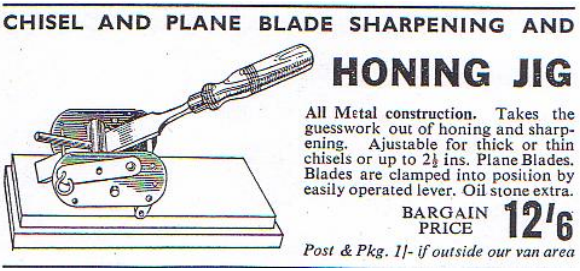
Another Aussie.

This advertisement appears in Gregory's Modern Building Practice in Australia. Edited by G.F.G.Mackey. Published about 1946? Steve Flint.



Masterpiece Sharpening and Honing Jig.

I have a honing jig with instructions similar to the one illustrated.
The name on the leaflet is Masterpiece Sharpening and Honing Jig.



Advertisement by Gamages London in December 1958 Woodworker.

There are lots of honing jigs, and they mostly have some use. Where they all fall down is the way they hold the iron/chisel. The Eclipse is the only one designed to hold the blade square, and that is not always successful, the act of tightening the screw can push the blade slightly out of square; to avoid this a little wooden jig does the trick, as well as set the honing angle. The Veritas jig has a complicated gadget for setting the angle, really over the top – and a more important problem. When you tighten the Veritas screw (at the top) to hold the blade in place this can bend the bar the blade rests on, resulting in a concave (!) cutting edge. Therefore the Veritas does not make the grade. The Record jig, that the Veritas is probably based on, has a massive bar for the blade support, and probably does not suffer this problem, but has a poor wheel arrangement.

Carba-tec sells a cheap Chinese jig with two top screws that works fairly well, but you have to make sure you have each screw at the same pressure and level to hold blade evenly (this is a major hassle with the Tormek).

Now back to the *Masterpiece*. This *patent pending* device is in many ways quite crude, but was commercially produced, and somehow found its way to Australia, *with instructions*. I will describe how the device works below, but what sets this jig apart from the rest is the blade holding mechanism.

There are two parts to this.
Firstly the long supporting bed, this means the blade is well supported along its length, will not flex and is quite stable.
Secondly, the blade is held with a lever-operated cam.

Masterpiece Sharpening and Honing Jig.

This is so easy to use, so firm and reliable that I am amazed no manufacturer has taken up the concept. Quick and easy to use, and even clamping pressure across the blade; no other jig provides even clamping pressure, whether pressing from top or sides, or in the case of the Stanley, from the bottom. Now for some of the limitations of the Masterpiece.

The blade supporting bed block is wood, and very thin at the leading edge, naturally where the screws go in at the leading edge the wood is split. A piece of cardboard is supplied to set the honing angle, how long is this likely to survive (missing here of course)? There are no guidelines on the bed to judge whether the blade is straight. The two tiny brass wheels at the rear are pathetic, and even though the jig has probably not had much use, are quite worn on the axle. There is a maximum of a 2" blade (this could be fixed, and thick chisels cannot be accommodated.

How do you use the jig, from instructions, with guesses at missing words?

> "Place the piece of cardboard provided in the box between the wooden block and the oil stone and before clamping the blade in position see that the edge is in firm contact with the oil stone and the wheels on the rear honing block are also touching the oil stone. Lock wing nut on adjustable honing block and clamp the blade firmly in place with the lever operated cam. Remove cardboard and sharpen the chisel or blade with firm strokes on the rough side of the oil stone." This gives a 25° angle. ". . . slacken off wing nut and drop the rear honing block to the limit of the slot as in Fig. 3 . . . this gives the final 30° honing angle". Pretty simple really.

