



The Drift

**Edition 102
AUG 2016**

**Quarterly newsletter of The Australian
Blacksmiths Association (Victoria) Inc.
Reg. # A0022819F**

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"He can make anything.

"Ask him for an acorn, an oak leaf, a beautiful lantern, anything at all, he can make it in iron or copper. People, Americans particularly, love to come and watch him in action," said Jack Caslake.

Of course the subject of this glowing endorsement was none other than ABA (Vic.) Inc.'s own Don Marshall.

Don joined Caslakes, a business with a reputation for meticulous artistry in metalwork second to none in Australia, fresh out of school and remained with them for



Don demonstrating the forging of a leaf in 2006 at The Barn.

his entire working life.

A founding member of the Victorian Blacksmiths Association, which later became ABA (Vic.) Inc., Don's commitment to this Association has been extraordinary.

He devised our Wrought Iron Course and has run at least one, and often several of these courses each year since our inception until only a few years ago.

Don's other interests include competitive Scrabble with club and Victorian Championship level participation, an active role in his church and travel.

"In the future, I would like to see The Barn a place of learning and extending of skills and a place where we can gather and share among ourselves the skill and fun of



Don displaying scarfed flat bars prior to fire-welding during a demonstration at Ray Gard's 'Raven Forge' in 2012.



Don and wife Lorraine during a gathering to celebrate Don's 90th birthday.

blacksmithing," Don has remarked in the past.

A great number of keen and fortunate students, eager

to gain knowledge from an acknowledged master of the craft, have benefitted from the kind and generous manner with which Don has passed on some of his extensive blacksmithing knowledge.

Don recently celebrated his 90th birthday and on behalf of all past and present members of ABA (Vic.) Inc. we wish him all the best.



A lamp from The Koot, in Hawthorn, is indicative of just some of the skills brought to bear by Don Marshall during his time with Caslakes.

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The Drift 103 out Nov. 2016.
Deadline is 01 OCT. 2016.

PRESIDENT
Andrew Mobilia

GENERAL COMMITTEE
Ben Sokol
Gavin Brown
Dan Brady
Tony Srdoc
Shane Kenny

EVENT COORDINATOR
Dan Brady

NOTE - Is this your last copy
of The Drift? See page 05...

VICE-PRESIDENT
Steve Nicoll

DORIS COORDINATOR
Alice Garrett

Barn Roster

REGULAR WORK DAYS - R

Regular work days are fortnightly on Sundays 10:00am - 4:30pm. The Committee will open The Barn at other mutually convenient times; please contact the Secretary.

DORIS DAYS - D

Doris days are every second Saturday 10:00am - 4:30pm. The male membership is respectfully requested NOT to attend Doris days unless invited, as these days are for the female membership.

COMMITTEE MEETINGS - C

The committee meets every six weeks at The Barn on regular work days at 11:00am. **Members are welcome to attend and, if invited, may participate.**

DATE	SAT 30 JUL	SUN 31 JUL	SAT 13 AUG	SUN 14 AUG	SAT 27 AUG	SUN 28 AUG	SAT 10 SEP	SUN 11 SEP	SAT 24 SEP	SUN 25 SEP	SAT 08 OCT	SUN 09 OCT	SAT 22 OCT	SUN 23 OCT	SAT 06 NOV	SUN 06 NOV
EVENT	D	R	D	R C	D	R	D	R	D	R C	D	R	D	R	D	R C
Forge master AM		Steve		Andrew		Rick		Gavin		Doug		Tony		TBA		TBA
Forge master PM	Alice	Phil	Alice	Dan	Alice	Shane	Alice	Paul	Alice	Ben	Alice	Steve	Alice	TBA	Alice	TBA

ALTERNATE SUNDAYS The Barn is open on alternate Sundays for the use of experienced members.

PLEASE NOTE The Barn Roster is subject to changes, depending on the Forgemaster's availability.

Purposes & Objectives of the ABA (Vic.) Inc.

To promote, preserve and develop the craftsmanship, design aspects and techniques of all the various disciplines of blacksmithing to the highest standard possible.

To provide a means of communication between mature people with an interest in the craft of blacksmithing, for the exchange of ideas, experience, techniques and information for their mutual benefit, by the publication of a regular newsletter.

To encourage a greater

awareness of and interest in the application of the skills of blacksmithing among architects, interior designers, art/craft groups, and the general public and to provide links between blacksmiths and potential customers by means of exhibitions, demonstrations and publications.

To promote, and actively provide opportunities for training in all the various aspects of blacksmithing by means of demonstrations, displays, lectures, and special

tuition sessions.

To act as the representative body of the interests of Australian blacksmiths, locally, nationally and internationally.

To undertake community service, providing always that these services are within the comfortable limits of the time, talents and costs that the Association and individual members can afford.

To encourage communication and goodwill among blacksmiths everywhere.

Advertising

Commercial advertising, deemed by the Committee to be of interest to members, may be published in *The Drift*. Contact the Treasurer to book in and organise payment.

Advertising rates are
\$60.00 Quarter page
\$120.00 Half page
\$240.00 Full page
Colour Add \$75.00

Members are invited to place classified advertisements free of charge. Contact the Editor to book in and for details required to publish the advertisement.



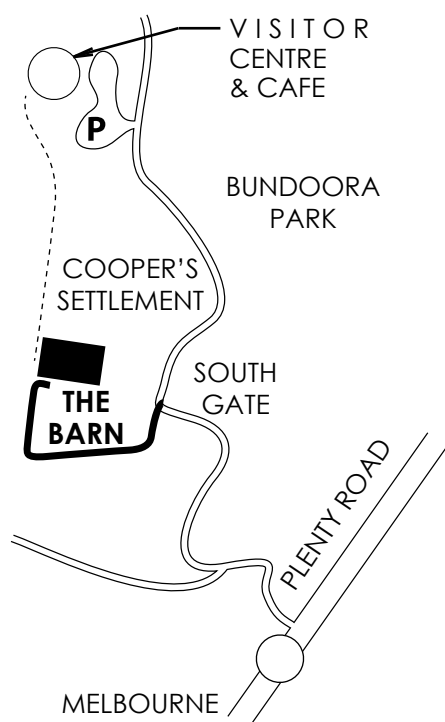
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The Barn Location

The Barn is part of The Cooper's Settlement, Bundoora Park, Plenty Road, Bundoora.

Melways reference Map 19, F4



The Barn Policy

Members can enjoy use of ABA Vic. (Inc.) equipment at The Barn.

- Forge fees are \$5.00 for a half day and \$10.00 for a full day.
- Forge availability is on a first-in first-served basis.
- You will need to clean out the hearth and start the fire.
- Due to coke supply issues keep your fire to a size which suits the stock you are working.
- **Ask the forgemaster if you are unsure or need advice.**
- If you plan to forge in the afternoon, arrive in time to pick a forge to use. Members who arrived early and started their fire are not always receptive

to late arrivals asking to share.

- Members who wish to use the power hammers must either be trade-qualified and experienced in the operation of this sort of machinery or have successfully completed the ABA Vic. (Inc.) power hammer course.

- When you finish, let the fire go out, clean up your work area and replace tools in their storage locations.
- Always clean up spilt coke.
- Report damaged equipment.

Library Policy

Members can enjoy access to the ABA (Vic.) Inc. library of books and magazines. The library is open from 12:00pm until 1:30pm on regular workdays.

- Borrowing members must have completed the self-paced learning exercises and attended the three regular workdays immediately prior to the borrowing date.
- Up to 4 books may be borrowed at any one time.
- Books must be signed for, including the borrower's name and contact details.
- **Books are due for return by two calendar weeks of the borrowing date.**
- If another member has reserved the titles, this member has priority for borrowing the books next.
- If unreserved, the loan may be extended for another two weeks, provided the books are returned to The Barn after the initial two weeks and the member signs for the extension period.
- Returning books late will result in the member being prohibited from further

borrowing for a period of one calendar month.

- Magazines are not available for borrowing.
- If you know of a title that may be of interest to the membership, please contact the librarian so a purchase can be considered.

The Drift Articles

Articles for *The Drift* are always welcome and may be emailed, preferably in Word. In the text, place the words "Image of..." and the image file name. Do NOT place images in the text file.

Unaltered high-resolution digital images, preferably in colour straight from the camera or phone are preferred and of a maximum single file size of 5MB.

Hand-written articles and hardcopy photos may also be submitted via the ABA (Vic.) Inc. P.O. Box; so don't let a lack of computerskills get in the way. If you want your photos back though, please include a stamped, self-addressed envelope.

Legals

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Editorial

Since the last edition of *The Drift* there have been some changes within ABA (Vic.) Inc. following the Annual General Meeting, which was held on 24 July 2016. A report on this meeting is included on page 08.

ABA (Vic.) Inc. now has some new faces, alongside some familiar ones, running things. An article introducing some of these people to the membership is on page 10.

It is **vital** the membership support the newly-elected office-bearers and others who are assisting ABA (Vic.) Inc., as there is a considerable amount of work to be undertaken over the next twelve months.

A big thank you to those who made contributions to *The Drift 101* with articles, help preparing the newsletter and constructive feedback. Let's maintain the momentum and continue to produce a worthwhile newsletter.

I am delighted to note the contributions to this edition of *The Drift* by the membership. Well done and keep up the effort! Quite aside from the fact it means there is a little less from me to read, this indicates that, as a membership, **YOU** are prepared to contribute to **YOUR** newsletter.

PLEASE NOTE - In line with a decision by the committee, if members don't renew their memberships within 3 months of the new financial year *The Drift* will not be posted to them. So, re-join quickly and you'll get the coming year's copies as usual.

That's it for this editorial; short and sweet, so let's get into another edition of *The Drift*.

Jim Deering, Editor.

Library Report

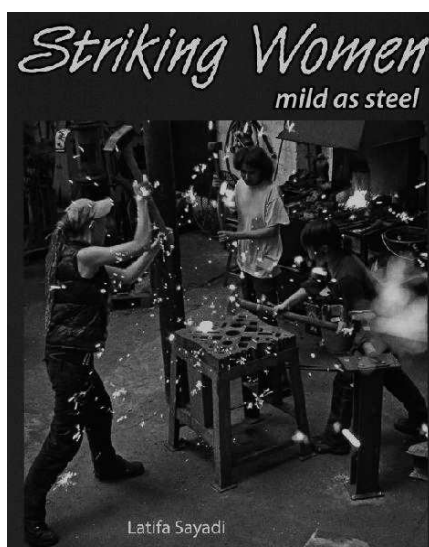
Here's a brief summary of Library news.

The Library has received a number of contributed books during the past year.

We thank those members and also non-members who have kindly donated to the Association's Library.

The books ordered earlier this year have been re-ordered from a different supplier owing to lengthy delays with the first one.

These include the long-awaited 'Striking Women' by Latifa Sayadi.



The others, of a technical and/or design nature, which may be of interest to members are;

'Art Forms in the Plant World' Photos by Karl Blossfeldt.

'Decorative Wrought Ironwork Projects for Beginners' by Thomas F. Googerty.

'How to build a Full Size Coal Forge' by Don Meador.

