

Next Meeting

Tuesday October 11

Annie Wyatt Room
National Trust Centre
Observatory Hill

Entry \$5

'Doors open at 7pm'

Next Workshop

October 23

Making Joints and Using Glue

Asquith Boys High School

This workshop is an opportunity to learn how to cut quality joints.

Traditional tools and techniques will be demonstrated and practiced.

After this workshop you will know what tools to buy, how to sharpen the tools and how to use the tools.

You will not be told to buy a \$1000 plane, a \$400 saw or a \$200 chisel.

Quality affordable tools will be on sale

Contacting TTTG

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Enquires

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www.tttg.org.au

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Saw Sharpening

Tuesday October 11

The documentary on File Cutting shown at the previous meeting was received with such enthusiasm that the Committee decided to search for other visual records of traditional tool techniques.

Many members have attended our saw sharpening workshops and a short film will be shown that demonstrates this technique. Sharpening a small dovetail saw and a cross cutting panel saw will be shown.

After the screening the speaker will talk about woodworking saws. Saw type categories will be briefly explained and correct terminology will be emphasised.

Programme

* *Display of saws*

* *Film: Saw Sharpening*

* *A brief talk on Saws*

Refreshments

* *The TTTG Auction*

TTTG Membership \$35

For only \$35 a year TTTG members receive a quality newsletter and a discount on workshop fees.

TTTG fees will remain at the current rate for at least another year.

The TTTG Committee has fixed the membership at only \$35 for another year.

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What an advert in NEWS?

Members' adverts are free

Contact the editor

Front and Back

Classic Australian safety poster
*Issued by the Department of Industrial
Relations and Technology NSW
Government Printer 1979*

TTTG Tool Sale advert on back page.

***HENRY'S TOOL SALE IS OVER and
the next TTTG TOOL SALE is on
March 11, 2012 at Asquith BHS.***

***If you want to book tables get in
early as demand is already strong.***

Entry is only \$5.

Trading tables are only \$50 each.

The TTTG Library

www.tttg.org.au

Log on for the TTTG Library list.

The TTTG Tool Collection

TTTG will continue to accept
donations of tools and books

TTTG has the basis of a
comprehensive library of
publications on traditional
machinery and hand tools.

ALL WE NEED IS A HOME BASE

With the AGM in the past and a
new Committee elected the
number one priority will be to find
a permanent home for TTTG.

With a Home Base the Library
and Tool Collection will be open
to all TTTG members.

THE SEARCH IS ON!

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National Trust Centre Observatory Hill

Entry \$5

'Doors open at 7pm'

*** Display of saws**

*** Film on Saw Sharpening**

*** A brief talk on Saws**

Refreshments

*** The TTTG Auction**

The TTTG Auction

As usual there will be great stuff going under the auctioneer's hammer.

Prospective buyers must not rearrange items or make offers on auction items.

The **Annual General Meeting** was held during the August 9 Meeting.

-The Treasurer's report was presented

-The Committee was elected

TTTG is financially healthy and membership numbers strong.

2011/12 will be another year of consolidation and growth.

The Committee has two priorities;

*To secure a home base for TTTG

TTTG needs space to store the tool collection and Library and an OH&S compliant workshop for teaching.

Last Meeting

Tuesday August 9

Annie Wyatt Room

Hand Cut Files and Rasps

The display of files and rasps was the evening's centre of attention and discussion.

The film on File Cutting held the audience's attention and solicited many questions.

The brief talk on Files and Rasps clarified a few points and answered some well informed questions.

The refreshments were up to the usual high standard.

The TTTG Auction had a few surprises. Every item sold and some bidding was very competitive.

TTTG Library Donations

The holdings of the TTTG are being regularly augmented by generous donations by members and others.

Lifeline

TTTG supports Lifeline by loaning TTTG Sales Tables to Lifeline, on a no fee basis, for the regular Lifeline North Shore Book Sales.

Lifeline generously allows TTTG to appraise technical books and to purchase selected books at a fair price for the TTTG Library.

At the last workshop TTTG sold some tools on Lifeline's behalf.

Tool Skills Workshops

October 23

Making Joints and Using Glue

Asquith Boys High School

The essential tools and how to use them,
Glues both modern and traditional
How to cut accurate joints and how to
assemble them

Quality tools will be on sale

November 27

Making Tools

Asquith Boys High School

All you need to know about making custom
tools, basic metal working and woodworking
skills, metal selection, metal turning and
heat treatment

*Projects: centre punch, dovetail
template, marking gauge*

How Much?

Members \$20

Others \$40

Join at a workshop for \$55*

**Workshop plus membership*

Enquiries

www.tttg.org.au

Mike Williams 02 9144 6356

Bob Crosbie crosbie.bob@gmail.com

WORKSHOP VENUE

Asquith Boys High School

Jersey Street North. Asquith

Tea, Coffee and biscuits provided

Bring your lunch Wear safe shoes

The Next TTTG Workshop

* Sunday_October 23

MAKING JOINTS & USING GLUE

The presenters will show you how to
use tools and how to make joints.

The emphasis will be on hand tools
but machine use will also be covered.

*The best preparation for the workshop
is to attend the previous workshops.*

Participants will learn how to cut
accurate joints with hand tools by
using traditional techniques. These
techniques are not as slow as is often
assumed and make possible the
achievement of excellent work.

*The workshop starts with edge joints
moves on to rebates and grooves and
settles down to mortise and tenons
and dovetail joints.*

Glues, both modern and traditional
will be introduced and explained.

*Once you have used hot hide glue
there is no turning back and the
selection of appropriate modern glues
will show the possibilities of low tech
timber engineering.*

**All TTTG Workshops start a bit
after 9.15am. If you get there by
9am you will have enough time
to sign in, pay the money and
then make a cup of tea or coffee.**

The last 2011TTTG Workshop is
Making Tools on November 27.

The workshop programme for the
first half of 2012 will be published
in News 122 and posted on the
TTTG Web Site in December.

THE LEDGER

New Members

On behalf of the TTTG Executive and Members, a welcome is extended to eight new members:-

Robert Brown	M628
Berto Pandolfo	M629
Clint Oliver	M630
Thomas Edmunds	M631
Christos Constan	M632
John Deeble	M633
John Evans	M634
Howard Archbold	M635

TTTG TURNS TWENTY !

FOUNDED 1991

This year, TTTG is 20 years old. The first meeting was held on 27th November, 1991 at the workshop of Member No. 1, Henry Black. Attendees were Henry Black, Bob Crosbie, Terry Butcher, Ray Gurney, Robert Lee, Nick Masterman, Simon Sadubin and Brian Segal.

By June 1992, the meeting venue had moved to the Balmain Leagues Club.

On 15 August, 1992, then TTTG President, Terry Butcher (now our Southern Correspondent on Bruny Island, Tasmania), attended the National Trust's Industrial Archaeology Committee Meeting where Terry presented TTTG's aims and objectives. TTTG was invited by the National Trust to hold our meetings in the Annie Wyatt Room of the National Trust Building on Observatory Hill. We've been at the National Trust ever since, except for our meetings

between February and August, 2010 during renovations to the National Trust building when we met at the Redfern Town Hall.

The original name of the club was "The Trade Tools Group". It was changed to "The Traditional Tools Group Inc." in 1995, when we incorporated, because the expression "Trade Tools" was already used in the name of several Australian commercial businesses.

The initial annual subscription was \$30 and in twenty years has only risen to \$35 (well within inflation).

Coming Workshops

On Sunday 23rd October, 2011, TTTG will be holding a workshop on **Making Joints and Using Glue** and on Sunday 27th November, 2011, we will be holding our **Workshop on Tool Making**. Both these all-day Workshops will be held at **Asquith Boys' High School** starting at 9:30 am. (Enter from Jersey Street Nth and drive around past the playing field to the manual arts building.)

Everyone who attends a TTTG workshop will leave with that little bit of extra skill and knowledge.

Workshops are \$20 members; \$40 non-members, (non-members may join on the day to enjoy the numerous delights of TTTG membership). No need to book, just turn up.

Tea/Coffee and bickies provided; bring your lunch if required. If you get there at about 9am, have a cuppa before the Workshop starts (and available all day).

**THIS COULD BE YOUR
LAST COPY OF TTTG
NEWS !!**

***TTTG Subscriptions
Now Way Overdue***

If you have not yet paid your 2011-12 subscription, please send it in now or pay me at the October 11 TTTG meeting.

You may pay by cash at a TTTG meeting, by cheque or on-line via PayPal. If you don't know how to pay on-line, see www.tttg.org.au

A coloured sheet has been placed in this issue for those Recalcitrant members who have not yet paid their 2011-12 subscriptions. Our computer membership program is set up so that the December TTTG NEWS will not be sent to unfinancial members.

Donations sought of Australian-made Power Tools.

TTTG member Berto Pandolfo, lecturer in Industrial Design at the University of Technology, Sydney, is undertaking a PhD on power tool manufacture in Australia between 1940 and 1990.

If anyone has any old Australian-made power tools, especially drills, that they don't need and would like to donate, or loan, to this research project, then they may contact Berto on (02) 9514 8986 (day) or 0414 587 686 or by E-mail at berto.pandolfo@uts.edu.au

Clynt Sheehy
TTTG Treasurer



19th Century Button Brace

Brackenbury & Austin Lathe

In News 119 *Two Sydney Lathes* gave a narrative of acquiring two lathes made by *Brackenbury & Austin* in Sydney in the post World War 2 years.

One of the lathes now belongs to another TTTG member who is after a few missing parts and the time to get the machine working.

The editor has reassembled his *Brackenbury & Austin New Gregco* lathe. This is the moment most TTTG members have experienced when the minor problems emerge.

Before I mention these bugbears I will add that this was also the time when I knew I hadn't wasted my money. The small three jaw chuck was mounted, a cutter ground and set up and a piece of old brass bolt became the test job. Despite the tool post having a few pieces of packing scrap to substitute for some missing parts the first cut gave an excellent accurate finish.

The bugbear was with the split headstock bearings. The oil ran out almost as fast as I filled the oil cups. This was totally unexpected as I had used a Barnes Lathe with similar split bronze journals for several years with no oil leakage. What was wrong?