What are the possibilities for turning the strong points of this (really prototype) jig into an outstanding jig? Firstly, an all-metal construction (perhaps polycarbonate block) seems in order. Width should accommodate wide blades, and the bed should have guidelines, or better still sliding guides that come across holding the blade square. A wide wheel should replace the dinky wheels at the rear (but still allowing some slewing of the jig to deal with curved blades). The wheel adjustment mechanism needs to be robust, and with a scale to indicate the angle being honed. The piece of cardboard (UK manufacturers loved cardboard for templates in the 1950's for some reason) for setting initial angle needs to be rethought into something more substantial, adjustable and less likely to be lost.
With the brilliant toolmakers out there in the Group, this is surely a realistic challenge. Hell, the TTTG Honing Jig ™ Pat. Pending could become world famous. See TTTG website for colour scan.

Materials used to make tools.

Steel.

For centuries, possibly millennia, iron masters had searched for a smelting process to make steel directly from "blooms" or pig iron. Wrought iron was expensive to produce and variable in quality. In the British Isles first quality wrought iron could only be manufactured from a mixture of local iron ore and imported higher quality iron ore. Britain had an abundance of iron ore, limestone and coal yet it could not produce high quality wrought iron cheaply.

Mild Steel.

Significant technological change resulted from the introduction of a new process of steel production by Bessemer in 1856. Bessemer's process produced steel by blowing air through melted pig iron. Economical mild steel could be made from British iron ore, an alternative to wrought iron, uniform in quality.

Bessemer steel was at first avoided for structural applications mainly due to its non-fibrous grain structure and tendency to corrode.

Bessemer's process was "improved" by the development of the Siemens-Martin open-hearth furnace. Scrap iron and low-grade iron ore could now be used in the manufacture of steel.

After initial resistance mild steel gradually superseded wrought iron. Mild steel's absence of slag inclusions allowed a superior surface finish than wrought iron.

Alloy steels were the next development. Additives such as chromium, tungsten, molybdenum, manganese and nickel were introduced into the steel making process.

Mild steel can not be hardened and tempered. However the new steel making processes allowed high carbon steels, commonly called "tool steels", to be made directly from pig iron.

"Mild steel or low carbon steel contains less than 0.25 per cent of carbon, and a minimum of constituents other than iron. It has a granular or non- fibrous structure and being free from impurities in the form of slag, which often disfigures wrought iron, it can be machined to a better finish and will take a high polish. It rusts more readily than wrought iron. It can be forged and welded but not cast."

Text Book of Mechanical Engineering. H.M.S.O. The War Office 1934.

News 77.

Medium Carbon Steel, High Carbon Steel, Alloy Steels.

Cast Steel, Blister Steel and Shear Steel will be defined.

The Eclipse 4S Tool. John Bates.

McPherson's hardware catalogues of 1949, 1951 and 1955 contain an advertisement for the Eclipse No.4S tool outfit.
The kit "comprises a specially designed holder complete with 12 tools in a metal case. All tools are made from highest grade tungsten steel".
The set contained:

3 slotting blades (one each 18, 21 and 23 gauge)
1 slotting blade ground for mica cutting
4 saw blades (33 gauge 32tpi)
1 flat scraper
1 slitting knife
1 screwdriver blade
1 second cut file

Neither the 1960 McPherson's catalogue or the company's 1966 catalogues mention the tool. In its stead we find a new No.44 Multiple Tool has appeared "comprising a strong die cast handle with four blades. The blade in use can be set at any one of four angles and the blades not in use can be housed inside the handle."
There is a similarity in the type of blades used in the 4S and the 44 tool. The latter set contains:

Sawing blade No.441 – 32tpi for general sawing
Slotting blade No.442 – for slotting studs, cleaning damaged screw threads etc; one edge for use on the pull stroke and the other on the draw stroke
Slitting blade No.443 – ground on the longitudinal edge for cutting lino, rubber, leather etc
Scribing blade No.444 – ground on the diagonal edge, invaluable for general wood scribing as well as for cutting lino, rubber, leather, etc

Now this is pure supposition, but based on the content of the outfit I suspect that Eclipse produced the first tool for automobile mechanics and the like. The development of the No.44 could well have been a reaction to the needs of the actual market niche that the 4S found (more the home handyman than mechanic perhaps) and to the need to reduce the cost of the tool in response to that niche and to competitor products. Furthermore, mechanics tools developed as the automobile itself developed and gradually became more sophisticated and specialised. So Eclipse may have seen the need to redesign and repackage the 4S in the late 1950s. In doing so Eclipse also took advantage of new die cast production techniques and less costly packaging; the metal case of the 4S being discarded in the new No.44 model.