I will let members know as soon as we receive them.

Regards,
Phil.

PS. To those members who seem not to know the difference between two and four weeks (see Library Policy on page 04). Do lift your game!

Book Review

If you are interested in blacksmithing in outback Australia, it often follows that you are also interested in our pioneers and outback "characters".

I recently read R. M. Williams' short story book 'I Once Met a Man'.

In it he writes about an outback character he met in his travels.

We know of Williams' passion for leather work and in particular whip-making and craft-related leather articles, as well as cattle bells and branding irons.

He writes about one character, Mick O'Donohue, at 'Granite Downs Station', west of Oodnadatta.

In the 1920's when metal was not available there for fences, gates and other structures, these were assembled with wooden pegs, replacing nails, bolts and wire.

Williams writes, "Mick had a way of making steel for knives, which could interest modern steel-makers and blacksmiths.

"He would make a hot wood fire and with any pig iron, heat the iron white hot in the coals, then beat it flat and double it, and keep on doing this until the iron was impregnated with carbon from the coals. The final result was carbon impregnated Iron, which of course is steel.

"His steel knives were good, very good, and the handles he carved himself from wood that looked like a droopy Mulga tree."

I know that our member Doug Tarrant is a keen student of original outback skills, and stories of bush innovation, so I must pass this book onto him.



Outgoing Vice-President's Report

Phil Pyros

The end of Term Four has come and gone for this year and a new Committee has now been elected. Having served four years as Vice-President, which was an interesting and enlightening time, I was obliged to step down and let someone else step up.

I'd like to thank all members of the outgoing Committee for their efforts through what has been a difficult year, with illnesses, accidents, resignations, relocations of jobs and homes and other member issues.

In view of the foregoing we have a number of projects which are sadly incomplete. These include the new coke store behind the Barn, the DGR application to the ATO, and the written go-ahead from Council for the new workshop. Also I hope the newly-elected Committee will be able to get things moving quickly again.

I'd also like to thank most sincerely our two valiant editors of *The Drift*, Doug Tarrant, who resigned in January, and Jim Deering, our current editor, who has given *The Drift* a new look, which appears to have been well received by most members.

The last edition was larger than usual, with more contributions from the membership. This is very heartening for all, especially the editor. So well done to everyone who contributed to the last edition and to this one, (I saw the last proof before it went to the printer).

What it comes down to is that what **YOU** as a member do, is, almost always, more interesting than you think and is worth reading about by the rest of us. So come on, get your pens and cameras out, get a

friend to proof-read for you, then send us those articles and pictures. Anything that doesn't go in the current edition of *The Drift* can be saved for the next one.

I've noticed an increase in the number of new faces at workdays over the last six months or so and believe there has been an increase in membership since then, even allowing for those who have yet to catch up with their membership renewals. **To those concerned please catch up soon or you won't receive the next copy of *The Drift*.**

We held only one Beginners Toolmaking Course in the past year with only two participants, who were awarded certificates for taking part. (Read the story on page 16).

Some Committee members felt that these low numbers were due to the Self-paced Learning Exercises being either too difficult or were unclear about the number of steps required to complete each one successfully. With this in mind, Jim Deering and Gavin Brown have taken steps to include photos and clear descriptions of the steps in each exercise, in a series of articles in the next few editions of *The Drift*. In this way it is hoped that more people will be eligible to take the next courses sooner.

We also now have a one day Beginners Introductory Course, one of which was held earlier this year, ably conducted by Gavin with assistance from yours truly. This was well received and it's notable that most who attended have been coming back on workdays on a regular basis.

Finally, sincere congratulations to Amanda Gibson on her award of Life Membership of ABA (Vic.) Inc.



Well done Amanda; well and truly deserved.

And finally, finally our thanks to Sergio and Tony for a feast fit for a Blacksmith!

Best regards,
Phil.

I n c o m i n g President's Report

When I was asked to stand for the position of president I was surprised. Whilst I had been the editor of *The Drift* for a period of time I had never actually been a committee member. But there seemed to be enough people who thought that I would be a suitable candidate and after some time I accepted their nomination and here I am.

The previous presidents and committees of the ABA (Vic) Inc. had over the years developed an organisation that we can all be proud of. It is my intention to build upon this base for the betterment of the ABA (Vic) Inc. Whilst not wanting to sound like a paid political announcement, I consider that there are certain features that we can introduce, expand or develop for the benefit of our main asset - our members. These will be put to the committee in due course for their consideration and hopefully implementation (amended or not).



Whilst not wishing to pre-empt any decisions of the committee, the major areas for consideration, in no particular order, are membership, equipment, building and facilities, events and demonstrations and liaison with Bundoora Park management. These areas may be broken down for ease of operation into sub-sections and responsibility for these matters will be given to

nominated committee members who will ensure that the ABA (Vic.) Inc. will continue to maintain its purposes and objectives as originally defined.

I'm sure that over time other issues will be raised and if you think that there is a matter that needs to be attended to please do not hesitate to let us know. If there is a matter you want discussed at

committee level and in keeping with normal business protocol, all correspondence should be addressed to the secretary. That way we can ensure that your inquiry is noted and actioned.

Andrew Mobilia.

Outgoing Secretary's Report

It's been a good run but now its time for me to step back a bit. I am not going to be putting my hand up for secretary this year. And as the AGM has been and gone you would likely be aware of this change. The reason for this is because my work life has become rather hectic and shift work does not work well with being in charge of the group. I just don't feel I can commit the relevant time needed to make sure the Association runs smoothly. But never fear. I will be putting in for a position as a general committee member and will be happy to assist with the Secretary role like Paul Cockayne helped me.

I would like to thank the committee for their efforts this year. It has been a rather full-on year which has, unfortunately, burnt out a few members. Thanks also to Jim Deering for taking on the role of editor for *The Drift*. It's a hard spot to fill.

I am pleased to say that we are still getting a lot of new members through our Barn doors. Membership is continuing to rise and attendance at The Barn is steady. Our Facebook page has not had much love and neither has the web page. I take full responsibility for this but I am hoping that I can fix it all up soon.

We ran a toolmaking course for two of our members on regular Barn Days. Chris and Chao have now completed the course with Steve Nicoll and have begun their fine collection of tools. **We are looking to run another course late**

August into early September. The dates will be set and advertised on the website for members who have completed their self-paced learning exercises. The dates will be fixed.

Can new members who are completing their self-paced learning please fill their details in the back of the Self-Paced Learning Folder (the green one in the Tea Room)? There is a spot for your name and initials for signing off with the date. **This will help us set up course dates in the future.** For those that have their own hard copy signed off can you please take the time to transfer the information into the folder?

I was lucky enough to attend the Echuca Steam Rally. It was a great weekend despite there not being many 'smiths. It was great to catch up with Simon and a few of his 'smithing mates as well as Doug, Dan and Roland. And thanks to Chris for coming up on Sunday. A couple of keen up-and-coming 'smiths tried their hands and made their own leaves and had plenty of fun.

The committee have been investigating the Association



Gavin Brown

getting Deductable Gift Recipient (DGR) status. This will mean that people can donate to the Association and we would be eligible for more Government Grants. This is all in relation to raising money for the new Barn.

It appears that there is some demand for the beginner's kits we used to sell to members. They included a pair of tongs, an apron, some gloves and a blacksmithing book. We will be having a tong making day for the purpose of making tongs for the kits. Stand by for the date, which will be advertised on the website. We may also offer this to beginners who would like to learn to make a pair of tongs – but this hasn't yet been finalised.

That's about it for now. Thanks again for reading my articles and I hope you got something out of them. I will be around The Barn and at Events when I can. Feel free to come and have a chat to me or ask me for help.

Gav.



Incoming Annual General Meeting

Secretary's Report

Gavin Brown

Rick Stadler

Due to commitments at the Ballarat Sheep Show, I was unable to attend the AGM.

However, I look forward to launching into the coming year at the Association and giving it my all. It will take some time to come up to speed and Gavin has promised to break me in gently.

I have not kept abreast with developments in the Association but I understand there are a number of issues to tackle. I hope I can bring some skills to the table and get things happening for the members.

Having not attended The Barn for some time, nor kept in close touch with a few friends, I realise how left-out a member can feel, so I would like to embark on a communicative and inclusive involvement with Committee activities.

I hope to get the member database updated and then start sending emails to addresses we have on file, just to keep everyone abreast of what is happening. I won't compete with *The Drift* nor commit to a regular email, but when things happen, it is worthwhile letting everyone know. Members will have the opportunity to get a bit more involved if they know what is going on. And, if nothing else, it will let everyone know about the amount of work that the Committee puts in to keep the Association going.

I will be in contact soon.

Firstly, I'd like to thank all those people who attended the AGM at the Chapel on the 24th of July, 2016. The turnout was OK, however, I did notice that quite a few of the newer membership did not attend. This is a little unfortunate, as the quality of the BBQ afterwards was sensational – thanks Serge and Tony.

I'd like to congratulate and welcome the new committee members.

A motion was passed that, despite our current Constitution stating that there will only be four general committee members, we would accept all seven nominees as general committee members. This will mean that the membership will better represented within the committee and better act on things we are aware of that need action.

Congratulations to:

Andrew Mobilia – President
Steve Nicoll – Vice President
Rick Stadler – Secretary
Phil Pyros – Treasurer

Dan Brady, Ben Sokol, Chris Irving, Tony Srdoc, Doug Hughes, Shane Kenny, and myself (Gavin Brown) were elected as general committee members.



Gavin "Now I can use the power hammer!" Brown with his Power Hammer Course certificate.

I was presented with my Power Hammer Course certificate by Phil Pyros.

Amanda Gibson was awarded Life Membership for her ongoing work and commitment to the Tree Project in connection with



Amanda Gibson, ABA (Vic.) Inc.'s newest Life Member.

the Australian Blacksmithing Association. She was not aware it was coming and was quite overwhelmed by the sentiment.

A few items of note were raised, one being our current Constitution and whether it is still meeting our needs.

A couple of issues identified were that the Constitution only allows for four general members. As you may note there are seven this year. This is because of precedents in 2011 and 2012 where more committee members were elected.

It was raised that this should be revised to allow 'at least' four members of the committee.

Also, committee members can



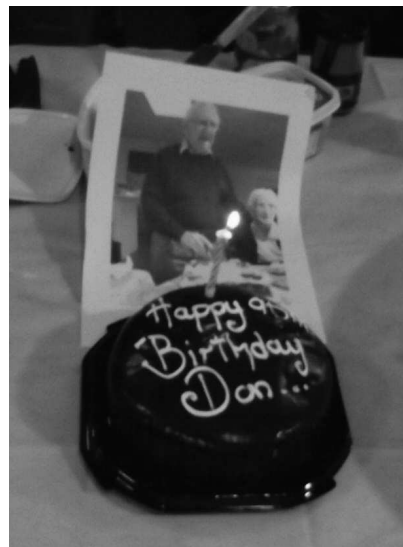
Chris Irving with his Beginners Toolmaking Course certificate.

you to peruse in the coming weeks.

If you do not receive it by email, please email thesec@abavic.org.au as your email has likely been mis-recorded.