Of course the real problem was me as my experience of using metal turning lathes is predominately with Hercus and similar lathes. The problem was unexpected as I had disassembled the Barnes headstock several times and the bearings never leaked!

At this point there are three courses of action, *start thinking, look it up and speak to someone who knows.*

The thinking stage took me back to the other *New Gregco* lathe I used as the source of a few parts and sold off. The oil reservoirs on this lathe were packed with cotton waste. Maybe this was to control the flow of oil?

I double checked the leaking bearings. They were not worn, the mating faces clean and the fit was tight. The cotton packing seemed to make sense.

Then I went online, starting with the bible for machine tools *Tony Lathes*. Tony's hint for split bearings is a little thin oil feed into the bearings often. I then wasted a few minutes on some of the many American machinist forums.

Back to reality and I looked up one of the print version bibles on lathes *The Book of the Lathe* by C.T. Bower London 1955. This book is really great for use with my *New Gregco* made by *Brackenbury & Austin* because it concentrates on English style lathes.

The lathe lineage is *Drummond* to *Myford* in the UK and *New Gregco* in Australia. The various *Myford* lathe manuals are also very useful.

TTTG Inc. has more than a few expert machinists in the ranks so the third source of information is to ask a TTTG member. Before taking this step I kept at it. The oil reservoirs were packed with linen strips and loaded with oil.

At the last meeting I had a talk with a few of the TTTG metal workers.

The next step in the *New Gregco* lathe refurbishment was to machine some new minor parts. This work was done on the lathe. News 122 may tell the next part of my *New Gregco* saga.

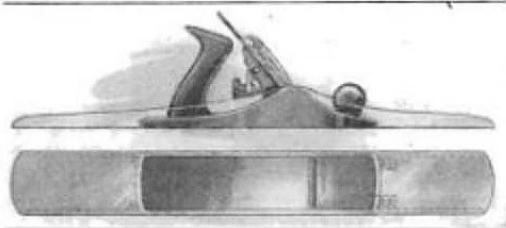
Ever seen one?

This was a good idea at the time but on reflection it may be no surprise that it has apparently vanished without a sighting in living memory.

The information comes from the April 1922 issue of Popular Mechanics

EXTENSION ATTACHMENT MADE FOR CARPENTERS' PLANES

Jobbing carpenters will appreciate the introduction of an extension attachment for use with a smoothing plane, whereby it can be utilized as a jackplane or jointer. The arrangement consists of a large base, into which the small plane can be placed, and where it is rigidly held by means of screws and clips. The considerable space saved in the tool kit, due to the com-



Side and Face Views of the Extension Attachment for Carpenters' Planes Shown by Dotted and Light Lines; Plane is Shown in Heavy Lines

bining of the three tools, and the reduction of weight to be carried, are features that will especially appeal to the mechanic.

The original owner of the magazine made a marginal note of the inventor's name which might encourage a reader to seek more information.

*Inventor: Mr. James, c/o
8457 Rainier Ave., Seattle*

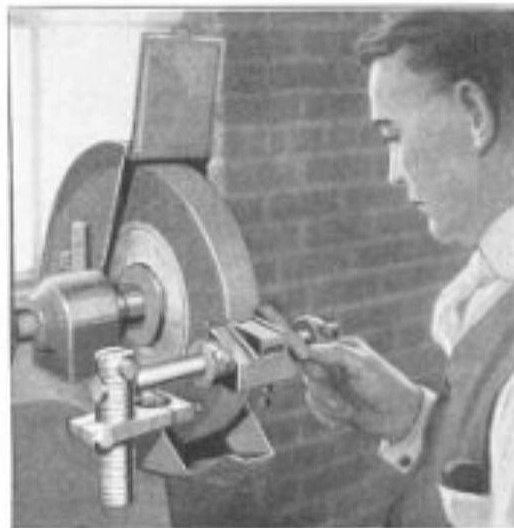
Not much to go on but there must be at least one of these devices intact. Who made this plane extension?

The grinding attachment reprinted below is from Popular Mechanics October 1922.

It appears to be a well made and practical attachment. Again the annotation names the inventor, Thomas B Neufel (?) 205 St. Jean Avenue Detroit.

TOOL-HOLDING ATTACHMENT FOR GRINDING MACHINES

A new tool-holding attachment for use in connection with grinding machines is on the market. It may be built in as



Tool-Holding Attachment as Applied to Emery-Wheel Grinder, Showing the Holder in Use for Accurately Grinding the Steel Die Chasers Used in Many of the Modern Threading Tools

part of the grinder or made to attach to the standard emery-wheel stand. The holder consists of a bracket carrying a vertically adjustable post, which in turn supports an adjustable horizontal bar, to the overhanging end of which is fitted the block for holding the tool to be ground. This block is adjustable to any desired angle.

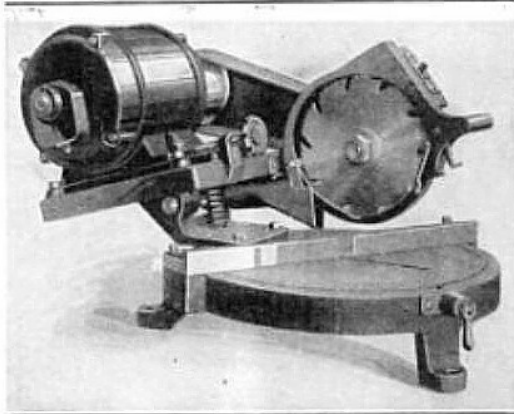
The editor is certain one of these grinding devices must be in existence.

The first drop saw?

This announcement is from Popular Mechanics June 1922.

PORTABLE BENCH SAW CUTS MITERS AT ANY ANGLE

In a new portable bench saw, a motor and a circular saw are mounted on a frame that swivels in either direction, permitting both right-angled and oblique cuts to be made. The machine is provided with a revolving table that is graduated on its outer edge. This table fits into, and revolves in, a circular base, on the side of which is a locking device. Above the table is a bar used as a gauge for holding the work, so that after the



Portable Bench Saw for Cutting Miters on Any Kind of Wooden Fittings: The Handle in Front of the Base Is for Locking the Table at Any Required Angle

table is revolved and locked at the desired angle, any bevel or miter can be cut quickly and accurately. On the housing of the saw is a control handle, and near it a simple switch, so that a finger of the same hand that depresses the saw into the work, starts and stops the motor with the switch.

In all essentials it is the same as a modern drop saw. Even the safety feature to start the machine is similar. The modern drop saw is made of lighter materials, has a more compact motor and improved safety features.

Is this the first drop saw?

A Saw-Filing Kink

When filing a saw, swab the teeth with a solution of copper sulphate (bluestone or blue vitriol) and water. This will deposit a thin coating of copper on the metal, and when the first set of teeth are filed, the unfiled teeth will show up very distinctly. This idea will be found a great help, especially where the light is poor.— F. L. Schneider, Palmer, Mass.

From this issue of Popular Mechanics came the useful information above. Ninety years on a felt tip pen is more convenient but spot colouring the saw teeth really does help.

Next Year's TTTG Workshops

No decisions have been made but we can predict that the essential tool use and maintenance one will be repeated in 2012.

Saw Sharpening

This popular workshop will be offered twice in 2012.

Plane Fetting and Sharpening

This popular workshop will also be offered twice in 2012.

Tool Essentials

This workshop was well attended and will be offered in 2012.

Blacksmithing

There will be two Blacksmithing workshops next year.

What do you want?

The workshop presenters are versatile and open to suggestions.

American Tomahawks

Hatchets are invariably called tomahawks in Australia. During my life the only hatchet in common use was the American Tomahawk. Side axes despite size are not hatchets so there are no exceptions.

For how many years has the American tomahawk held the claim to being the ubiquitous hatchet in Australia?

I have not carried out any serious research into the tomahawk in this country but I suspect the tomahawk displaced the English hatchet in the first decade of British invasion. The parallel is the felling axe. American style felling axes were made in NSW by 1800 and also imported in vast numbers. For felling hardwoods these axes are vastly superior to English designs of axes.

The term American tomahawk was used in NSW in the 1860s. I found this out by accident while helping a friend research his family history.

Only the details relating to American tomahawks are relevant in *NEWS*. An American tomahawk was a murder weapon and was described by several witnesses in a murder trial in 1861. The murder weapon is referred to as a tomahawk and also as an American tomahawk. Clearly tomahawk was in common usage in 1861.

An interesting detail during this trial was a witnesses' account of how he helped the accused person grind a tomahawk. As expected the grinding was done on a cranked grindstone.

The interesting detail is in the initial suggestion that the accused should file the tomahawk. The accused then persisted by pointing out that the tomahawk was soft and could be ground quickly. Why the assumption of a soft tomahawk and what was the use of an untempered tomahawk?

The accused was aboriginal and had been engaged in catching possums and making possum cloaks. One key clue may be in a comment by another witness that the local aboriginals used tomahawks in a sideways manner.

What does this mean?

Another clue may be in a comment that possums were caught during day light. As it happens I know possums well. While asleep possums are benign but once they wake up they are very aggressive and impossible to catch.

I suspect possums were caught by the hunter climbing into a tree, locating an adult possum in a hollow, and striking the trunk with the side of the tomahawk. As the possum woke up and emerged half asleep from the hollow the hunter would strike the animal with the side of the tomahawk. Stunned the possum would be killed.

This method would not damage the possum's hide. Anyone who has felt a possum's coat will be aware of the high quality of possum fur.

A soft tomahawk would be an efficient hunting tool. The unprejudiced tool fancier will recognize an example of technology transfer and adaptation.

FILE-MAKING

Thomas Martin

Circle of the Mechanical Arts

London 1813

Many useful tools have been invented for performing mechanical operations, which consist of a number of wedges or teeth, which may be conceived to stand upon, or rise out of a flat or curved metallic surface. When these teeth are formed on the edge of a plate, the instrument is called a saw, (see SAWING); but when they are formed upon a broad surface, it constitutes what is denominated a file. The comb-makers use a tool of this description, called a quonet, having coarse single teeth, to the number of about seven or eight to an inch. Fine tools of this description are called floats. When teeth are crossed they are called files; and when, instead of the notches standing in a right line, a number of single teeth are raised all over the surface, it is called a rasp.