A brief history of ECLIPSE. John Bates.

The Eclipse brand name stretches back to 1889 when James Neill turned his back on a career as a successful accountant and became a steel-maker, founding the James Neill Steel Company. Over the next five years he developed his own specialised form of steel-faced iron known as 'composite' steel and continued to develop it taking out a patent on the improvements made. He soon taking these ideas to America to sell to the manufacturers of hacksaw blades but they were uninterested, so undeterred he returned to England and decided to produce his own blades.

The Eclipse brand was named after the most famous British racehorse of the Georgian era. The horse was bred in 1764 by the Duke of Cumberland, son of George II and it was never beaten, creating the catchphrase of the time of "Eclipse first...the rest nowhere".

In 1909 the Eclipse trademark was registered and production of the world's first composite steel hacksaw blade began in 1911. Then in 1914 British Government asked the James Neill Steel Company to use its expertise in cast steel and crucible furnaces to start the production of magnets for the War effort. Magnetos for engines were desperately needed; they were usually sourced from Germany but before long they were mass-produced by James Neill in the UK. Eclipse hacksaw frames were to follow and in 1924, the 20T was born, the classic shape that all other hacksaw frames now mirror.

In 1934, Eclipse had a major breakthrough, it discovered a method of switching permanent magnets on and off by using a mechanical mechanism. This invention led to the first mechanically switchable magnetic chuck and this was to revolutionise the grinding machinery market. Almost every grinding machine is now equipped with a modern day equivalent of this invention. This patented magnetic chuck brought great wealth to the company as Eclipse started to mass produce its range of mechanical chucks and export them around the world.

In the 1950's, Eclipse developed a range of permanent ‘red painted popular range’ magnets that are today regarded as the benchmark Industry standard shapes and sizes.

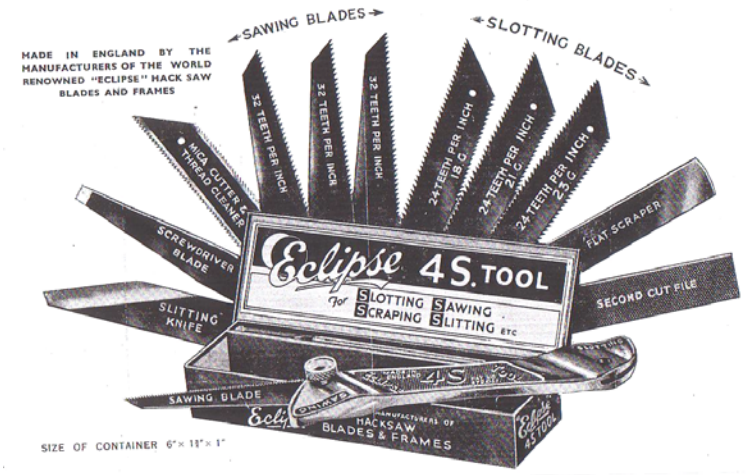
A brief history of ECLIPSE.

Eclipse continued its development by creating a range of magnetic tools that included its famous ‘push-button’ magnetic bases for dial test indicators, a product instantly recognised by engineers around the world.

A new version of the popular model 20T hacksaw frame was released in 1954 and this featured a new handle design and an oval section bow in place of the previous tubular section.