There was also some discussion about whether we, as an Association, want to sell the Bradley hammer in The Barn. This was only a short discussion and inconclusive.

The reason for the suggestion to sell the hammer is that it is taking up room which could be used for more forges. The motion was passed that it could not be properly considered in the time given on the day and has been adjourned to the Extra Special meeting for



ABA (Vic.) Inc. members enjoying the post-AGM bbq.

only hold a position (ie secretary, president etc.) for four years according to our Constitution.

Does this need to be changed to include a longer or shorter term and does this include total time a person has ever held a position?

There are a couple of other changes to the Constitution which may need to happen. These issues weren't discussed at the AGM and it is likely that there will be an Extra Special meeting to discuss these possible changes.

Some members commented that they do not have a copy of the Constitution. I will be emailing a PDF version of the Constitution for

further discussion. Stay tuned for the date of that meeting.

In his absence a hearty rendition of "Happy Birthday" was sung to acknowledge Don Marshall's recent birthday and a cake - thanks Keith - was eaten with similar enthusiasm.

Unfortunately, I had to scoot off home - it was the wife's birthday! - so I didn't get to stay and chat. I did get a snag and a burger and the soup looked amazing. Perfect for the cold day that it was.

Once again, thanks to all the members who did attend and support the Association and its objectives.

Australian Blacksmiths Association (Victoria) Incorporated
Life Members

Don Marshall
Steve Nicoll
Keith Towe
Kevin Rapley
Nick Hackett
Doug Tarrant

Roland Dannenhauer
Amanda Gibson



ABA (Vic.) Inc. Office-Bearers

As a means of getting-to-know-you, this article introduces some of the office-bearers of the Australian Blacksmiths Association (Victoria) Inc.

PRESIDENT

Andrew Mobilia

I became a member of ABA (Vic) in early 2009 after I happened by sheer chance to come across their website. I couldn't believe my luck that there was this organisation so close to where I lived. Having commenced training as a farrier about 50 years ago and along the way deviating into a number of other and unrelated occupations, the opportunity to "hammer metal" again was too good to miss.

On my first day Steve Nicoll took me under his wing and in his own inimitable way proceeded to instruct me in how to draw out a point. I might mention here that I was also lucky to have Don Marshall on hand to give his advice as well. Wow I thought, where had this been all this time?

Having decided to get involved in the organisation I became the editor of our magazine *The Drift*. I held this position for 3 years suffering the angst of getting enough articles to print and at the same time feeling very satisfied when an edition finally made it out. I was also very fortunate to have Greg George assist me along the way with his computer and publishing skills.

I look forward to the challenge of this coming year and hearing from any member regarding the ongoing operation of the Association.

As I don't carry my phone with me at all times and more often than not I wear ear protection when working, ringing me is probably not the best way to contact me. You can however email me and I will reply.

VICE-PRESIDENT

Steve Nicoll



SECRETARY

Rick Stadler
thesecc@abavic.org.au

I joined the ABA (Vic.) Inc. in about 1998 after being invited by a work colleague to the 'Great Ideas Day', which featured the varied works of a number of members, from rapiers to floral brackets and tempered steel tools. The day climaxed with a demonstration by Kevin Rapley making a hardened nail punch in around one minute. I was hooked and joined immediately.

A visit to The Barn on a work day introduced me to Don Marshall and fire. Don was looking after a number of people but showed me a tapered point in one heat and about six hammer strokes and said, "OK, you have a go." Six heats and at least a hundred hammer strokes later I was getting a bit disheartened but Karl Huecherig took the time to explain and coach me a bit. I went home with a tapered S-hook and a big smile.

Salty Horgan immediately enlisted me to join in demonstrations at various shows, the first being with the draught horse people at Churchill Island. The staff at the island requested a new square end to be forged on a key that they used to open doors barred to the public. It seemed a simple enough

job to heat it up and re-crisp the edges on the square shaft. My dismay was total when on the first blow the end just turned to red hot mush; my first encounter with real wrought iron or pig iron. Dennis O'Toole calmed my hysteria and assisted to re-forged the profile.

I put my hand up for secretary in around 2007 to try to give something back to the Association and tackled the job for a couple of years. It was good fun but challenging.

I have remained a member but have not been active for a few years but my situation now should allow me to, again, try to give something back. It is with a strong memory of my introduction to the Association that I've offered to take up the reins of secretary and try to make the Association more inclusive of its members, welcoming and fostering to new members and true to the aims set down by our founders to keep the old art alive.



TREASURER and LIBRARIAN

Phil Pyros

I've been a member of ABA (Vic.) Inc. since March 2004.

I've served in various roles, such as Committee Member, Secretary and Vice President for the last four years. For about ten years I've been the Association's Librarian.

My interest in metalworking started as an art student and inevitably led me, over time, into the techniques of blacksmithing as a major component of my sculptural work.

Regards,
Phil.





GENERAL COMMITTEE MEMBER

Gavin Brown

I'm Gavin from Tallarook (and yes, things can get a bit crook up here).

I have been a member of the Association for about seven years now and, as you may know, I have been serving the Association as the Secretary. I have now stepped back a bit as my career is starting to pick up.

I have always loved making things and fire. I first experienced blacksmithing when I was a young Cub Scout. I didn't know the golden rule and picked up the black hot leaf the 'smith had just made for me. I can't remember but no doubt I had a lot of silly questions at the time.

My passion now is teaching new members blacksmithing. When you teach someone how to do something it really makes you understand what it is you're doing. I also enjoy trying new things. So if there are members out there, no matter your experience, then I would be happy to talk about that project you have on the go.

My favourite things to make are tools like tongs, hammers, chisels and punches. I just love the fact that blacksmiths make their own tools! I've also just bought Mark Aspery's joinery book and I'm going to have a go at some of those harder projects when I get the time. I also learnt a great deal from Nick Hackett about scroll making and decorative ironwork, despite watching him 'destroy' (he calls it unmaking) some very beautiful pieces he spent a lot of time on.

I also want to see new members

getting into our tool making courses. That means that members have to get through their self-paced learning, which I'm always happy to help you with.



GENERAL COMMITTEE MEMBER

Benjamin Gregory Sokol (Ben Sokol, as signed in the book)

I live in Elwood, just south of St.Kilda.

I come from a health science background, but deep down I always just wanted to work with tools and make things with my hands.

On and off, I'll have been with the Association three years, come this AGM. There have been two periods, of three and six months respectively, during that time I was unable to attend work days, and I sorely missed them.

I play violin, muck around in the shed fixing up old hand tools, and use those tools to make various trinkets or functional items.

The relationship between both form and function is one of the things that interests me most about blacksmithing.

Since the old masters have left, I feel there is a great sense of loss in the linkage between us and that past. Without bringing any great deal of skill or technical ability, I can only offer to attempt to preserve the link to that past, and develop those skills in order to try and pass them on to a new generation of 'smiths and artisans.

I hope that through promotion of the Association (I tell everyone I meet about its existence and role), we can continue to learn, teach, and grow into the future.

Oh, if you've ever been in The Barn and it suddenly fills with the foul bilious smoke of old fence and wetted coke, that was probably me lighting a forge.

Respectfully yours.
Ben.



GENERAL COMMITTEE MEMBER

Shane Kenny

I'm from Whittlesea in Victoria.

After forty-five years in the aviation industry as a Licensed Aircraft Maintenance Engineer I have recently retired, but still maintain a healthy interest in all things mechanical. This has led to my involvement in many and varied projects.

I am a firm believer that being involved in community large scale art or mechanical projects is a healthy way to develop and foster knowledge, hand skills and friendships between like-minded people.

As I am relatively new at The Barn I hope to increase and share my existing skills in the manipulation of metal along with the most efficient, safe and economical way of achieving this.

Don't be a stranger at The barn, come over and say hello and exchange / share ideas and your thoughts on the future development of ABA (Vic.) Inc.

Best Regards,
Shane Kenny.

GENERAL COMMITTEE MEMBER

Tony Srdoc





GENERAL COMMITTEE MEMBER and EVENT COORDINATOR

Dan Brady

Hey I am Dan ABA(Vic.) Inc. member of five or so years.

I came to the Association after feeling burnt out on my previous activities which was mostly recording and playing in bands. Don't ask which ones, you won't like or have heard of them, hah!

Early February 2011 I had just finished a tour of the U.S. which is far less glamorous than it sounds, particularly in the middle of the worst winter in fifty years. I was convinced I never needed to play music again; I had done pretty much all that I could have wanted with it. Someone else had liked us enough to put out our record (their record label soon sank without a trace). Other people had felt similarly enough to promote our shows and we had toured both coasts of the U.S. over the course of a month, felt the 'stranger-in-a-strange-land' syndrome, fought constantly with everyone else in the van/band and been surprised by the hospitality and generosity of people we had never met.

It may seem an odd thing but after that I'd had enough.

Enter a new focus and change of lifestyle, inspired originally by artists Len Lye, Harry Bertoia and their sound sculptures, the instrument making of Harry Partch and the industrial music of Einstürzende Neubauten. So there is a link of sorts.

I started with the basics of forging points which led to simple tools and heat treating. At every stage new possibilities opened up as challenges presented themselves. I'm still working through some of my ideas but along the way I've managed to study blacksmithing via Ultimo TAFE, work for artist blacksmith Pete Matilla, and muck around a whole bunch on power hammers, all the while meeting blacksmiths from around the country and all over the world.

Pretty much what I was doing before; making a racket/going deaf. Only I've made more progress with a hammer in the last five years than I did on guitar in the last twenty.



GENERAL COMMITTEE MEMBER
Doug Hughes



GENERAL COMMITTEE MEMBER
Chris Irving

I'm Chris from Parkville.

Here is the wee bio I've hacked together.

After finishing my studies in Astronomy I moved over to Melbourne for a bit of a change in pace and to see what this little nook of the world had to offer.

Once we arrived my partner happened upon the ABA (Vic.) Inc. website and it was all down the rabbit hole from there.

I have an interest in just about anything mechanical and have vicariously sucked YouTube dry of any and all in the field of bending, cutting, shaping and making metal spin faster than it has any right to. I got to occasionally watch a local farrier from a young age but didn't manage to pick up a hammer until approximately a year ago on my first Barn day.

Unfortunately apartment living doesn't allow for a forge and power hammer in the back yard, so for someone with limited space and funds for tooling I have found The Barn to be an incredible resource as a workspace, but more importantly of knowledge, curios and inspiration for new projects.

I am fresh meat on the committee this year (and have thus far only been referred to as 'sucker', a term of endearment I'm sure) but if you see someone spending too long on making leaves on Barn days, that's probably me, so come and have a chat.

Cheers,
Chris

Welcome to New Members

ABA (Vic.) Inc. would like to welcome the following new members. Please make yourselves known when at The Barn.