Files are cut upon the surface with a sharp edged chisel. In rasps, the tooth is raised with a triangular punch. The file is adapted for working metals, but the rasp is more fitted for wood, bone, and horn. Files are distinguished by being single or double cut. The single cut file is simply cut once over, and is employed for filing brass, and the softer metals. A second course of teeth is cut to form the double cut file, crossing the first diagonally. This kind is best suited to iron and steel.

The steel employed for files requires to be very hard, and in consequence undergoes a longer process in the conversion (see STEEL). It is said to be double converted. The very heavy files, such as smith's rubbers, are made of the inferior marks of blistered steel: the more delicate kind, such as watch-makers' files, being made of cast steel.

The steel is previously drawn at the tilt, into rods of suitable size. The flat and the square files are made wholly with the hammer, and the plain anvil. Two workmen, one called the maker and the other striker, are required in the forging of heavy files; the smaller being forged by one person only.

The anvil is provided with a groove, for the reception of bosses or dies, which are used for the purpose of forging the half-round and three-angled files. The half round boss contains a hollow which is the segment of a sphere, less than half a circle. That used for the triangular files has a hollow consisting of two sides, terminating in an angle at the bottom.

In forging the half round file, the steel is drawn out, as if intended to make a flat file. It is then laid in the die, and hammered, till the underside becomes round. The steel for the triangular file is tilted into square rods. The part to form the file is first drawn out with the hammer, as if intended to form a square file. It is then placed in the die with one of the angles downwards, and by striking upon the opposite angle, two sides of the square are formed into one, and consequently a three-sided figure produced. By successively presenting the different sides to the action of the hammer, the figure is rendered still more complete.

In forming the tangs of most files, it is necessary to make the shoulders perfectly square and sharp. This is performed by cutting into the file a little on each side with a sharp instrument and afterwards drawing out the part so marked off, to form the tang. After forging and previous to being ground and cut, the files require to be annealed. This process is generally performed by piling up a great quantity together in a furnace for the purpose, and heating them red hot; suffering them afterwards to cool slowly.

This method of annealing files, or indeed any other articles, in which great hardness is requisite, is very objectionable, since the surface of steel, when heated red-hot in the open air, is so liable to oxidation.

A superior method of annealing is practised by some file-makers, and since hardness in a file is so essential a property, the process ought to be generally adopted. This method consists in placing the files in an oven or trough, having a close cover, and filling up the interstices with sand. The fire is made to play on every side of the vessel, as gradually and as uniformly as possible, till the whole mass becomes red-hot. The fire is then discontinued, and the whole suffered to cool before the cover is removed from the trough.

Another evil may however arise from keeping steel red-hot even in a close vessel, for too great a length of time. It assumes a kind of crystallization, under which its tenacity is much impaired. Steel annealed in this way, is perfectly free from that scaly surface acquired in the open air; and if each article be perfectly surrounded with the sand, and the cover not removed before the steel is cold, the surface will appear of a silvery white colour. If the steel be suspected to be too kind, from containing too little carbon, powdered charcoal may be employed instead of sand, or sand mixed with charcoal. In this case the files should be stratified alternately with the charcoal, in order that the extra-conversion may be uniform.

The next thing is to prepare the files for cutting, by making the surface to contain the teeth as level as possible. This was formerly effected by means of files, and the process is called striping. The same is still practised by the Lancashire file-makers, and by others not having convenience for grinding.

The greatest quantity of files, however are ground to prepare them for cutting. The stones employed for the purpose are of the sand-stone kind, the texture of which is compact and sharp, but rather rough. They are of as great diameter as can be used with convenience; and about eight inches broad over the face. When used, the surface is kept immersed in water. The grinder sits in such a position as to lean over the stone, while its motion is directly from him. Its surface moves at about the same speed with those used in grinding cutlery. Since the object in grinding files is to make the surface as even and flat as possible, and as this cannot be done so completely upon a small stone, the stones of the file-grinder are laid aside when they are reduced to a certain size, and are employed for grinding other articles.

Though grinding is by far the most expeditious method, it does not give that truth to the surface which can be effected by filing. If the price of the articles would admit, however, it would be well to render the surface more even by the file after grinding. If the surface be not flat, it is obvious, that when the file is used for filing a large surface, those teeth in the hollow parts of the tile will not be brought into action. It is from attention to this circumstance, and to the care in annealing and hardening, that the Lancashire file-makers have generally excelled. They are, however, confined chiefly to the small articles, since the larger files would not pay for the process of striping.

The tools of the file-cutter consist of an anvil placed upon a block of such a height that the man sits to his work. He has also a piece of lead alloyed with tin, on which he lays the files when one side is cut. The chisel and hammer are of such size as the size and cut of the file require.

He is also provided with a leather strap, which goes over each end of the file and passes round his feet, which are introduced into the strap on each side in the same manner as stirrups are used. The file-cutter, therefore, sits as if he were on horseback, holding his chisel with one hand, his hammer in the other, at the same time he secures the file in its place by the pressure of his feet in the stirrups.

Great pains ought to be taken in preparing the edge of the chisel. It is, in the first place, hardened and tempered by heating it gradually till it appears of a yellowish brown. It is next ground very true to form the edge, which is afterwards finished upon a Turkey stone with oil. It is not required to be very sharp, the bottom of the tooth requiring to be rather open, to prevent the file from clogging with the substance to be filed. The edge is also required to be very smooth, in order that it may slip easily upon the surface of the files: this is also facilitated by slightly greasing the surface. From this advantage the worker, after making one tooth, is enabled by feeling only, to form at its proper distance the succeeding tooth, by sliding the chisel close up against the back of the preceding one.

In the double-cut files, the first set of teeth, which the workmen call up-cutting, are, previous to cutting the second course, filed slightly upon the face, in order to allow the chisel to slide freely.

The single-cut file is more durable than the double-cut, and ought to be preferred for all purposes excepting for iron and steel. The same method is employed in cutting the rasp. The workman is, however, guided completely by his eye in regulating the distance of the teeth from each other.

The rasp ought to be cut in such a manner that no one of the teeth may stand opposite to another; this not only allows the rasp to cut faster, but makes the surface either of wood or other substance much smoother.

The operation of simple file-cutting seems to be of such easy performance that it has for almost two centuries been a sort of desideratum to construct a machine to perform that, which is not only done with great facility by the hand, but with wonderful expedition. We are told that a lad not very much experienced in the business will produce, with his hammer and chisel, nearly three hundred teeth in a minute.

Three things are strictly to be observed in hardening files; first, to prepare the file on the surface, so as to prevent it from being oxidated by the atmosphere, when the file is red hot, which effect would not only take off the sharpness of the tooth, but render the whole surface so rough, that the file would, in a little time, become clogged with the substance it had to work.

Secondly, the heat ought to be very uniformly red throughout, and die water in which it is quenched fresh and cold, for the purpose of giving it the proper degree of hardness. Lastly, the manner of immersion is of great importance, to prevent the files from warping, which in long thin files is very difficult.

The first object is accomplished by laying a substance upon the surface, which, when it fuses, forms as it were a varnish upon it, defending the metal from the action of the oxygen of the air.

Formerly the process consisted in first coating the surface of the file with ale-grounds, and then covering it over with pulverised common salt.

After this coating becomes dry, the files are heated red hot, and hardened; afterwards, the surface is lightly brushed over with the dust of cokes, when it appears white and metallic, as if it had not been heated.

This process has lately been improved, at least so far as relates to the economy of the salt, which, from the quantity used, and the increase of duty, had become a serious object. Those who use the improved method are now consuming about one-fourth the quantity of salt used in the old method. The process consists in dissolving the salt in water to saturation, which is about three pounds to the gallon, and stiffening it with ale-grounds, or with the cheapest kind of flour, such as that of beans, to about the consistence of thick cream.

The files only require to be dipped into this substance and immediately heated and hardened. The grounds or the flour are of no other use than to give the mass consistence, and by that means, allowing a larger quantity of salt to be laid upon the surface. In this method, the salt forms immediately a firm coating. As soon as the water is evaporated, the whole of it becomes fused upon the file. In the old method, the dry salt was so loosely attached to the file, that the greatest part of it was nibbed off into the fire, and was sublimed up the chimney, without producing any effect.

Some file-makers are in the habit of using the coal of burnt leather, which doubtless produces some effect; but the carbon is generally so ill prepared for the purpose, and the time of its operation so short, as to render the effect very little. Animal carbon, when properly prepared and mixed with the above hardening composition, is capable of giving hardness to the surface even of an iron file.

The carbonaceous matter may be readily obtained from any of the soft parts of animals, or from blood. For this purpose, however, the refuse of shoe-makers and carriers is the most convenient. After the volatile parts have been distilled over, from an iron still, a bright shining coal is left behind, which, when reduced to powder, is fit to mix with the salt. Let about equal parts, by bulk, of this powder, and muriate of soda, be mixed together, and brought to the consistence of cream, by the addition of water. Or mix the powdered carbon with a saturated solution of the salt, till it become of the above consistence. Files which are intended to be very hard should be covered with this composition, previously to hardening. By this method, files made of iron, which in itself is insusceptible of hardening, acquires a superficial hardness sufficient to answer the purposes of any file whatever. Files of this kind may be bent into any form, and in consequence are rendered useful for sculptors and die-sinkers.

The mode of heating the file for hardening is by means of a fire similar to that employed by common smiths. The file is to be held in a pair of tongs by the tang or tail, and introduced into the fire, consisting of very small cokes, pushing it more or less into the fire, for the sake of heating it regularly. When it is uniformly heated of a cherry colour, it is fit to quench in the water. An oven is commonly used for the larger kind of files, into which the blast of the bellows is directed, being open at one end for the purpose of introducing the files and the fuel. After the file is properly heated, for the purpose of hardening, it should be cooled as quickly as possible; this is usually done by quenching it in the coldest water. Clear spring water, free from animal and vegetable matter, is best calculated for the hardening files.