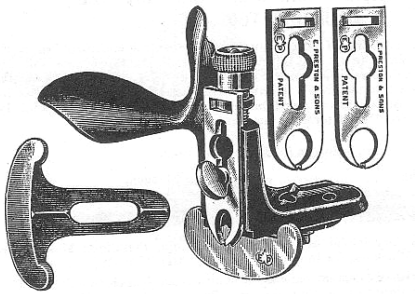
Today, Eclipse is part of the Spear & Jackson Group of Companies.
The Spear and Jackson Group includes these world renowned companies:

- Bowers Metrology Ltd
- Moore & Wright Ltd
- Neill Tools Ltd
- Eclipse Tools Ltd
- Robert Sorby Ltd

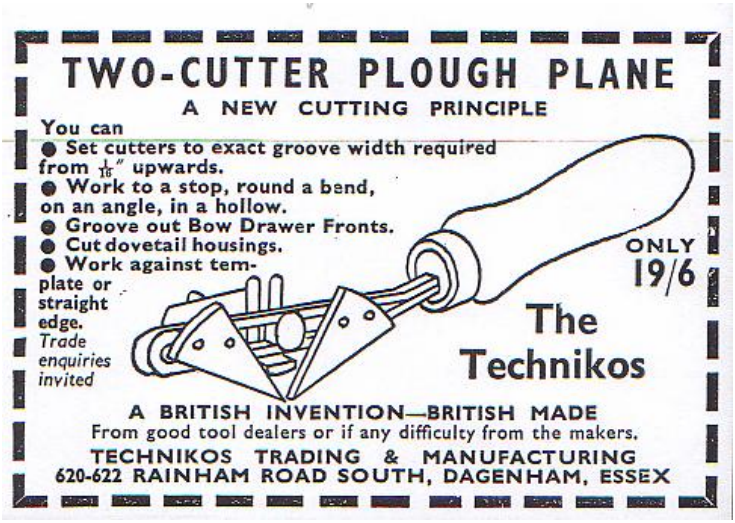


The Technikos, The Tech Tool.

Post World War II Britain, traditional trades are under pressure from new methods and new materials. Essential specialist tools are no longer in production but manufacturers are quick to design cheaper alternatives.
The Quirk Router is a good example of this situation.
Essentially a coach makers' tool the Quirk Router was also used by hand railer makers and even cabinetmakers. This tool does its job so well that all alternatives are seen as laborious and time consuming.



No longer in production but second hand quirk routers in demand, enter the alternative, the Technikos simple to use, available and inexpensive.
Once on the market drop the Greek and it becomes the Tech Tool.
July 1958 Woodworker contained the first advert for the Technikos, by 1959 the tool had been renamed the Tech Tool.



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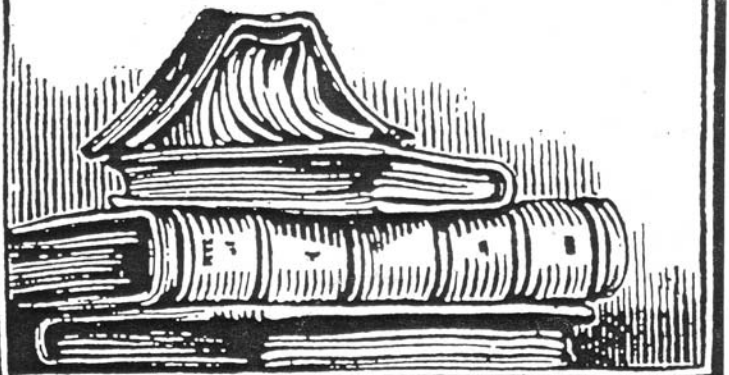
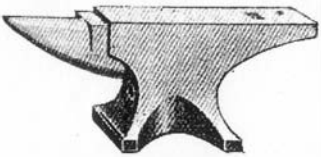


SALVAGE 42

ROSS ST GLEBE



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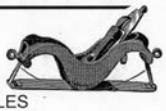

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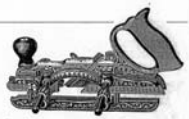

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