Monty Atherden of Kensington
Glen Banfield of Mount Waverley
Dor Beilharz of Coburg
Jerry Belleli of Caulfield North
Aaron Gallagher of Northcote
Stefano Gazzola of Reservoir
Peter George of Hastings, UK
Danielle Gibbs of Pascoe Vale South
Bonnie Halliday of Pascoe Vale

Alexandra Hrisis of Hallam
Gerald McGavin of Ivanhoe
Silvieu Ozolins-Harasymiw of Mount Waverley
Nadia Pesavents of Heidelberg
James Rankin of Brunswick
Erica Sayers of Airport West
Ronan Smith of Heidelberg
Ivan Zovko of Greensborough



‘Koala Forge’ Kazakhstan



First, I will introduce myself. I'm Bernhard Wyrsh. I learnt the metal trade in Basel, Switzerland, in 1962. After four years I finished my apprenticeship as a Schlosser*. I taught myself blacksmithing. I migrated from Switzerland to Australia in 1982.

In Australia, I started my own business in 1984. My business name was 'Art Metal Work Pty Ltd.'.

For twenty years I decorated a lot of rich people's homes in Toorak, Brighton, Balaclava and Heidelberg. I made some of the best work in the game. In the good times clients waited a year and longer get a 'Art Metal Work' job done. A big job I did at Balaclava took 2 ½ years to finish all the work.

The **COVER IMAGE** shows the biggest job I ever did with hardly any help.

I developed a new tool for the power hammer to move 30 to 40 cm. long die blocks and make very long leaf work. I developed all my tools myself so they were unique. I used to have 300 die blocks plus 50 double die blocks I made on my own. This is only a small part of the

work I have done.

In 1990 the recession we had to have put my business down. I started my own privately-run blacksmithing school to save my business. It was the first of this kind in Victoria. With over 100 students over the next two years it was a nice success. I think about six of the students, maybe more, started their own business. 'Ironic Twist', 'Bent Iron' and some more.

Lots of the students joined the ABA (Vic.) Inc.; maybe some can still remember me. I was a member from the beginning and admire Keith Towe very much for what he did at that time. He actually saved the blacksmith trade from going down forever. I used to have one of the last apprentices. I took over Stephen Cowell's apprenticeship so he could finish his trade. He went on to operate 'Monitor Tools' in Dandenong.

Nowadays I like to read *The Drift* as it gives me the feeling that I am still a part of the ABA (Vic.) Inc.

I married for a second time in 2001 to Ludmilla who is from Kazakhstan, where I moved to in 2004.

Here in Kazakhstan I have everything I need. I have a home and a house, plus my little workshop. The only sad thing is that I am the only blacksmith and sometimes I feel lonely. This is why I call myself 'The Lonely Blacksmith'.

At the end of 2008 I had a coronary infarction and in June 2009 a second one. It put me down but soon open heart surgery and a triple bypass saved my life. This year I will turn seventy. I still forge small things. I started to paint and do other things.

My second hobby is sculpture. I made a lot of sculpture in Australia and here in Kazakhstan are lots of them decorating our two homes. Besides iron work, I also work with timber. In winter I paint at home a lot.

My workshop I call 'Koala Forge'.

I painted lots of little Koala blacksmiths around it as friends. I have lots of work done for our two homes; furniture, lights, you name it. There are over 200 forged items in our homes. I did a few jobs because we needed money too.

The work I've done in Kazakhstan in the last 12 years is about the best I've ever done, even though the work is not that big, like in Melbourne.

I think I have a lot to offer still. Besides lots of photos, over thirty years ago I began recording my own ideas for design work in sketches. There are over 1,000 designs in French style, Art Deco and so on.

I used to have the idea in Australia to start a Blacksmith's Design Ideas Folio for members of the ABA (Vic.) Inc. but then time ran out. I still think, especially for beginners, this would be worthwhile starting. Then everybody could bring their own new ideas for inclusion**.

Blacksmithing and wrought iron go hand in hand, but the first thing, every time, has to be a design and after that, a full-size drawing. This is another skill of the wrought iron smith; making his own drawings with all the details.

I provided all my clients with a full-size drawing so they could see what they would get and later there was no argument.

It's better to start a drawing again than buy new material. On the free-hand drawing I could also study all the new tools I had to make.

Even now I still make full-size drawings using wall paper or paper from old calendars. No house without a foundation and no blacksmithing job without a drawing or design.

I offer my help to everybody with my fifty years of experience. I will answer any questions members may have; just get in touch by email.

(Continued on page 16).

Paris Ironwork Photo Study

Andrew Mobilia

Following are several images of ironwork that I saw in Paris.

I have tried to show various designs and uses.

Needless to say there are many examples of this style of work in Paris.

I have not supplied any explanations, except for the Notre Dame door.

All the other photos were taken at random whilst walking the streets of Paris.

Suffice to say these photos demonstrate the skill levels of French blacksmiths over the past centuries.



Courtyard entrance gate.



The front door of Notre Dame Cathedral (I couldn't get all the door in because of its size and the crowd).



Arched door.



Arched door detail.



Arched window.



Arched doorway.



Fence railing.



Security grill.

(Continued from page 13).

My special thanks to our Patron, Keith for all the work he did for us.

Special thanks to you and the members who did not forget Bernhard and still send me *The Drift*.

Bernhard's contact email is;

bernhardwyrsh@hotmail.co.uk

Feel free to drop him a line.

* Schlosser used to be a locksmith "in the good old times", according to Bernhard. Now it is the term for an iron worker doing any metal work. In Australia it is a boilermaker.

**** EDITOR'S NOTE.** Bernhard has kindly provided a significant number of sketches to help bring a Blacksmith's Design Ideas Folio to fruition.

This is an extremely generous gift for which we thank you, Bernhard.

Over time, these sketches will be compiled and placed into the ABA (Vic.) Inc. library for use by members.



The Dino sculpture was made by four ex-students and me. It was the greatest fun I ever had in the forge.

Beginners Toolmaking Course Phil Pyros

The first Beginners Toolmaking Course for the 2015/16 membership year started on Sat 15th May, coinciding with Children's Day at Bundoora Park.

Prior to commencement, there had been several dates from as early as September 2015 as proposed starting days. However with only two applicants, who had applied several months earlier, the date was deferred to early 2016. Then owing to lack of more applicants it was delayed again. Finally the Committee came to the conclusion that it would be unfair to delay the Course any longer and so a precedent was set by deciding to hold the Course even if only two applicants were present.

The two members were Chris Irving and Chao Rujikietkunjorn. Both had been members for over a year and completed the self-paced exercises at least six months prior to the Course.

With Steve Nicoll as chief instructor, the first day proved to be very productive with, amongst other things, a centre punch, hole punch and a set of tongs each, being made.

This success was repeated on the second session when each made a hot sett, a side sett and a handled hot punch.

On day three, they made a pair of U-shaped bending forks and a handled bending fork.

Unfortunately, Chao was not able to finish the fourth day due to the fact that as a foreign Uni student, his visa was about to expire and he had to make preparations to leave for Kuala Lumpur by June 30th. He hopes to be back at The Barn before too long and we wish him good luck for the future.

Chris finished day four (July 17th) by making a splendid hammer head which he expects to be using next work day.

At the end of the third session I put



Chris.



Chao.



Chao, Steve and Chris.

a few questions to the guys and their responses are below.

WHEN DID YOU JOIN ABA(VIC)?

CHRIS - Around May 2015

CHAO - November 2014

HOW DID YOU FIND OUT ABOUT ABA(VIC)?

CHRIS - My partner found it on the internet.

CHAO - I was looking for somewhere to teach me how to work in metal on the internet.

WHAT ATTRACTED YOU TO BLACKSMITHING?

CHRIS - I have been interested in blacksmithing since I was a student and used to watch the local farrier blacksmith at work.

CHAO - I have always been interested in the idea of making things from metal especially small items like knives, cutlery etc.

ARE YOU HAPPY WITH WHAT YOU HAVE LEARNED SO FAR?

CHRIS - I made several items while I was doing the self-paced exercises and doing the course gave me more skills for further creative development.

CHAO - I am very happy that I can now forge more complex items. The course gave me confidence, especially in heat treatment of the tools.

All in all the course was a great success and both instructor and students felt that they had benefited greatly from the experience. We hope to see both Chris and Chao at further courses in the future.

Photos by Phil Pyros.



Chris's hammer head.



Pneumatic Hammers - Part 1

Jim Deering

In this edition of *The Drift* we'll have a look at pneumatic hammers. It'll help if you read this article in conjunction with the spring hammers article from *The Drift 101*, as we're building on that knowledge.

In the last edition of *The Drift* we covered determining the size of a spring hammer to suit your anticipated work, how to locate one for sale and aspects of the spring hammer to examine prior to purchasing.

We'll now consider self-contained pneumatic hammers, which are commonly referred to as 'air' hammers. Due to the nature of air hammers, this article is more detailed than the spring hammers one, so you might want to get comfortable! We'll also keep the discussion to air hammers of a size most likely to be used by members, let's say up to 7cwt* [355kg].

Finding an air hammer for sale is no different to locating a spring hammer or a missing sock; you must look!

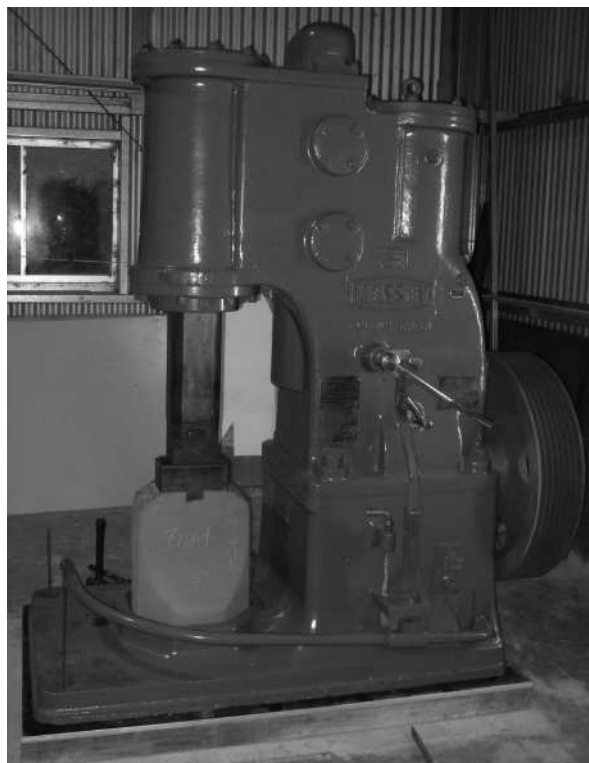
ONE v TWO-PIECE AIR HAMMERS

The chief distinction

* "cwt" is spoken as "hundredweight". This is the *avoirdupois* (Fr. To have weight) mass unit commonly used to state the rated size of a power hammer, being 112 pounds [50.8kg]. It refers to the total weight of the falling parts of the hammer, i.e. the tup, its cap and rings, standard-size tup pallet and pallet key. Live steam or pressurized air or fluid admitted above the tup increases the energy delivered to the forging, giving a blow-energy advantage over similarly rated gravity-hammers, such as drop hammers.



A typical 'One-piece' air hammer, a Massey 1cwt [50.8kg] "With Slides" type.



A typical 'Two-piece' air hammer, a Massey 3cwt [152kg] "Clear Space" type.

between the types is a separate anvil. Air hammers such as the one shown (page 17, top), are 'One-piece' air hammers as the anvil, bedplate and standard are cast in one piece.