When files are properly hardened, they are brushed over with water and powdered coke, when the surface becomes clean and metallic. They may likewise be dipped into lime-water, and dried before the fire as rapidly as possible, after which they should be rubbed over with olive oil, in which is mixed a little oil of turpentine while warm, and then they are finished.

In the operations of filing, the coarser cut files are always to be succeeded by the finer; and the general rule is, to lean heavy on the file in thrusting it forward, because the teeth of the file are made to cut forwards. But in drawing the file back again for a second stroke, it is to be lifted just above the work, to prevent its cutting as it comes back. The rough or coarse-toothed file, called a rubber, serves to take off the unevenness of the work, left by the hammer in forging. The bastard toothed file, as it is technically called, is to take out too deep cuts and file-strokes made by the rough file. The fine-toothed files take out the cuts or file-strokes which the bastard file made, and the smooth file those left by the fine file.

The entry under FILE-MAKING in the 1813 edition of Thomas Martin's **Circle of the Mechanical Arts** describes the contemporary method of file making and the various machines invented to make files.

The News editor has removed the text describing file cutting machines. The text describing file making has been edited to remove typesetting errors. The original paragraphing has been modified.



File cutting in Prescott Lancashire early 1960s

Mr F Byron the last file cutter?



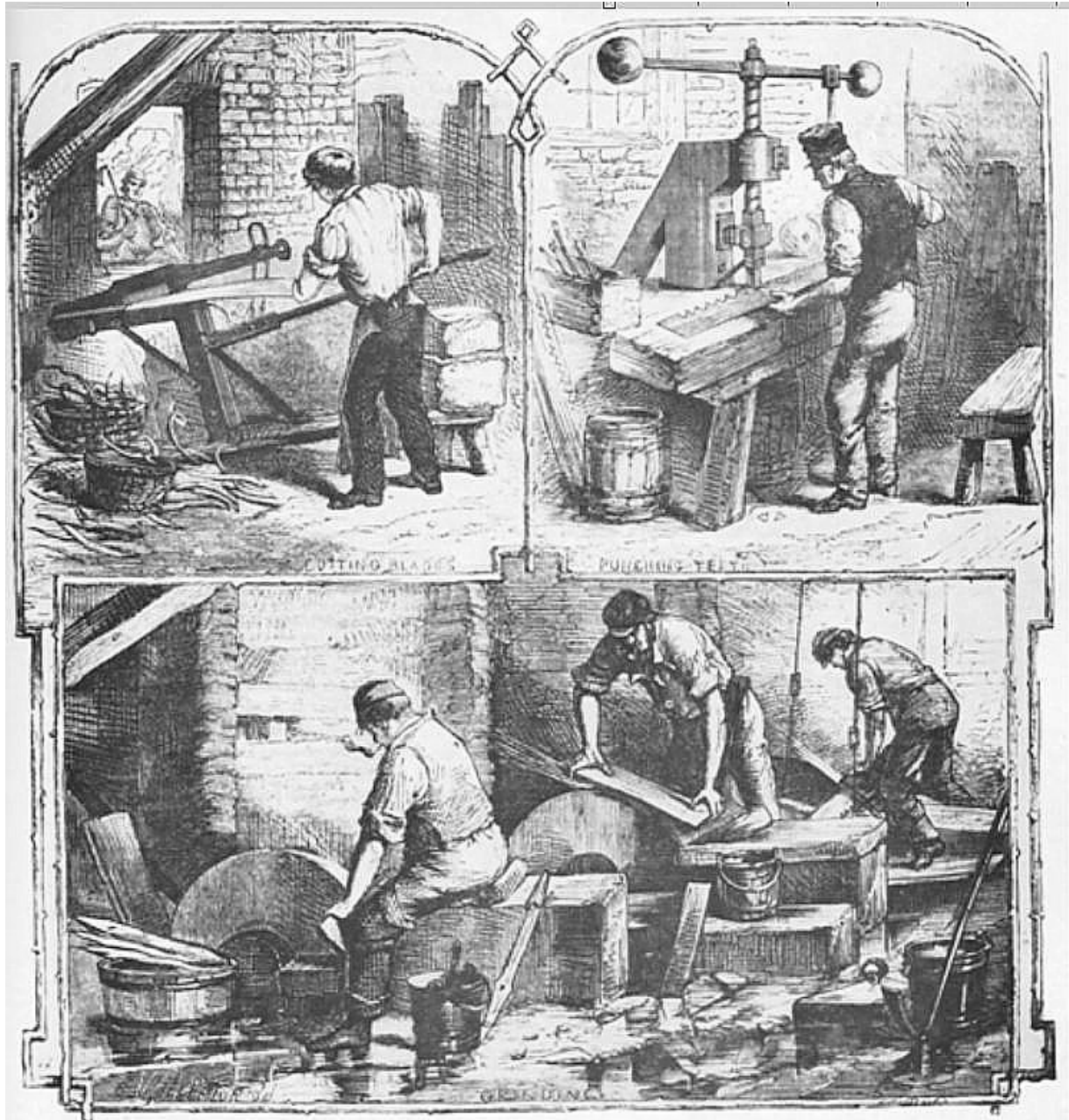
File cutting in Sheffield mid Nineteenth Century Beardshaw, Stevenson & Co,

Illustrations from, Industry and Technology
W H Chaloner and A E Musson Vista Books
London 1963

Saw Making, Sheffield 1866

The Working Man
February 1866 page 65

3



All the processes following the forging of the saw plate are illustrated.

To the contemporary reader the artist conveyed a sense of organisation and productivity. The modern viewer also experiences an image of the human cost of market regulated industry.

Industry and Technology
W H Chaloner and A E Musson
Vista Books London 1963

This long out of print book contains numerous images of traditional industries in the United Kingdom. The analysis is also excellent.

JD's

John Daniel

Nox-all

Time saver or back breaker?

Martin Wyles, a keen member of TTTG and “hawk-eyed “when it comes to spotting something a little out of the ordinary, arrived at my shed door with his latest mystery item .

A mystery it was, this cross between a rabbit trap setter and pump like contraption attached to its back; it sure got us scratching our heads, us being coastal folks and all. There was evidence of once a nameplate soldered to the barrel which may have given us a clue of its use; however a fellow collector from the bush put us right, of course, it was a “*Nox-all*”, why didn't we think of that?

The “*Nox-all*” was invented at a time when Australia was over-run by rabbits, plagues of this introduced species not only destroyed crops, the burrowing and stripping of ground cover led to soil erosion and land degradation.



The “**Nox-all**” in the ‘as found’ state

You may ask “what is a ‘**Nox-all**?’”

Well, it's a gadget that knocks all rabbits, next question, “*how does it work*”? Well, quite simply actually. Firstly, the digging side is used to scratch-up a bit of dirt, secondly, the spring loaded plunger is bumped down onto the fresh soil which releases some strychnine laced pollard (pollard, the grain by-product usually mixed with water and fed to chooks) contained in the barrel under the plunger; the unsuspecting buck rabbit comes along to check up on the freshly disturbed soil and unwittingly eats the bait.

Imagine the farmer after a full day trudging over paddocks scratching up dirt and cursing the pests and those that introduced them, not overlooking his attempts to straighten his back at the end of the day before heading back over the hills to home. Early farmers had their challenges, actually farmers still have.



Business end, mallet and plunger

A Nox-all rabbit baiting tool is on exhibit in the Bega Museum on the South Coast. This example has a brass trade plate marked “Nox-all Patent Pending - Sydney and Melbourne”



Close-up enlarged for clarity



Plunger open and closed



Mattock blade



Handle extended to bait container

JD's

The complete JD's columns as published in *NEWS* 2000-2011

In early 2012 TTTG will publish a compilation of John Daniel's ***JD's***

Any verifiable stories about John will be considered for inclusion.

Mechanic's Companion

The textbooks published by Peter Nicholson in the late eighteenth and early nineteenth centuries include illustrations and descriptions of tools.

The 1832 American edition of the *Mechanic's Companion* is a vast source of information. The full title of this book hints at the content.



The illustrations from Nicholson's books have frequently been reproduced but the text has not received the critical attention it deserves. To modern eyes used to uniform type face Nicholson's original text can be hard to read.

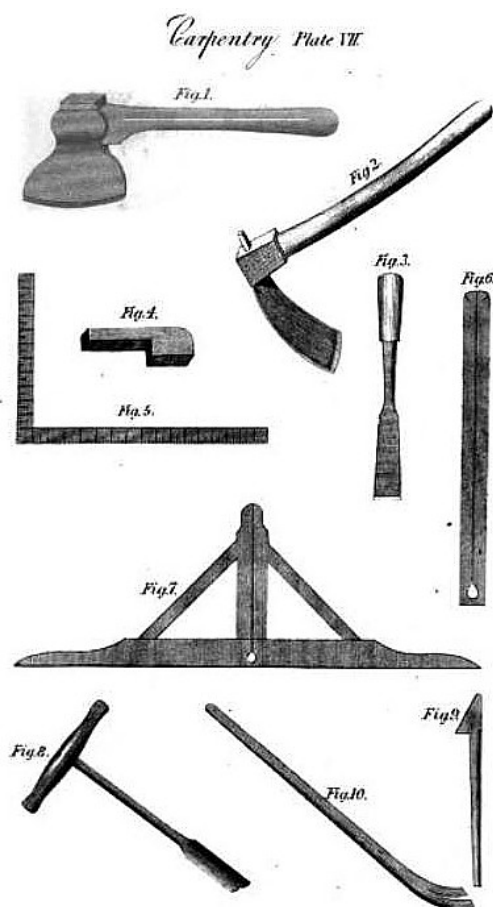
Fortunately the 1832 edition of the *Mechanic's Companion* is available as a reasonable quality digitalised copy. By down loading a plain text version the editor has been able to proof read and correct the original type face.