'Two-piece' air hammers (page 17, bottom) have the anvil separate to the rest of the machine, regardless of how many castings are fixed together to make the assembled air hammer.

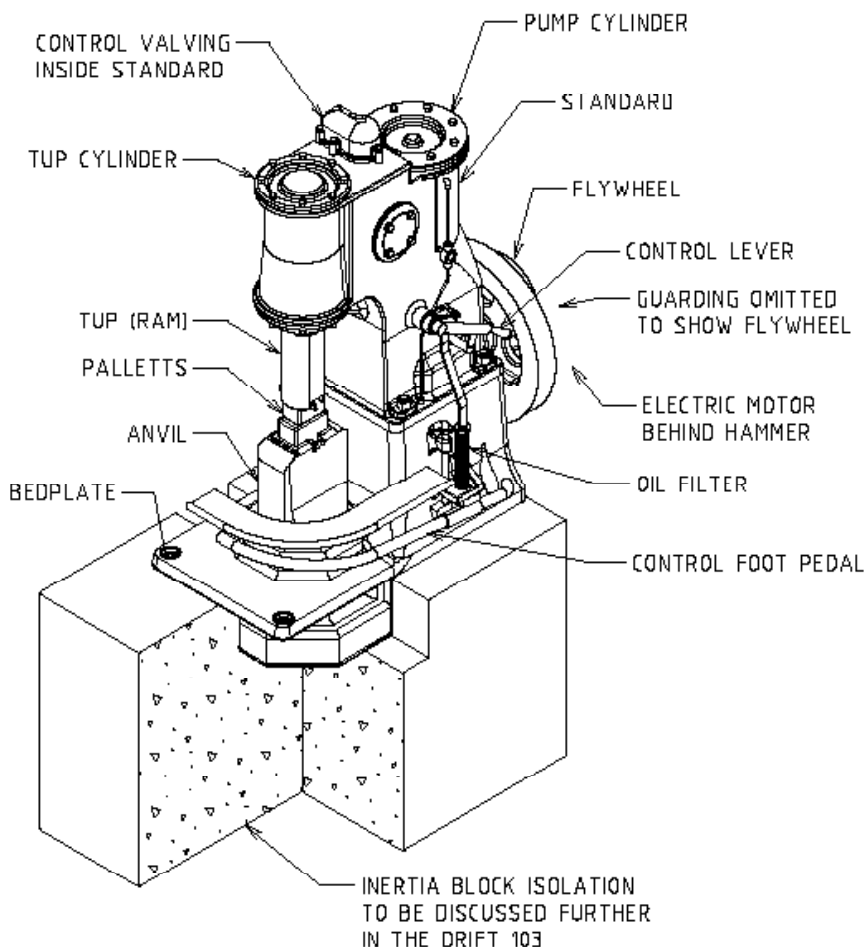
SIZING

Air hammers generally deliver more power to the forging than a spring hammer of the same tup rating. Now, this IS a broad generalization and some readers will disagree, for good reason; it is not always the case!

Despite losses from heating air during use, the tup in an air hammer moves vertically and has no mechanical linkage to the rest of the air hammer, unlike the tup in a spring hammer. Every linkage in a spring hammer causes a loss of power, with energy lost in changes of direction of the power as it travels from the motor to the forging. Inertia and friction also reduce the power delivered to the forging.

The stroke of an air hammer is often longer than that of a spring hammer of the same tup rating, the main benefit being more clearance for tooling. It also means a higher tup velocity may be attained, resulting in delivery of a harder blow. Being able to stop the tup anywhere in its stroke, without the tup completing a full cycle, is also a major benefit with air hammers.

Typically, a 1cwt [50kg] air hammer is capable of thoroughly working stock of 250mm². That's 50mm x 50mm [2" sq.] bar. Yes, it can probably work a larger section, but the thoroughness depends on heat and material, so keep this in mind. If you want to work, say Ø6" [Ø150mm] mild steel bar, you may be considering an air hammer in the range of 7cwt [355kg] or larger. On-line resources provide



further guidance on the forging capacities of various air hammers, old and new.

GENERAL APPEARANCE

Cleaning off years of crud will reveal the good and the bad. Looking for old repairs which have proven themselves sound means the air hammer is probably going to serve you for years; whereas a big, un-repaired crack is probably a good reason to keep looking, unless you have the gear and the skills to fix it.

Where spring hammers are generally smaller machines, a big air hammer can be a challenge to handle unless you have significant lifting capacity available to you, so it is worth keeping that in mind if you are looking at an air hammer which may become a restoration project - read a money-soaker - rather than a money-maker.

Even when an air hammer has been out in the weather for years

they can still be worth buying, so long as there is nothing glaringly obvious wrong, like a missing anvil or a gaping hole in the casting, to highlight a couple of extreme problems. As they are designed to be air tight, they are usually water tight where it matters.

But, if there is obvious water ingress into the control valve, there has probably been water in the tup, and perhaps, pump cylinders and this can be an issue. However, I know of air hammers seized solid when they were bought which were returned to service with little more than the application of some diesel, fire, a block of wood and a few hits from a maul! Buying such an air hammer is a call based on knowledge though.

The image above has been generated using information from B & S Massey Limited, visited at www.masseyforging.co.uk

Shown is the 'Two-piece' air hammer referred to by Massey

as a "Clear Space". Many manufacturers only make one type of air hammer, often configured in this manner.

Massey also made several other types of air hammers, with one common type being the "With Slides". This type of air hammer is what you'll find in The Barn.

As other manufacturers use different terms to describe their hammers, you may need to translate the terminology to suit the air hammer you are looking at.

Also keep in mind some makes of air hammer don't have all the parts listed here, such as Alldays and Onions (or the earlier Peter Pilkington) for example, which don't have stuffing boxes and use a different method to keep the tup aligned with the anvil and retain an air-tight seal with the tup cylinder.

FEATURES

Major parts of the air hammer are;

- **TUP - ALSO KNOWN AS 'RAM'**
- **TUP CYLINDER**
- **ANVIL**
- **PALLETS - TUP AND ANVIL**
- **STANDARD**
- **BEDPLATE**
- **FLYWHEEL**
- **PUMP CYLINDER**
- **CONTROL LEVER**
- **CONTROL FOOT PEDAL**
- **CONTROL VALVING**
- **OIL FILTER**
- **ELECTRIC MOTOR**
- **GUARDING**

Now to explain these parts a little;

TUP - the moving part of the air hammer which is controlled by the control valving by either hand lever or foot pedal, and supplied air by the pump cylinder. This part has the tup pallett fitted to it with a tapered key at the lower end and a piston, usually forged integrally with the body of the tup, at the upper end.

Tup guide surfaces will often show damage from ill-considered application of a sledge hammer.

Manually dressing these marks often improves how the air hammer works, as close fits to smooth surfaces are very important in air hammers. A small loss of air can make a surprising difference to how an air hammer performs. There may be old weld repairs to broken-out dovetails - if they have been used since the repair was done, they are probably sound.

Also, due to having delivered decades of blows, the lower end of the tup may be mushroomed to a degree, just as the struck end of a punch may be, only on a bigger scale. A straight edge can reveal this, if the tup is down. This fault can cause the tup to stick in the hold-up position or it may result in air leaking around the tup from the stuffing box when the air hammer is in use due to it being necessary to increase stuffing box guide block clearance to avoid the tup jamming. Machining will fix this.

TUP CYLINDER - the cylinder in which the tup travels. The lower part of the tup cylinder is closed by the stuffing box - in some air hammers - through which the tup projects. In conjunction with the piston of the tup interacting with the internal bore of the tup cylinder, the tup is guided and supported whilst forging blows are struck by the stuffing box guide blocks or the bore of the cylinder.

If the air hammer is running, checking this area can be done by using the air hammer. As the internals of this area are impossible to fully check without taking the cylinder cap off, there is no easy way to check further. If the air hammer is not in running order but the tup can be moved with minimal resistance, by levering or jacking it up a little, the internals of the tup cylinder are probably sound. There still may be a broken ring - but you can only check that by dismantling.

ANVIL - the heavy block, either made integral with the bedplate and standard in 'One-piece' air hammers or a stand-alone item which either projects through a

hole in, or registers against, the bedplate, to which the anvil pallett is fixed, usually with a tapered key, in 'Two-piece' air hammers. It may be located with wedges or spring-loaded bolts.

This might sound absurd, but make sure there is an anvil! There are a surprising number of air hammers - particularly big ones - that do not come with an anvil. Generally because the air hammer was removed from service and the anvil left behind, often buried when the old workshop site was turned into a housing development. They can be horribly expensive to have made and hard to find a spare of.

Otherwise, make sure there are no cracks and, with 'Two-piece' air hammers, that any anvil wedges - used to locate the anvil in the hole in the bedplate - are present if the hammer is not assembled when you look at it.

PALLETS - also known as 'dies' or 'blocks' - are pieces of steel between which the forging is worked. Many forms of pallett can be made, ranging from simple flat palletts to multi-faced and profiled palletts.

The palletts should be present and correctly fitted in the tup and anvil. In air hammers that are 'One-piece' machines they should line up and meet over their faces. With 'Two-piece' air hammers this can be adjusted, so some misalignment shouldn't be a huge problem when the air hammer is set up in your workshop. Many air hammers come with additional palletts and sometimes other tooling, so try to get it, if you can. Usually palletts can be made or repaired at a reasonable cost if they are missing or in poor order. Do NOT try welding these items if you are not a skilled welder!

STANDARD - the upper part of the air hammer body inside which the mechanical driving and control valving parts are located. The tup and pump cylinders and any internal air chambers are usually integral parts of the standard.



The standard should be sound, with no cracks and certainly no holes punched in it. A hole punched in the side of the air hammer may mean a broken connecting rod and this renders the air hammer worth scrap value in my opinion, primarily due to the repair cost, which will probably include more than just a new con rod...

Missing cover plates can admit water and debris into out-of-service air hammers, especially if they are outdoors, so look inside the standard in this case. Generally cover plates are easy to make if they are missing. This is important so make the effort. If the tup moves, the controls are free and the flywheel moves easily, the connecting rod might be broken!

In a functional air hammer, if at all possible, take a cover plate off and look inside the air hammer for dirty oil, loose fasteners, broken internal parts and the like.

BEDPLATE - the lower part of the air hammer in which an oil sump may be located, through which the anvil projects in 'Two-piece' air hammers and which connects to the standard. Essentially the bedplate is the 'foot' of the air hammer and facilitates mounting of the air hammer to its foundation.

In 'One-piece' air hammers, as well as many spring hammers, the standard, anvil and baseplate are all one item, sometimes referred to as the FRAME or BODY.

In this item look for cracks, missing parts, dodgy repairs and parts which don't line up properly. With 'Two-piece' air hammers the hole through which the anvil projects should be sound, with no missing parts or cracks. In both types make sure the hold down bolt holes are all sound as these are what keeps the air hammer stable in use.

FLYWHEEL - takes the form of either a gearwheel, a flat or vee-grooved, counter-balanced pulley which accepts drive from the motor and delivers it to the

pump cylinder via the crank shaft and connecting rod. In some air hammers these parts are external and easily inspected. In others they are inside the standard of the air hammer.