Mechanic's Companion or, The Elements and Practice of Carpentry, Joinery, Bricklaying, Masonry, Slating, Plastering, Painting, Smithing, and Turning,

*Comprehending the Latest
Improvements and containing a full
description of the tools belonging to
each branch of business; with copious
directions for their use. And an
explanation of the / terms used in each
art; also an introduction to practical
geometry.*

*By Peter Nicholson
Illustrated with forty Copperplate
Engravings*

*Published by James Locken
No. 8 South Front Street
Philadelphia 1832*



The Tools in Nicholson

Several future issues of News will publish extracts from Nicholson.

The editor has presented the original words in an easy to read format. The full extracts will be a good reference.

In this issue Saws are discussed.

Of Saws in general

A saw is a thin plate of steel indented on the edge for cutting, by a reciprocal change in the direction of motion, pushing it from, and drawing it towards you. The cut which it makes, or the part taken away in a board, is a thin slice, contained between parallel planes, or a deep narrow groove of equal thickness. Saws are of several kinds, as the ripping saw, the half ripper, the hand saw, the panel saw, the tenon saw, the sash saw, the dove-tail saw, the compass saw, and the key-hole or turning saw. The teeth of these saws are all formed so as to contain an angle of sixty degrees, both external and internal angles, and incline more or less forward as the saw is made to cut transverse to, or in the direction of the fibres: they are also of different lengths and breadths, according to their use. The teeth of a saw are bent alternately to each side, that the plate may clear the wood.

The Ripping Saw

Is used in dividing or slitting wood in the direction of the fibres; the teeth are very large, there being eight in three inches, and the front of the teeth stand perpendicular to the line which ranges with the points: the length of the plate is about twenty eight inches.

The Half Ripper

The half ripper is also used in dividing wood in the direction of the fibres: the length of the plate of this saw is the same as the former, but there are only three teeth in the inch.

The Hand Saw

Is both used for cutting the wood in the direction of the fibres and for cross cutting: for this purpose the teeth are more reclined than the two former saws: there are fifteen teeth contained in four inches. The length of the plate is twenty six inches.

The Panel Saw

The panel saw is used for cutting very thin wood, either in a direction of, or transverse to the fibres. The length of the plate is the same as that of the hand saw, but there are only about six teeth in the inch. The plates of the hand saw and panel saw are thinner than the ripping saw.

The Tenon Saw

The tenon saw is generally used for cutting wood transverse to the fibres, as the shoulders of tenons. The plate of a tenon saw is from fourteen to nineteen inches in length, and the number of teeth in an inch from eight to ten. As this saw is not intended to cut through the wood its whole breadth, and as the plate would be too thin to make a straight kerf, or to keep it from buckling, there is a thick piece of iron fixed upon the other edge for this purpose, called the back. The opening through the handle for the fingers of this and the foregoing saws is enclosed all round; and on this account is called a double handle.

The Sash Saw

The sash saw is used by sash makers in forming the tenons of sashes: the plate is eleven inches in length. The inch contains about thirteen teeth; this saw is sometimes backed with iron, but more frequently with brass.

The Dove-tail Saw

The dovetail saw is used in dovetailing drawers. The length of the plate is about nine inches, and the inch contains about fifteen teeth. This plate is also backed with brass. The handles of the two last saws are only single.

The Compass Saw

The compass saw is for cutting the surfaces of wood into curved surfaces: for this purpose it is narrow, without a back, thicker on the cutting edge, as the teeth have no set. The plate is about an inch broad, next to the handle, and diminishes to about one quarter of an inch at the other extremity; here are about five teeth in the inch. The handle is single.

The Key-hole or Turning Saw

The key-hole saw is similar to the compass saw in the plate, but the handle is long and perforated from end to end, so that the plate may be inserted any distance within the handle. The lower part of the handle is provided with a pad, through which is inserted a screw, for the purpose of fastening the plate in the handle: this saw is used for turning out quick curves, as key-holes, and is therefore frequently called a key-hole saw.

Contemporary Saw Terminology

Any discussion of saws made in the first half of the nineteenth century should use Nicholson's terminology.

These are the key terms;

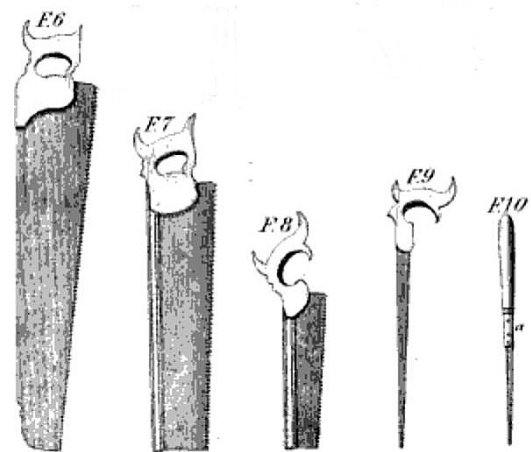
Plate, the steel blade

Length, length equals plate length

Handles, Rip, Hand and Panel saws have double handles. Tenon and dovetail saws have single handles.

Backs, Tenon saws have iron backs. Sash and dovetail saws usually have brass backs.

Teeth size, the number per inch.



The saws from left to right

- The first drawing depicts the *Rip, Half Rip, Hand and Panel* saw.
- The second saw is the *Tenon* saw.
- The third saw is the *Dove-tail* saw.
- The fourth saw is the *Compass* saw.
- The fifth saw is the *Turning* saw.

Modern Saws

Approximately one hundred years after the 1832 American edition of Nicholson's Mechanic's Companion the advertisement below appeared in an American magazine. Readers of Popular Mechanics June 1931 were introduced to the modern saw.

Disston's New Keystone Saws were the first saws to significantly improve on traditional saw making technology.

Previous changes in saws were really changes in design. The straight back with nib co-existing with the skew back, several designs of wooden handle competing for popularity, improved rivets etc but no real change in the materials used to make saws.

Disston embraced new polymers and introduced a synthetic handle. Then the aluminium saw handle in 1970. The hand saw rival and the Veritas backsaw handle a few years ago.

New KEYSTONE SAWS
 MADE BY **DISSTON** *for the home*

\$1.00 FOR 16 INCH 10 POINT CROSS-CUT

\$1.50 FOR 20 INCH 9 POINT CROSS-CUT

\$2.00 FOR 26 INCH 8 POINT CROSS-CUT OR 5 1/2 POINT RIP

JUST OUT! New, economical, beautiful, with colorful handles in orange and black.

Disston Keystone Hand Saws, designed for the home tool kit, made from Disston Steel, with the Disston temper, sell for as little as \$1, \$1.50 and \$2. (In Canada, \$1.25, \$1.90 and \$2.50).

Made in three convenient sizes: 16-inch, fine teeth, for fine cutting; 20-inch, medium teeth, for everyday jobs; 26-inch, standard teeth, for all-around work. Greatest values ever known! Ask your hardware dealer.

New PRICES on "The Saw Most Carpenters Use"

Carpenters and others can now get their favorite Disston Saws at these prices:*

- | | | |
|--------------|---|------------------------|
| \$275 | Straight back, regular pattern. Disston's lowest priced expert mechanic's saw. True taper ground. | D-7
26-inch |
| \$325 | Skew back, the most popular saw on earth, favorite of mechanics. Lightweight or regular pattern, true-taper ground. | D-8
26-inch |
| \$350 | Straight back, lightweight pattern. A favorite with expert tool users who prefer straight back saws. True-taper ground. | D-23
26-inch |
| \$425 | Straight back, lightweight. Greater beauty, finer finish, high temper. True-taper ground. | D-12
26-inch |
| \$500 | Straight back, lightweight. Finest Disston Saw—and the most beautiful. True-taper ground. Also made skew back, regular pattern, as D-115. | D-15
26-inch |

*Prices in Canada slightly higher

Consignments and Sales

As well as President I'm also *NEWS* editor, workshop planner/presenter, tool consignment salesman and auctioneer. All of which I have done for a number of years. I usually get there by thinking on my feet and by sometimes boxing clever.

The hardest jobs I take on are without any doubt those involving the sale or disposal of old tools.

Fortunately I'm not a tool collector. I use old tools and the tools I value are usually not the tools that collectors fight over. However I do have a pretty good knowledge of old tools and I keep up with current market prices.

TTTG gets a fair number of questions about old tools. The enquiries fit into this approximate pattern:

****I have some old tools***

****What are they?***

****Does TTTG want them? OR***

****What are they worth?***

****How can I sell them?***

Either myself or Mike will field the initial inquiry by explaining the reality of the old tool universe.

If the enquirer seems genuine we will offer to have a look at the tools and make some suggestions. The crucial words to get across are these

TTTG doesn't offer valuations.

Most people who approach TTTG are reasonable people and appreciate the suggestions offered.

Bob Crosbie *TTTG President*

Everyone has the right to try and sell something they own for the best price. A bit of salesmanship is fine but if someone is trying to play the market they need to be a skilled player. Many have tried to manipulate TTTG into valuing 'unique' or 'huge' collections. The answer may be diplomatic or direct but it is invariably

TTTG doesn't offer valuations.

Donations are the perfect solution. The tool donor leaves happy in the knowledge that the tools will find a good home and be looked after.

For those who want to raise a bit of cash TTTG consignment sales is a pretty good deal. For only twenty percent commission TTTG does all the hard work and will sell everything at the 'real market value'. No cherry picking, no *we don't want it*. The only tools TTTG will not try and sell is brand new power tools.

I explain TTTG's sales strategy to the vendor and point out that I try and get the best price so TTTG will get the top commission. It works for both parties.

Tools that collectors want are quick sellers. I usually approach a collector I know will be interested and we negotiate an acceptable price. If a collector wants something he will usually pay a fair price. If not his rival will pay up and get to boast about his latest find.

Good user tools also go quickly if they are offered at fair prices. My network includes both collectors and users. If I know a user wants a particular tool I will contact him and suggest a price.

Some tools are slow to sell but there are some part time tool dealers who will take bulk lots of a particular tool. For these individuals I have a set price that has been mutually agreed. These rapid sales often kick start additional sales. Anyone who tries to rip off TTTG quickly gets struck off my list.

The 'good tool but needs work' stuff will be sold to TTTG members. Some will turn up at the workshops, some at the general meetings. Usually I ask for offers and achieve a fair return.

Some tools go under the auctioneers' hammer. This is the most exciting way of selling. No auctioneer can predict the prices. Sure auctioneers will play the audience but often the results surprise everyone, including me.

I never give a seller a firm indication of how much they will get because it really is impossible to do so. Some vendors will tell me what they have been offered for the tools and if I think they are genuine I will comment.

One woman, a bit of a rough diamond to most people but the sort of person I relate to, told me a dealer had offered her \$200. We shared an opinion of real estate agents and other sharks and I explained my sales strategy.

Three weeks later her share of the sales was \$1200. She sent an email '*A lot better than the grubs offered, best \$200 I've ever got*'

Sometimes it isn't any easy ride. The vendor will be happy with initial sales but a relative will start *white-anting* with 'I could have done better'. It can be difficult but in most cases TTTG leaves our customers happy.

TTTG doesn't limit itself to hand tools. Occasionally we will handle dispersal of old machinery. I can usually find a buyer for old small machines or very old power tools. The prices are never high but the alternative is usually the scrap yard. Some machines will be sold instantly but unfortunately I don't ever get asked to sell Uncle Bill's Myford lathe with all the accessories.

TTTG does sometimes get asked to help get rid of very big machinery.

The last consignment of really big machines took over a year to place. Initially the owner's son wanted big money even though he knew the stuff was redundant and unsaleable.

As well as the big machines there were lots of hand tools. I sold these quickly at good prices so the vendor had trust in TTTG. Eventually I had to suggest to the woman that her son wasn't being fair and if she wanted to clear the machines she had to make some decisions. I suggested TTTG arrange a donation. She agreed.

These big engineering machines were eagerly accepted by TTTG's friends at the Sydney Heritage Fleet.

The Friends of Cockatoo Island are also looking for some machines. TTTG has the network to find the home for some vintage machinery otherwise heading for the scrap yard.

How to contact TTTG if you want to donate or sell old tools

Mike Williams 02 9144 6356

Bob Crosbie crosbie.bob@gmail.com

www.tttg.org.au

Australian Power Tools

Australian portable power tools were in production by the 1950s. Black & Decker Victoria seem to have been the market leaders. This manufacturer was probably a subsidiary of Black & Decker USA or Black & Decker GB. *Research will uncover the company structures and the extent of the firms producing Australian power tools.*

Anyone who has used these power tools can testify to the quality of the machines. Most of the components were locally manufactured. The real surprise is the variety and number of Australian portable power tools.

Currently most of these old power tools are heading for landfill. Some of us are brave enough to use these veteran power tools.

Warning

Get someone qualified to check out old power tools before plugging in and switching on.

The editor has a Black & Decker portable Circular saw and a more modern Makita portable Circular saw. Both saws are the same size. Both saws are excellent tools. The editor finds the old Black & Decker to be a much more comfortable machine to use. Likewise the editor has a 1960 Black & Decker electric Router. It is slightly less powerful than the editor's modern Makita Router but far easier to adjust and more comfortable in use. The editor has two heavy duty portable drills, you guessed it the 1960's Black & Decker out performs the 1980s Makita. The manufacturing quality of the old Black & Decker tools made in Victoria is outstanding.

You will have also guessed that the editor brought the Makita power tools second hand at the right price.

Black & Decker Victoria Power Tools were retailed by the leading tools and machinery distributor *McPherson's*.

McPherson's Limited 1955 Catalogue lists six pages of Black & Decker power tools and accessories.

McPherson's Limited 1960 Catalogue lists eight pages of Black & Decker power tools and accessories.

Berto's Research Project

Berto Pandolfo is a lecturer in Industrial Design at UTS Sydney.

Berto is undertaking a PhD about Power tool manufacture in Australia, circa 1940-1990.

Berto contacted TTTG hoping to be able to connect with people who might have an interest in early Australian power tools and also to advertise the fact that he is doing this study.

The TTTG Committee invited Berto to the last TTTG Meeting where he briefly spoke to the audience. At the end of the meeting Bert joined TTTG.

You can visit Berto's blog - <http://powertoolstudy.blogspot.com> There are a number of the power tools he managed to collect over the last year or so.

Berto Pandolfo is Director Industrial Design and a Senior Lecturer at UTS. If you have any old Australian power tools or any information about them you are invited to contact Berto.



U500 POWER UNIT



U15 UTILITY DRILL

Black & Decker

PORTABLE ELECTRIC TOOLS

U500 — POWER UNIT

No load Speed (R.P.M.) .. 3,000. Weight .. 3 1/2 lbs. Overall Length .. 8" Universal Motor for voltages .. 22, 110, 240 Standard Equipments: 2-pole instant release trigger switch and locking button, mounted as unit with cord protector, 3-core cable (third wire for earthing); 3-gear chuck, key and key chain. This unit is fitted with a 1/4" chuck because 3,000 r.p.m. is needed for sawing, sanding, grinding, etc. MUCH MORE POWER AVAILABLE THAN IS NEEDED FOR 1/4" DRILLING.

U15 — UTILITY DRILL

Powered and geared to the correct torque and speed for all types of drilling — to 3/8" in steel, 1/2" in hardwood, 1/2" in masonry. Drives 3/8" to 1 1/4" hole saws. No-load Speed (R.P.M.) .. 1,000. Weight .. 3 1/2 lbs. Motor — B. & D. Universal for 240 volts (also available in 52, 50 or 110 volts).

D7638 — LATHE

This easy-to-handle, solidly built lathe will make a fascinating range of useful articles — chair legs, ash trays, candle sticks, table lamps and toys — turn wood up to 2 3/8" dia. and acts as a horizontal bench stand for sanding, grinding, buffing and wire brushing.

U44 — ORBITAL FINISHING SANDER

Sanding surfaces, 3 1/2" x 7 1/2". Weight, 5 lbs. Overall dimensions: Length, 9 1/2", width, 3 1/4", height, 6 1/2". Flaten orbits per minute, 4,250; diameter of orbit, 7/8". Motor: Universal AC/DC to 240 voltage. Instant release trigger switch. Can be locked "ON." Grease sealed ball bearings. Fitted with 3-core cable. Comes complete with 4 abrasive sheets.

U1013 — SAW ATTACHMENT

An invaluable accessory which, fitted to a B. & D. Drill, turns it into a robust, portable power saw. Normal depth of cut of the 3" blade is 1 3/4" — with friction loaded automatic safety guard. The basal adjustment allows cutting up to 45° angle. Provided with rip fence for cutting widths of up to 3 1/2", or by fitting slip fence to reverse side, widths of 3 1/2" to 5 1/2".

DB118 — ORBITAL FINISHING ATTACHMENT

Ideal for sanding wood, metal, compositions, plastics, for preparing new surfaces and removing old paint. Hand sanding for final finish is eliminated as orbital motion ensures a satin smooth finish. Net weight, 2 1/2 lbs. (with drill attached, 5 1/4 lbs.) Overall size: Length, 7 1/4", width, 3 1/4", height, 2 1/2" (without drill). Paper size, 3 1/2" x 9" (1/2" of standard 9" x 11" abrasive paper). Flaten orbit diameter, 1/2".

VERTICAL DRILL PRESSES

U2300 — 1/4" Bench Stand for Utility Drill

These stands quickly convert B. & D. Portable Electric Drills into a smooth feeding drill press. Specially designed for accuracy and ease of drilling.

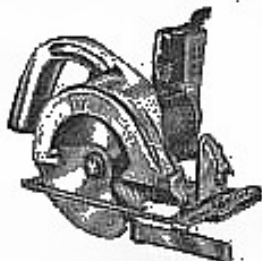
U2301 — 1/2" Bench Stand for 1/2" Utility Drill

U2302 — HORIZONTAL STAND

Permits 1 1/2" Utility Drill, All-Purpose Unit, 3/8" Utility Drill and U500 Power Unit to be clamped horizontally, converting it to a bench or power unit. Locks both hands free to manipulate work.



U44 ORBITAL FINISHING SANDER



U1013 SAW ATTACHMENT



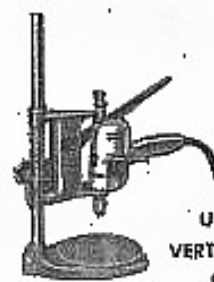
DB118 ORBITAL FINISHING ATTACHMENT



U2301 1/2" VERTICAL DRILL STAND



U2302 HORIZONTAL DRILL STAND



U2300 1/4" VERTICAL DRILL STAND

A BLACK & DECKER POWER UNIT POWER DRIVES A WORKSHOP

Very few people today are interested in owning just a drill. Rather, they look for the power unit that drives a variety of attachments and accessories, thus providing the outlet for a complete home workshop.

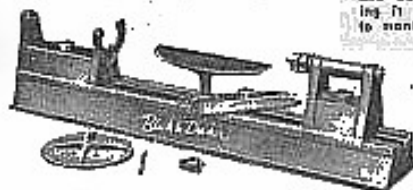
Over the years, Black & Decker have developed the most complete range of versatile attachments to satisfy just the man who desires to own, or build up, a complete home workshop.

Each Black & Decker Power Unit is designed to drive the entire range of B. & D. attachments. Built in to them is strength and quality necessary for long, continuous operations, such as sanding, polishing and badge finishing — as well as stop and go jobs like drilling and sawing.

In all, Black & Decker manufacture attachments and accessories for 22 different operations — considerably more than any other maker — the only complete range of attachments that can truthfully be claimed as suitable for one-hand operation — this because only Black & Decker power units are truly designed to fit "hand in glove" with B. & D. engineered attachments, forming close-coupled, perfectly balanced units.

Here are the major, latest-cost attachments available.

- Circular saw — Jig-saw — Finishing Sander
- Hedge-trimmer — Saw table — Drill stand
- Lathe — Sanding — buffing and grinding accessories.



D7638 LATHE

180 McPHERSON'S LTD.

Oil Stone Sharpening

For sharpening woodworking edge tools the editor prefers oil stones. However he is the first to admit that technique is more important than the type of sharpening medium used.

If you want to learn how to sharpen to razor sharpness come to a TTTG Sharpening Workshop in 2012.