These are usually sound, but sometimes a vee-groove edge or a tooth may have been broken out by some type of puller, used to remove the flywheel in the past. As this can damage expensive drive belts in no time, consider it necessary to repair the fault. If the flywheel is a geared type check that all the teeth are present. A missing tooth, especially if the gear is straight-cut, will result in problems and is difficult to repair. Bevel or herringbone gears with parts of a tooth missing *might* be OK, but be wary.

By prying the flywheel upwards you can do a basic check of the crank shaft bearings inside the standard. It is not the best check, but it should expose excess play in the bearings. Keep in mind the flywheel may weigh hundreds of pound (kilograms), so lifting it may not be possible with a pry bar...

PUMP CYLINDER - the part of the air hammer which is used to deliver pressurised air to the tup cylinder, via the control valving, to drive the movement of the tup.

If the air hammer is running, checking this area for function can be done by using the air hammer. After all, if the pump isn't working, nothing else will be, will it?

Like the tup cylinder, the internals of this area are impossible to fully check without taking the cylinder cap off, so there is no easy way to check further. If the air hammer is not in running order try to turn the flywheel to find out if the pump cylinder parts are seized. If it moves fairly easily, the internals of the pump cylinder are probably sound. You can only check for a broken ring by dismantling, as with the tup cylinder.

CONTROL LEVER - the hand-operated lever used to move the

control valving of the air hammer, which controls the movement of the tup.

CONTROL FOOT PEDAL - operates the control valving in the same manner as the hand-operated control lever, except it is controlled by the blacksmith's foot.

AIR CONTROL VALVING - either a rotary or axial valve fitted with secondary valves which control the flow of air inside the air hammer between atmosphere, the tup and pump cylinders and any internal air chambers.

Loose external control mechanisms are fairly simple to repair. Boring out pivot holes to a larger size then fitting over-size pins, building up with weld and working back worn parts to closer tolerances, or replacing old pins with new ones, can make a real difference to the feel of the controls and the behaviour of the air hammer.

The aspect of the control valving which is not easily rectified or inspected is the internal condition. If the air hammer is running, inspection of the valving is done by using the machine. If it works as it ought to the valving is probably good.

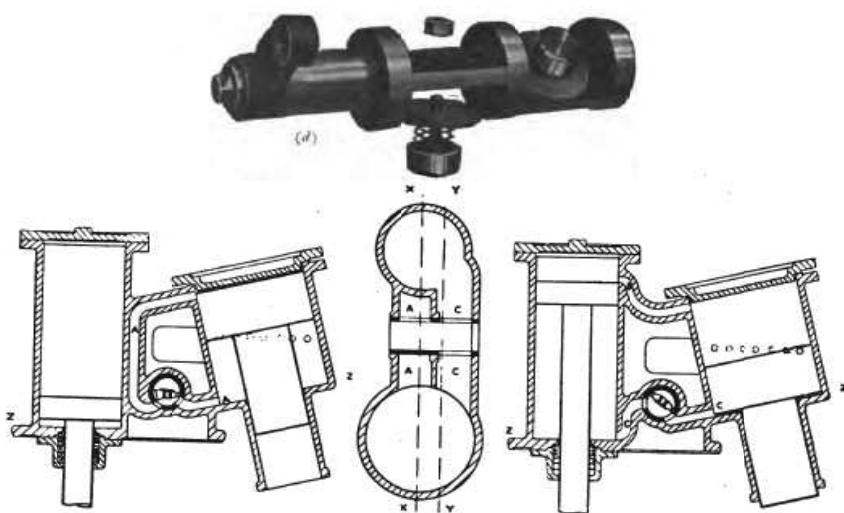
Aside from checking that the controls move in an air hammer that is not running, there is no easy way to confirm the order of the control valves. If you buy the air hammer you can do a detailed check, but that is hard to do when you are looking initially. If the valving is seized solid you can usually assume it's not in good order. Conversely, the control valving can move easily yet not work properly due to wear and tear or improper adjustment.

As you may need to gain an understanding of the functioning of the control valves we will look a little more closely at this topic.

Let's look at the simpler, rotary type first. (page 21, top).

This valve operates by oscillating





Top - A typical rotary air control valve assembly.

Bottom - Sections through an air hammer standard showing pump and tup cylinders with respective pistons, rotary valve and internal air passages. (Ref. Charnock G. F., 'Mechanical Technology', 1915.)

and is essentially a machined last resort. shaft fitted with one-way valves, inside a ported bore, or ported sleeve, within the standard. The rotary air control valve directs air flow between the pump cylinder, atmosphere, any internal reservoirs and the tup cylinder.

Generally these valves show wear from the valve oscillating within its bore, erosion from air flow over time within the valve and its mating ports in the valve sleeve or air hammer standard, wear of the faces of the one-way sections of the valve, cracked or broken one-way valve parts, a build up of carbon in the valve - or the hammer's internal air passages - or excessive clearances caused by the valve having been seized with rust, which leaves gaps when the valve is freed.

There is often not much adjustment available within this sort of valve. Changes to the size and number of porting holes in the valve and its sleeve (if present) may be made, but it is important to understand what these holes do before modifying them, as this is usually a

Some air hammers have paired rotary control valves where each section performs half the functions. They often have adjustment between them, making it possible to fine-tune their function. Anyang, Kuhn, Bêché and Sahindler air hammers use this sort of valving.

Other air hammers have valves consisting of many parts, or cored castings, which have one-way valves within them to control air flow. (See below). This sort of valve moves axially and may offer additional control of the tup not found in air hammers with rotary control valves, such as the ability to deliver dedicated stamping blows, or select a neutral position, leaving the tup in the lowered position for starting and idling the hammer.

Like rotary valves, axial types rely on close tolerances to ensure proper function. They can also show signs of wear on their outer surfaces, inside the bore or sleeve they operate within, air passages, one-way valve faces and related

parts and in some cases axial wear between the components which are assembled to make the control valve. Incorrect adjustment by well-meaning past owners mustn't be overlooked and can often be time-consuming to rectify.

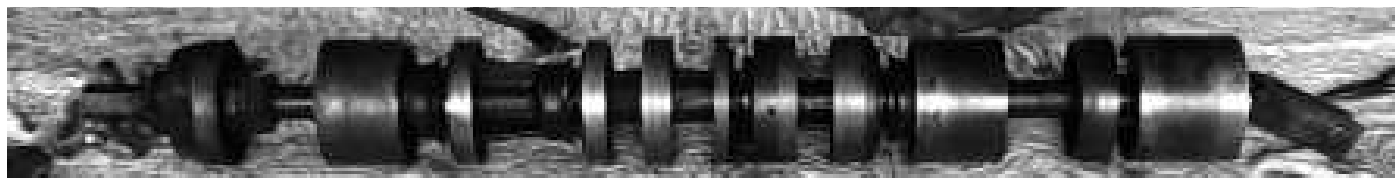
As the movement of these valves may be as little as 1 1/2" [38mm] to provide all the settings available for controlling the air hammer, the relative positions of the parts of these control valves are vitally important. A small control valve problem can make an otherwise sound air hammer into a lethargic, erratic, howling menace.

In air hammers with this sort of valve, the axial spacings between components may be altered to change the relative positions of the individual valve parts, fine-tuning the air hammer to allow for axial wear within the valve. The entire valve assembly may also be adjusted axially relative to the bore in which it operates, which means the air hammer may work as it ought to in say three of five control valve positions, but incorrectly, or not at all, in the other two! Things get more frustrating when you realise no two of these valves are identical.

A more detailed examination of air hammer control valves is beyond the scope of this article but, if there is sufficient interest, more information may be presented in a future edition of *The Drift*.

OIL FILTER - located in the bedplate with the sump, the oil filter removes contaminants from the lubrication system of the air hammer. Not all air hammers have oil filters or sumps.

If present, the oil filter is a history lesson for the observant. A dirty filter or oil indicates less than ideal maintenance.



An axial air control valve assembly, which works like a multi-port hydraulic valve spool.

In air hammers with no oil filter all there is to check is clear evidence of lubricant being used over a long period of time. Normally it will take the form of a build up of old and newer oil and grease at bearings and breather holes.

ELECTRIC MOTOR - often three-phase, used to drive air hammers. Some early air hammers had line-shaft systems, with fast and loose pulleys and shifting yokes, which may have been replaced with idler shaft assemblies later in their lives. These may be rather rough!

Checking bearings for wear is probably all the average non-electrician can do. Obvious defects like physical damage should be self-explanatory. If you can see the internals of the motor, look for corrosion. Generally an electric motor kept outside for years will be no good, but sometimes they withstand exposure.

*Always have a licenced electrician render the electricals safe **before** you plug the air hammer in.*

GUARDING - usually comes with the machine, but if not you really ought to make some to keep things safe. Refer to on-line resources for detailed information on this topic.

TEST RUNNING - WARNING - The flywheels on air hammers are far heavier than those on spring hammers and out-of-balance forces generated by the rotating flywheel may cause the air hammer to topple if not secured to a foundation when test running. Be wary if trying out an air hammer which is not properly installed.

CONCLUSION

In the next edition of *The Drift* we will go over some things to check during the test run and will look at "hidden" aspects of buying a power hammer; available space, transportation, repairs, foundations and electrical requirements.

Thanks to Hans Pehl and Lindsay Cole for some of the images used in this article. Ed.

Making a Touch Mark Punch Jay Hayes*

It has been a traditional practice for blacksmiths to leave their "mark" on the items they produce. This "touch mark", as it is called, is a unique identifier for each craftsman. The work is marked by stamping the touch mark into the item with a touch mark punch. The mark is often placed in an inconspicuous spot on a piece of art, or in a more prominent location on a tool such as a hammer. The touch mark is usually struck as one of the last operations in finishing the item while it is still at forging temperature.



Since the touch mark is of a unique design for each blacksmith, a one-off punch must be created. There are several punch styles that can be used and some blacksmiths have more than one punch to stamp different size impressions of his or her mark. Some prefer a short punch with long handle coming off the side at an angle, while others like a long slender hand held punch. If one does a lot of treadle hammer work, a punch can be sized for that too.

To start with, we need to decide on what the Touch Mark should look like when stamped into the work. Some smiths like to incorporate their initials or just design a small logo. Other aspects to consider are a border shape or if the mark will be raised within a stamped depression or will the mark be sunk in and borderless.

Now, it's time to start doodling... At this point don't worry about size just start sketching. Draw a few variations with and without a

border. Think outside the box. This will be your unique mark so get the creative juices flowing.

Work on refining the details after the basic design is roughed out. Think about size and proportion. It is easier to work on the details in a larger format and then reduce the size by scaling down the artwork on a photo copier or by scanning it into a computer. Don't fret if this sounds too complicated. Places like Officeworks® may have the tools and talent that can reduce the artwork for you for a 'buck or two'. While you're at it, make a couple extra copies. Or, if you have a good eye you can probably just work from your sketch without scaling it down.