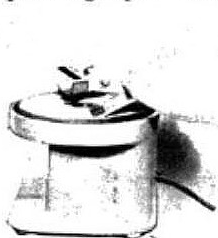
Norton abrasives in the 1930s ran a series of advertisements promoting oilstones. The one opposite is from Popular Mechanics June 1933.

Classic great advertising and also excellent advice.

Every decade has witnessed a new device to speed up sharpening. The motorised oilstone must have been an obvious candidate for any inventor. There are many versions of powered oilstones but I've never seen one that works without a lot of mess.

OILSTONE OPERATED BY MOTOR SHARPENS TOOLS QUICKLY

Sharpening tools is simplified and speeded by the use of a motor-driven oilstone. The motor, and a frame concealing it, form the base. The axle carrying the disklike stone is vertical and causes the stone to turn like the revolving table of a phonograph. The tool can be held in both



hands, so the blade meets the stone at the usual angle, thus giving a keen edge without moving it back and forth. A felt wiper, suspended over the stone in a metal frame, keeps it clear of debris and excess oil and also serves to feed the oil to the stone by gravity.

Popular Mechanics April 1933



Don't Monkey with an Oilstoned edge

Kerosene lubricated power grinders seem to have been popular in the USA in the 1930s.

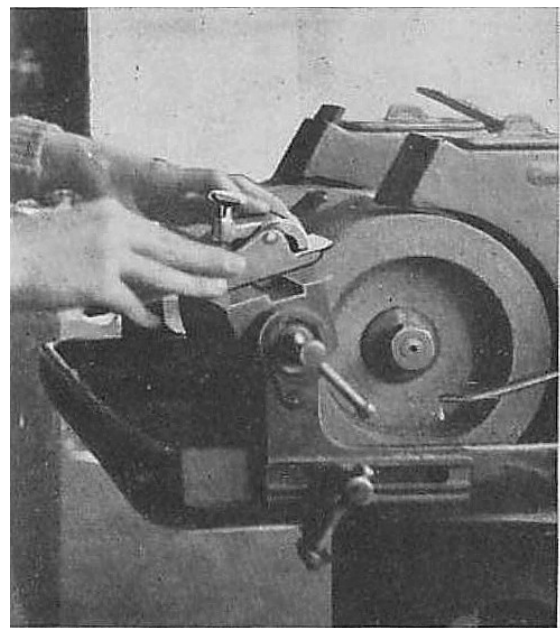


Fig. 14. Grinding a plane iron on an oilstone grinder. Kerosene drops on inside of cup wheel and filters through to the surface.

*Basic Woodworking Processes
Herman H Hjorth New York 1935*

Do you have such a machine?

Z756—SILICON CARBIDE BENCH STONE



115	8 x 2 x 1	Fine	12/3
116	"	Medium	12/3
117	"	Coarse	12/3
121	6 x 2 x 1	Fine	9/-
122	"	Medium	9/-
123	"	Coarse	9/-
133	7 x 2 x 1	Fine	11/-
134	"	Medium	11/-
135	"	Coarse	11/-
107	4 dia x 1	Combination	11/-
108	8 x 2 x 1	Combination	14/9
109	6 x 2 x 1	Combination	11/-
110	7 x 2 x 1	Combination	12/3
111	5 x 2 x 3/4	Combination	8/3
156	8 x 2 x 1	Extra hard and fine	14/9
158	6 x 2 x 1	Extra hard and fine	11/-

**Z757—ALUMINIUM OXIDE BENCH STONE
No. 88 (INDIA TYPE)**



Harder than Silicon Carbide, long-lasting, give a beautifully smooth razor-like edge and hold their shape well. Each Aluminium Oxide stone is oil impregnated. Combined qualities of hardness, sharpness and toughness make these stones of outstanding value in machine shop, for use on lathes and planer tool and scraper blades. They also produce fine oilstone finishes on woodworking tools.

	Size 8 x 2 x 1.		
	Fine	Medium	Coarse
No. 88 B		MB 8	CB 8

Z758—COMBINATION STONES

Coarse and fine grits vitrified into a single stone. Coarse side for dull tools; fine side for a finished edge.

No.	188	187	186
Size, ins. . .	8 x 2 x 1	7 x 2 x 1	6 x 2 x 1

Prices on application.

Z759—POCKET STONE

No. 149 3 x 3/8 x 3/8 ins. 2/- each

Z760—FLAT TAPERED SCYTHE STONE



148 No. 198 9 1/4 ins. long . . 2/6 each
McPHERSON'S LTD.

AUSTRALIAN ABRASIVE STONES



Z764—MACHINISTS' FINE STONES

each
No. 292 4 x 1 x 1/2 ins. Fine 4/6
No. 293 4 x 1 x 1/2 ins. Med. 4/6

Z765—SLIP STONES

177	4 1/2 x 1 3/4 x 1/2 x 1/8	Fine	5/3
178	"	Med.	5/3
179	"	Coarse	5/3
180	4 1/2 x 2 1/4 x 3/8 x 1/8	Fine	7/3
181	"	Med.	7/3
182	"	Coarse	7/3
183	4 1/2 x 1 3/4 x 1/2 x 1/8	Fine	5/3
184	"	Med.	5/3
185	"	Coarse	5/3

Z766—THICK COMBINATION KNIFE STONES

No. 289 4" dia. x 1 1/2" 16/3 ea.



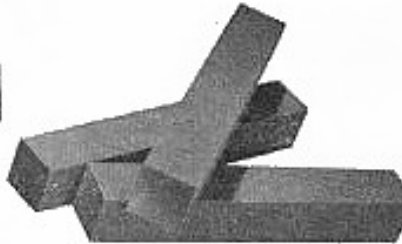
Z761—COMBINATION AXE STONE

No. 196 3 ins. dia. x 3/8 ins. . . . 15/6 each



Z767—UNFINISHED BONDED VITRIFIED BONDED SQUARE STICKS

Hard, sharp and fast-cutting, these sticks are widely used by jewellers, die cutters, engravers and instrument makers. Very useful for removing stock from corners of dies without scratching. Each of the following sizes available in fine, medium and coarse grits.



Z768—ROUND STICKS

These sticks are specially suitable for use on tools and dies with either straight or curved edges. Each of the following sizes available in fine, medium and coarse grits.



1/4, 3/8, 1/2 x 4 ins. Square, Round, Triangular Half-Round.

Z762—GRINDING WHEEL DRESSING STICKS

- 1/2 x 6 ins. long, round
- 3/4 x 6 ins. long, round
- 1/2 x 6 ins. long, square
- 3/4 x 6 ins. long, square

Z769—REAPER KNIFE FILE

No. 57 14 in. long . . . 8/3 each

Z770—OVAL SCYTHE STONES

No. 190 10 ins. long . . 2/6 each

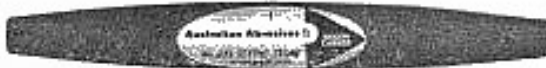
No. 191C 12 ins. long . . 3/3 each

Z763—FINISHED HONING STICKS

Available to suit Sunnen, Micromatic, Hall and Hipsley Honing Tools. Further particulars on application.

Z771—ROUND SCYTHE STONES

No. 203 12 ins. long, 4/6 each.



On the Web

Cornish Workshop is a site every wood working member should visit.

Alf's blogs are brilliant but they are only the tip of a sustainable mother lode of information on old tools.

The links on Cornish Workshop are;

Home - Workshop Tour - Galootish Gleanings - UK Tool Dealers - Combi Plane Central - Shooting Boards - The Newlyn Tool Chest-Step-by-step Projects - Tool Reviews - Blog - Links - Who am I anyway? - Contact me

When you click on this is what you will find.

Workshop Tour

This has photos of someone else's workshop. It is full of ideas.

Galootish Gleanings

This takes you to an assortment of eccentrics and other nutters who all have something of real value to offer. Some great ideas and methods and a few 'maybe but' inclusions.

Blog

Alf's blogs are regular and always interesting. She writes well and the new blog always gets replies.

Who am I anyway?

She? Find out about Alf.

Links

Alf's links are worth following. TTTG is there.

UK Tool Dealers

Cashed up collectors will know all the dealers but the users among us will enjoy the pictures and catch up on market values.

Combi Plane Central

This contains all the hard to find information on combination planes and most old instruction leaflets.

Shooting Boards

Old designs of shooting boards that work and are easily made.

The Newlyn Tool Chest

This is Alf's on-going project, great pictures of old tools and tool chest.

Projects

If you are looking for something to make you might find it here. Good practical designs.

Tool Reviews

Alf gets some top line new tools to review. She gives honest evaluations and is totally impartial.

Stanley and similar parts

Hans Brunner has lots of spares. Hans's prices are fair and his descriptions are accurate.

Hans not only sells old tools but also processes real knowledge.

Hans's Stanley by numbers is the best local guide to Stanley values.

Google *HANS BRUNNER TOOLS*



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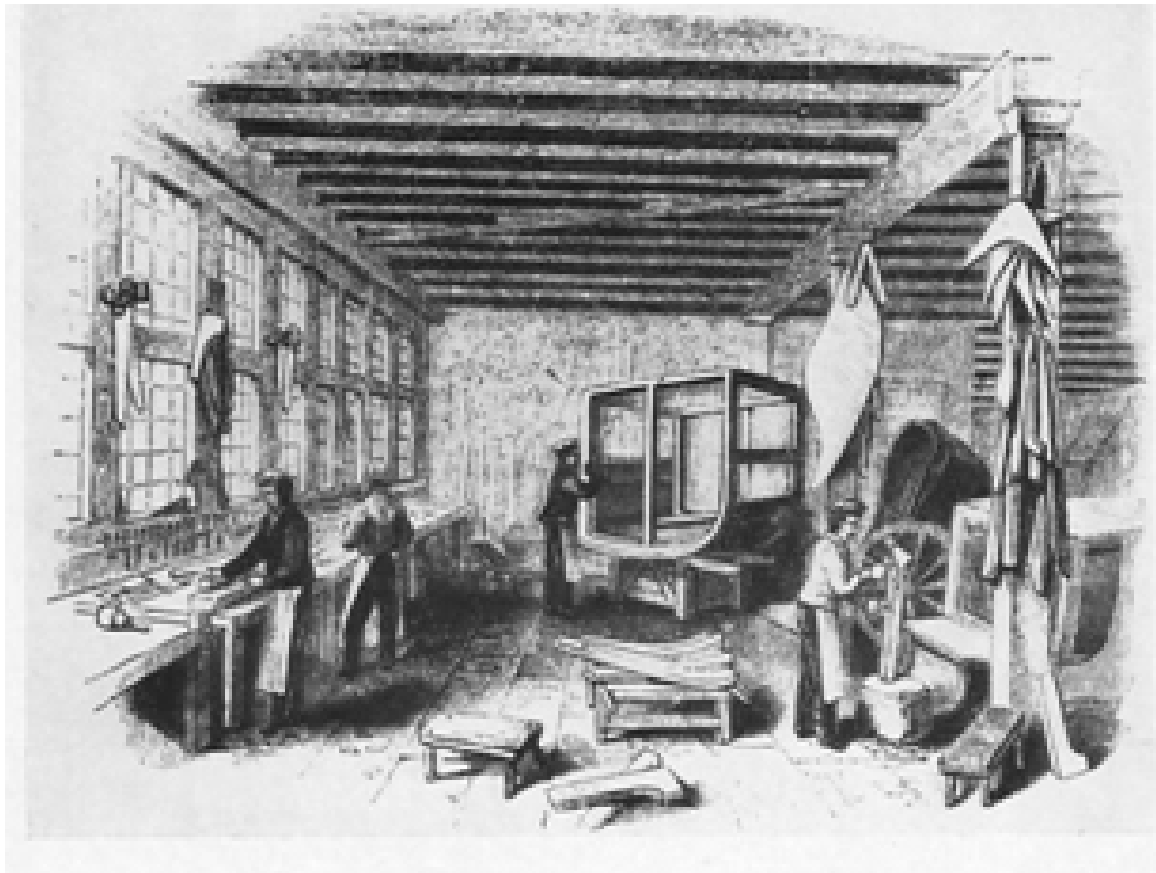
Assorted Screwdrivers

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Carriage Workshop



Industry and Technology
W H Chaloner and A E Musson
Vista Books London 1963

This drawing shows the interior of a coach maker's workshop in 1861. There is lots of space. The ceiling is high. One wall is glazed throwing light onto the long wall benches.

Templates hang from the ceiling beam and on pegs in the window frames. At the back of the workbenches there are racks for chisels and similar tools.

The workman in the foreground is planing stuff in a leg vice. The man behind him might be setting out.

This is a clean well laid out workshop.

Carriage Manufactory 1861
J Cockshoot junior Manchester

There are many low four leg stools in this workshop. These stools may seem to be an anachronism however the drawing shows how well they were suited to the work they are doing.

The man in the right foreground is using a side axe to shape coach parts, probably the components on the stool immediately behind him.

In the background the fourth man in this part of the workshop is working on an assembled coach frame.

There is plenty of information but how much is artist's licence?

Motor Carriage Workshop



Industry and Technology
W H Chaloner and A E Musson
Vista Books London 1963

This photograph was taken in a modern Motor Carriage Workshop fifty years after the drawing of the Carriage Workshop on the opposite.

In many respects both workshops are similar. It is probable that the long bench on the left is in front of large glazed lights.

What the artist's eye may have missed the photographer's lens may have accurately captured. There are many shavings on the bench so it is likely the photo wasn't stage managed. It is possible to make out the chisels and similar in the wall racks. The means of storing the wooden planes is clear.

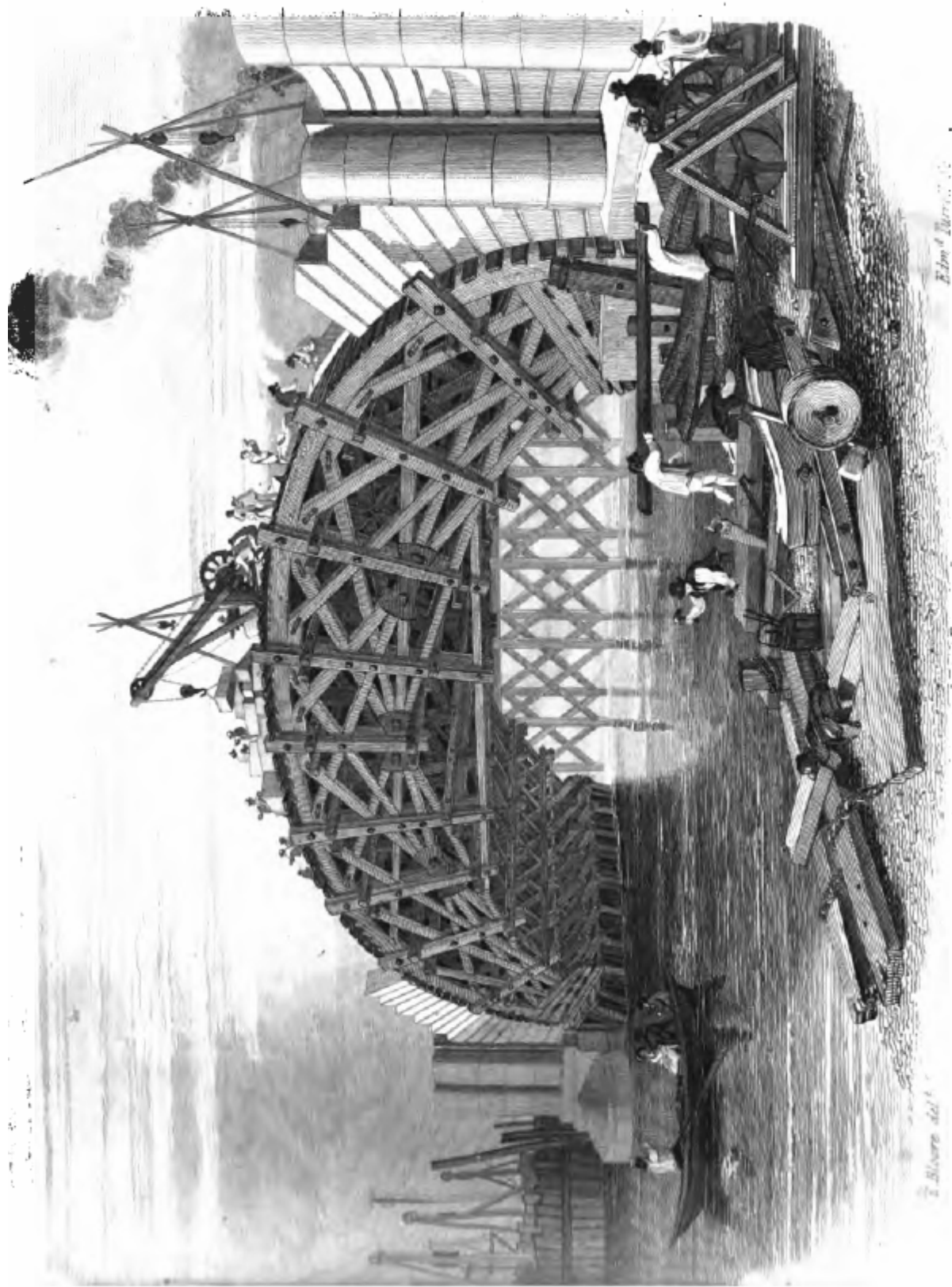
Morris Motor Body Shop
Oxford 1913

There are differences but there are also many similarities between the shops separated by half a century.

The benches in the Morris works seem portable and there are no assembly stools in use. Perhaps they were used in the part of the works where the bodies were assembled.

The block and side axe seem to have vanished from the workshop no doubt displaced by the Bandsaw.

The Morris Motor Body Shop snapped in 1913 is more like the 1861 carriage workshop of fifty years before than a car assembly plant in the 1960s.



A Perspective View of the Centering of Waterloo Bridge.

Waterloo Bridge 1817

Carpenter's Work

The drawing on the facing page is reprinted from the revised edition of Peter Nicholson's *Carpentry, Joinery and Cabinet Making*.
Thomas Tredgold (London)

Waterloo Bridge was build over the Thames in London in 1817.

The bridge was named after the victory in the Battle of Waterloo.

The drawing shows the false works nearly completed and the masonry arches beginning to be laid over the arch centres.

False Works is the old term for *form work*. In 1817 there was no such material as form-ply.

Efficient *False Works* was one of the pinnacles of traditional carpentry skills. Such work was as demanding as cutting and erecting large span roof structures. After the completion of the masonry all evidence of the false work was removed from the structure.

The cathedrals of Europe, all masonry and brick buildings and bridges were only possible because of the skills of the carpenters who erected the wooden supporting structures for the masons and bricklayers to erect the load bearing arches.

Waterloo Bridge is one of the modern structures where old technology and the industrial revolution co existed.

The drawing is worth close inspection. The design of the false works centres is superb. Note the wooden machines.

The keen eyed will notice the use of iron to connect the timber members. This is modern materials applied to old structural solutions. There are no medieval joints to weaken the timber components. Instead wrought iron plates and compressing screwed rods strengthen the timbers. All loads are carried without any weak connections.

The engineering may be modern in concept but the equipment could be from ancient Rome. The simple lifting and moving machines used are made of wood reinforced with wrought iron.

Sheer Legs, Crane, Winch and Timber Jinker are all made of wood. The next decade would witness the use of cast and wrought iron to manufacture these basic machines.

The carpenter in the fore ground is using mallet and chisel. A handsaw rests on the beam he is chiselling.

If this was a pre industrial illustration there would be two master tradesmen in prominent positions.

Holding large squares would be both a master carpenter and a master mason showing their controlling positions. The man controlling this structure is the Engineer. The design of the bridge is rooted in an understanding of materials combined with a scientific understanding of structure.

I suspect the smoke in the right top corner suggests the presence of a steam engine.

A few hundred yards from the site of Waterloo Bridge the new generation of practical engineers were working on the machines destined to transform technology and society.



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