The punch should be made of a tough material that will survive a lifetime of punishment. Unlike a center punch that is easily sharpened, a touch mark punch needs to produce a clean impression every time it is struck without degrading any of the fine



details of the mark. There are a number of steel alloys that will fit the bill and the choice often comes down to what is readily available or can be scrounged. Steel suppliers carry a nice selection of specialty alloys but sometimes a keen eye can find just what is needed while perusing vendor's tables at the next blacksmithing event. Alloys such as S-1 and S-7 are extremely tenacious if you want a punch that will withstand the test of time.

The tool blank to make the punch is prepared by cutting it to length and grinding both ends smooth and parallel to each other. It doesn't matter if the blank is a little larger than what is needed. Excess material can be removed later if necessary.

So now that the artwork is scaled down and a tool blank is ready to go, there are a number of ways to make the punch. Originally a smith would cut the design into the punch with small chisels and shaped punches. When using this method the design has to be a mirror image or the negative of the desired impression or the impression will come out as the negative of the design. As touch marks became more elaborate and tougher alloys were used other methods were developed. The simplest of these was to cut a positive of the design into an annealed intermediate die. This was often done cold and the die was heat treated to harden it after the design was cut. The punch blank was then brought up to temperature and the design was transferred from the die to the punch by forging. The punch would then be heat treated.

As technology advanced it became easier to produce more intricate designs. Rotary burrs, diamond engraving bits, and even acid etching were employed to make the tooling. Today a process called EDM is widely used in industry for precision tool and die work. Chances are, if you were to order a custom touch mark punch from a punch manufacturer, they would EDM it.

EDM stands for Electric Discharge Machining. It is a modern machining process of stock removal that uses thousands of tiny sparks per second in a very controlled manner to precisely remove metal. If you ever caused a short circuit with a screw driver you have probably noticed that the resulting arc blew a chunk of metal off at the point of contact. EDM does this on a molecular level with the work piece submerged in an electrolyte. The beauty of this process is that the hardness of the work piece is not a factor. EDM can create an intricately shaped cavity in hardened tool steel and not even affect the hardness.

EDMs use a shaped electrode to "burn" the cavity. The nice thing about this is the material that the electrode is made of, is relatively easy to machine or carve. Also since the electrode will be the intermediate tool, it will be carved as a positive of the design. The carved electrode then "sinks" the design into the hardened punch as the millions of tiny sparks erode the unwanted metal away. The EDM process is relatively slow, but it still only took about six minutes to EDM the "mark" into each of the punches pictured on the previous page. After EDMing to the desired depth the excess material can be ground away to refine or eliminate the border. The punch is then ready for its first impression.

** The author, Jay Hayes, is from the Pittsburg Area Artist-Blacksmiths Association, in the USA.*

Jay kindly gave his permission to ABA (Vic.) Inc. to reprint this article from PAABA's Volume 15, Issue 2, July 2016 newsletter in The Drift 102.

Thanks to Jay and PAABA's editor, Chris Holt for their cooperation.

§ The article has seen minor editing for the Australian supply scene. Ed.

Echuca Steam Rally

Dan Brady

This issue's events article is dominated by our annual trip to the Echuca Steam Rally, this year being their 53rd rally and ABA (Vic.) Inc.'s 26th in attendance as demonstrators.

Having skipped a year due to school commitments it was good to be back up on familiar ground. Security at the Rotary showgrounds didn't seem to mind me turning up at about 2.30 am on Saturday morning having driven up from Melbourne after work and dumping my swag in the shed to get a few hours sleep before setting up for the show.

As per usual I'd been beaten by Roland and Simon both of whom start unpacking and setting up at lunchtime on Friday getting things in order for the rest of us, establishing an easily defensible lodgement, camp kitchen with cups of tea and coffee, benches to sit on, a campfire and plenty of wood to burn. I got the chance this year to meet Simon's lovely wife Cathy who usually works the long weekend, both of us saying "...I've heard a lot about you..." and laughing; apparently we'd both only heard good things. Faces finally put to names can be very satisfying.

We were soon joined by Doug, Pam and Gavin and quickly got three forges up and running. Much the same as years previous, we forged and talked amongst ourselves, talked to the spectators and forged some more. A slight set-back with one of the forges and its missing hardware gave us our first job of the day, the shed floor scoured for a bolt of a suitable size, which once discovered needed heating to be unscrewed, followed by drilling some flat bar with Roland's hand-cranked post





The ABA (Vic.) Inc. Echuca Steam Rally 'regular fixtures' are, from left to right, Simon Baxter, Doug Tarrant, Gavin Brown, Dan Brady and Roland Dannenhauer.

drill and we were four forges up and running.

This year Simon brought another of his home-made treadle hammers, a slightly smaller, more portable model than the one I saw a couple of years ago and soon between the five of us we had a complete workshop. Forging throughout the day with visits from some of Simon's informal group of blacksmithing enthusiasts, that he assures me is not an association, though they do meet regularly on Sundays and by all accounts have a great time forging as a group.

A trip to Simon's workshop for a weekend of forging, without the need for demonstrating, has been proposed, so if anyone is interested get a hold of me through the email at the end of this article.

Everyone was demonstrating a different aspect of blacksmithing.

Doug was being assisted by Gavin as a striker, Roland was folding up a piece of plate to make a really nice hearth shovel, which

disappointed more than a few people when they discovered it was for personal use and not for sale. I was finishing a small pair of tongs, Simon had some knives somewhere and when working by himself Gavin was perfecting a new decorative twist. Shane Kenny dropped in for a visit but had to bow out before we could get set up to have dinner.

By about 3pm we had sourced some decent hardwood logs to start building a good cooking fire with plenty of hot coals.

Simon and Cathy had prepared several camp ovens with potatoes, carrots, chicken and onions. As the food cooked we unwound with a couple of drinks and talked with some of the steam engine demonstrators and another blacksmith who was set up on the other side of the showgrounds.

Dinner came and was enthusiastically eaten by us all, I was definitely starving after a flat out day of forging, everyone had hardly had a break since early that

morning.

As far as the Steam Rally goes it was a relatively quiet night, with no crazy steam engine hijinks just some good conversation and a few drinks. A relatively early bed time and a pretty good night's sleep on the shed floor.

The next day Chris drove up from Melbourne to visit and have a forge, which was good timing as I was about to head back south seeing that one of my kids was sick and dodging out of the inevitable slog that is packing up. Thanks Gavin!

I'd like to say thanks to all who came along. The 'regular fixtures' of an Echuca demonstration I guess and without them it wouldn't be the same. Particularly Simon Baxter for keeping us so well fed through the whole weekend. Thanks also to Shane for making the journey up to show support for the Association and to Chris for demonstrating; every hand helps!

As usual you can get in touch with me at thesec@abavic.org.au

Cheers,
Dan.

Event Notices

At the time of printing there were no events on the calendar for the next quarter. If any events come up in the meantime, ABA (Vic.) Inc. will post the details online or send out the Association's e-Newsletter to advise members. Information on any events may also be obtained directly from the ABA (Vic.) Inc. Event Coordinator, with contact details on page 03.

Emerald Library

Andrew Mobilia, Doug Hughes and Keith Towe worked at the Emerald Library to help celebrate their 10th Anniversary recently.

"It was bitter day but the forge kept us warm and we promoted the ABA (Vic.) Inc. and earned a fat fee for the Association," said Keith.

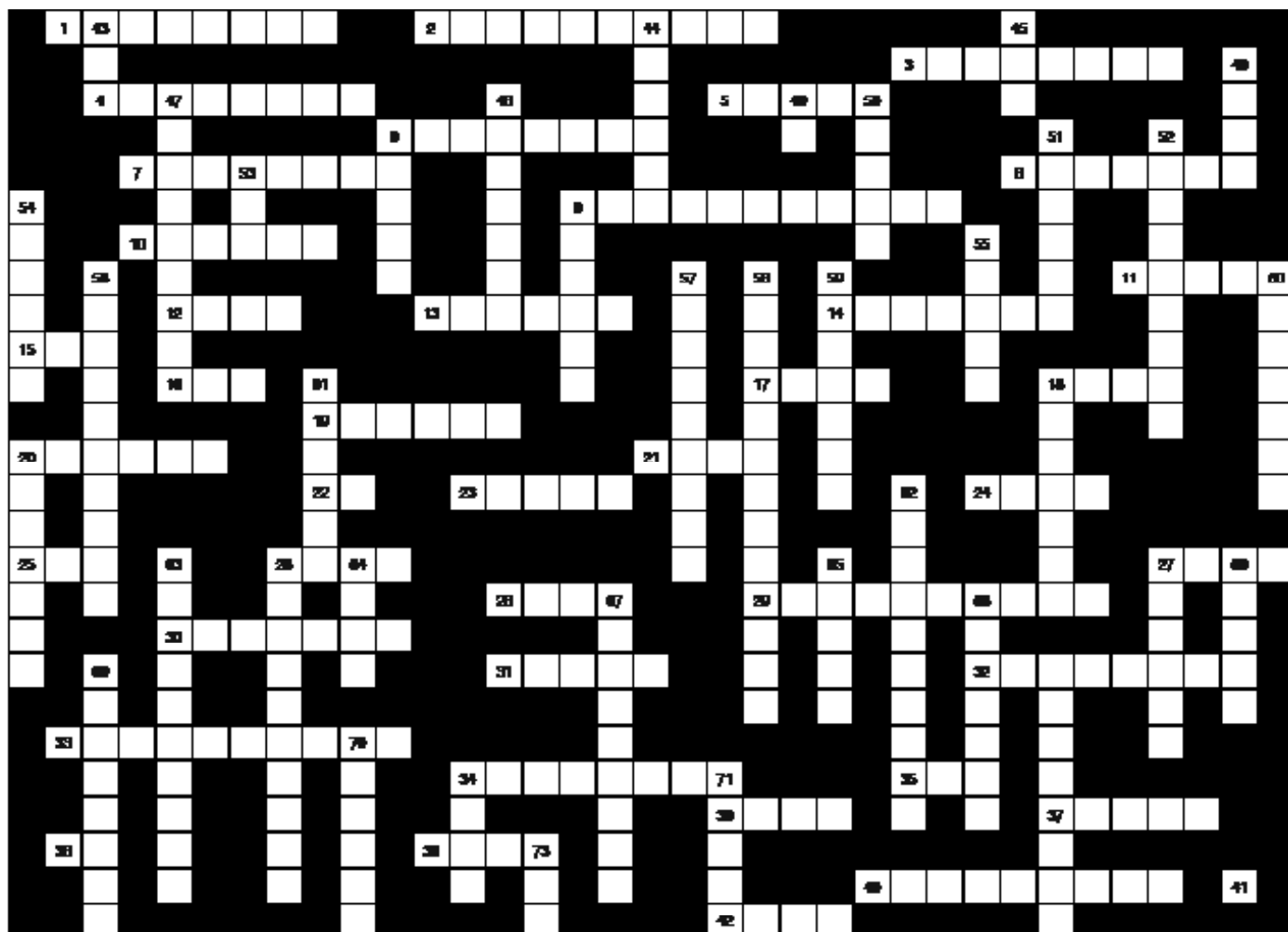
Doug and Andrew busy at Emerald Library.



Crossword for Blacksmiths

Jim Deering

Just for something different to spill your coffee on, here is a brain teaser. Whilst crossword aficionados may point out that it is not a "real" crossword, it'll have to do, until someone contributes a "real" one...



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THE NEXT BEST THING TO THE REAL THING: AVAILABLE NOW AT THE BARN

50c
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The AUSTRALIAN BLACKSMITHS ASSOCIATION (VIC.) INC. would like to acknowledge the continued support of BOC GASES in supplying our workshop oxygen and acetylene gases.

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ACROSS					
1	Pyrolyzed wood product	35	work with as it is (4,4)	56	A large plate used to true wagon and buggy tyres (6,4)
2	Often square and holed tool (5,5)	36	Part of a hook		
3	Tool to reduce with	37	Method of joining materials	57	To return a material to a uniform state
4	Hand tool for 2 (3,5)		Equipment in the forge for working upon	58	To make brittle by the migration of hydrogen
5	Jump up	38	iron – periodic table	59	Material resulting from the combination of silicates, oxides and other contaminants in the forge
6	Air source (only 7 letters)	39	Storage device for tooling		Handled tool for cutting hot material with a 30° taper (3,4)
7	Nail hole	40	A type of tongs with pointed, curved jaws	60	Another ubiquitous black smith's tool
8	Heat source powered by liquid or gas	41	Carbon – periodic chart		A device used to make steel tyres (4,6)
9	Tool to finish chain links (4,7)	42	A device for holding stock	61	Tool used to refine radii in and adjust forgings (4,6)
10	To reduce hardness			62	A type of machine forging, (4) die
11	To hole			63	A tool, often hydraulic, used in heavy forges
12	Fundamental forging action		DOWN	64	The place where forging is carried out
13	Achieve by a fast quench	6	Air flow term	65	A flame rich in oxygen
14	Tool for gripping (3,4)	9	Strata of material, clearly evident in Damascus	66	A helper in the forge
15	Burt out of coal		A type of tong for handling parallel-sided material (4,3)	67	Handled tool for cutting cold material with a 60° taper
16	The remnant of material left on a slug if punching is mis aligned	20	Tool for making holes in materials (5,5)	68	Colloquialism for the metal block used to pre-heat power hammer dies prior to use
17	Anvil's sound / circled stock	26	A type of power hammer	69	Technique used in the making of augers
18	Scaling causes a (4) of mass		To act on the stock reducing its sectional size and increasing its length		
19	To make soft	27	To strike		
20	Welding technique to join small pieces of wrought iron to make a billet	34	Another type of anvil, a common variety		
21	To cut a narrow opening	43	The part of the power hammer that contacts the steel when forging		
22	Manganese – periodic table	44	A device for trueing rings		
23	Type of power hammer with a beam	45	A device used when manually manipulating large forgings (6,3)		
24	A product created by burning black coal	46	A tool use to remove hammer marks in a forged item		
25	A smith who works light sheet	47	Silicon – periodic chart		
26	Type of power hammer using a board, a strap or ropes to raise the tup	48	A type of manipulation of material to create a decorative appearance		
27	To remove dust from coke before use you would (4) it	49	A component of the forge		
28	A type of anvil, often large ones	50	To cause carbon migration into the surface of a low carbon steel		
29	One of the grain forms in steel when heat treated	51	The moving head of a power hammer		
30	After blacksmiths receive schooling they are (7)	52	To begin burning		
31	The blacksmith's defining tool	53	A tool used to open a hole out		
32	A flame rich with acetylene	54			
33	A type of Massey power hammer (5,5)	55			
34	This steel is very easy to				

A Further Puzzle

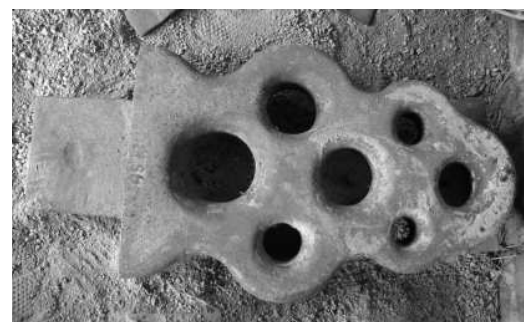
Whilst pondering your next crossword clue, you might like to help ABA (Vic.) Inc. solve a puzzle.

The item shown (*right*) has been occupying space in The Barn literally for decades and it seems, as a membership, we are at a loss to determine what it is or what it was used for. We

have theories, but no proof...

Around a metre [40"] left to right, 450mm [18"] top to bottom and 150mm [6"] thick, with radiused holes of different diameters and what seems to be a mounting lug at one end.

If you know, please let us know...



So, how did you go, find it easy?

0 – 5 min	Master
5 – 10 min	Journeyman
10 – 20 min	Final year
20 - 30 min	Intermediate
30 - 40 mins	First year
40+ min	Carpenter...

The solution will be in the next edition of *The Drift*.

Ypres Poppy Forging

Words- Shane Kenny, Images- Amanda Gibson

The Ypres 2016 event was mentioned during a working-bee at the Blacksmith's Tree in February. This is going to be an international gathering of blacksmiths for an event in the Grote Markt, Ypres, Belgium, from the 1st until the 6th of September, resulting in a 7m tall x 2m wide x 100mm thick steel cenotaph surrounded by 2,016 steel poppies and enclosed by 25m of low steel railing with themed panels. The organisers requested assistance with the manufacture of the poppies from the world-wide blacksmithing fraternity.

After a long pause, of about a second, it was agreed that we should do our bit to help; we had received leaves for the 'Tree Project' from many of the participating blacksmiths groups.

A cutting template was downloaded from the Ypres web site and a trial poppy cut out and forged to the required shape...

This took about 25 minutes to accomplish! As we had planned to forge 200 poppies (guess whose idea that was?) we had to find a better way.

I approached John, one of the new owners of Whittlesea Industrial Supplies, to see what the best price was that he could give us on the supply of a 3mm steel sheet. I explained the Ypres project and he suggested that we should get them laser cut and would quote on that also.

At the end of the week, as I was leaving the shop after spending the vast sum of \$12.00 on hardware, John called me over.

"I've spoken to Jacup at AC Laser Cutting and have looked at the Ypres site. We think this is a great cause, so we're supplying you with 200 poppy blanks. You can pick them up next Friday".

One of the things I love most about being Australian is the fantastic way people help out a worthwhile cause with no fuss or expectation of a reward.

Now things started to speed up.

Justin and Troy agreed to let us use the Whittlesea Factory, which was the Tree Project build area.

Amanda spread the word on the Tree Project website and the ABA Victoria website. Forges and anvils were provided from various sources (thanks to Steve, Roland, Doug, Gavin and Rick) and a forge date was set; Saturday 23rd of the ANZAC day weekend.

On the day Ian Blyth, from the *Whittlesea Review* attended, and gave the ABA (Vic) Inc. a front page spread with a follow-up the week after.

As you may realize forging a piece of 3mm steel into an appealing poppy shape does take some physical effort but with the determination of Roland and Justin and the brute strength of the factory power hammer (this hammer has been known to make even the most fearless blacksmith tremble on start-up) they were able to shape the poppy blanks into a thinner and more manually-forgeable shape.

I hope all that forged that day - Steve, Amanda, Roland, Doug, Gavin, Rick, Troy, Justin and Brigit - and the following day, May 7th, had a great time and weren't overly discouraged by my poor directions on poppy forging.

Eventually we had completed the promised 200 poppies from The Australian Blacksmiths Association Victoria Inc. Now we had to get them up to Brisbane.

Having spent many freezing nights transiting aircraft on the QANTAS



Melbourne freight line, I thought it may be an idea to contact the QANTAS Community and QANTAS Freight to see if they could help...

Of course they would!

So the poppies were packed up securely, with their weight significantly underestimated by me, and delivered to QANTAS Freight.

After their weight was corrected (who would have thought they weighed that much?), and with a friendly smile from the dispatcher, they were off to Brisbane.

Unfortunately QANTAS could only deliver them to Brisbane Airport, but after a few quick calls to another retired engineer at Brisbane the poppies were hand-delivered to their final collection point (thanks Kevin) at TVH Australasia for their final trip to Ypres.

Thanks to everyone that has helped, no matter in what way, from forging poppies at home to making scones or just a word of support...

We got it done!

Regards,
Shane Kenny.

Images are on the next page...

The Ypres web site is www.ypres2016.com





*In Flanders' Fields...
A selection of the 200 Poppies forged by ABA (Vic.) Inc. members and others for the Ypres cenotaph surrounds.*

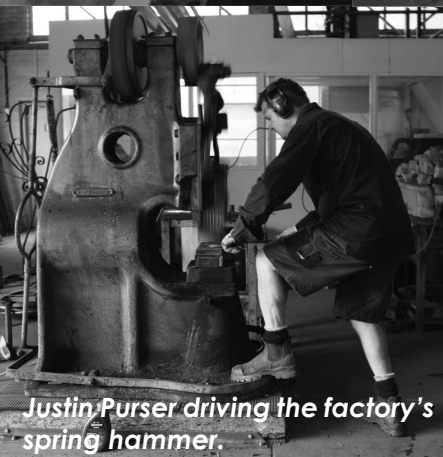


Brigit and Steve.

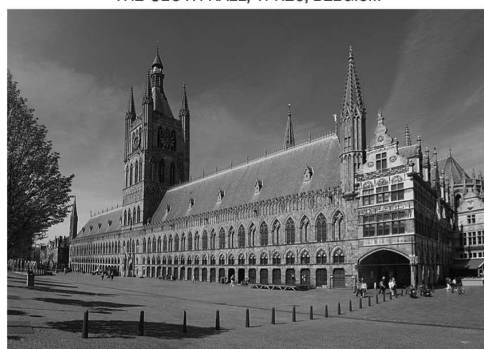


Left to right; ABA (Vic.) Inc. members Rick Stadler, Shane Kenny, Steve Nicoll (kneeling), with Troy Tamblyn, John from Whifflesea Industrial Supplies, Dylan Urquhart, Cam Urquhart (obscured), Justin Purser, and ABA (Vic.) Inc.'s Gavin Brown.

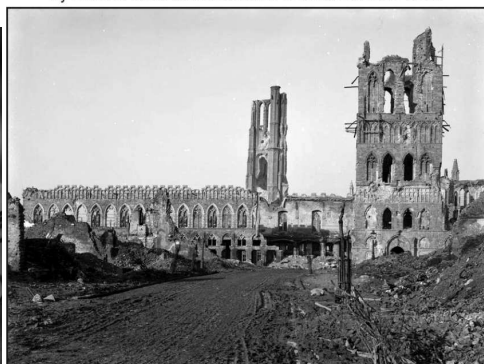
THE CLOTH HALL, YPRES, BELGIUM



Justin Purser driving the factory's spring hammer.



The cenotaph will be forged in front of the Cloth Hall by several hundred blacksmiths from around the world



Ypres was bombarded throughout the war.
This was the Cloth Hall at the end of hostilities
see our website www.ypres2016.com for further info



"You are all SOOO noisy!" Rafa thinks.