



NORTHERN DISTRICTS MODEL ENGINEERING SOCIETY (PERTH) INC.

July — August 2020

A cautious re-opening...

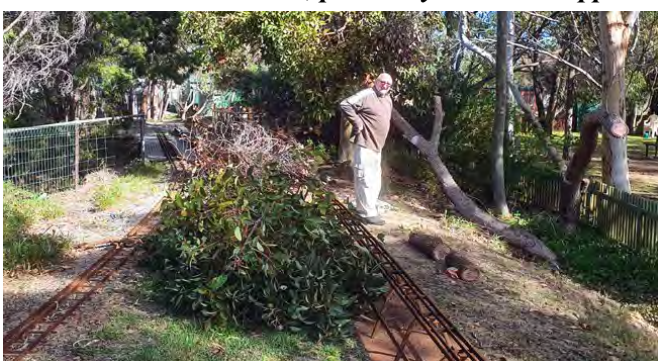
AFTER a complete shutdown for several weeks, on Tuesday, April 28, Charles Coppack and a group of members started to revive the club grounds from their self-imposed COVID-19 sleep. Our contract gardener and several other members have done stellar work looking after things during the break.

As restrictions in WA have begun to ease recently, activity at the club has increased, with regular work days on Tuesdays led by Charles and Thursdays led by Geoff Wilkinson. Various members have also been able to run on Sundays, co-ordinated by Sue Smith.

It has been necessary to make quite a few changes to the way we use the facilities and interact with each other in order to comply with the health requirements. Geoff has been keeping members updated on the constantly changing situation via regular emails. The club has also set up a Compliance Committee to ensure we are doing everything that we should.

Don't forget that the Coronavirus pandemic is far from over, so please check the signs, follow the rules, take care and above all, continue to have fun.

Jim Clark, photos by Charles Coppack



Above: George Palmer — well, what can you say, the grass is cut so nothing for it but to cut up a dead tree!



Left: George again, showing us all how to be COVID-safe using the new hand sanitising station next to the kitchen.



Above: Steve Briggs and new member Rob Gleave inspecting and lubricating the points and removing those annoying twigs.

Right: Dave Barlow and Paul James working at the rain water collection tank — hope the water isn't too cold!



Below right: Here is John Shugg, enjoying himself lighting up his loco after cleaning the Garden Railway.



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President's Report for June 2020

I would like to start this report by congratulating all of our members for having made it through what we hope has been the worst of this pandemic. We are a high-risk group of people but our patience has been rewarded and we are now able to enjoy our hobby, at least at a club level.

The committee has been very active over these past months and appreciates that the broad membership has placed a level of trust in them at this time, when it is impossible to hold general meetings and give everyone their say.

The running of a number of active days for members during the week has served us well over the past few weeks and we seem to have achieved a great deal during this time. There have also been a number of successful club days over the weekends. I was particularly happy to see successful Saturday activity taking place and I would really like to see this continue and hopefully expand, as it is imperative we provide for members who still work and are unable to attend during the week. More about Saturday in the paragraphs below!

Many members have been making a significant effort to advance a number of projects and these include the following:

- ♦ Painting the station structure and some fences
- ♦ Lopping trees and trimming shrubs
- ♦ General leaf litter and clean up of branches (after the recent storms)
- ♦ Repairing guttering on station and steaming bay
- ♦ Tidying up the fittings in the container
- ♦ Sorting out the workshop — a “new” lathe and shaping machine
- ♦ Removing green waste to the tip
- ♦ Taking limestone blocks up to the tunnel
- ♦ Ongoing work on repairing and improving signalling
- ♦ Preparing and printing our Covid plan and signage.

With the difficulty of holding general meetings, a show of hands was called for one Wednesday at Ron's when there happened to be a quorum present.

A number of matters were passed: The approval of John McCandless' membership application to join the club and the expenditure of approximately \$2000 for a stonemason to construct the tunnel portals, with no members being willing or able to do this work.

The stonemason will start work on the tunnel portal on Saturday, June 20, using the limestone blocks recently delivered (*see photo at right*).

He will only be working on weekends, so please be accommodating if you want to run while he's working.



President's Report
By Geoff Wilkinson

An electrician will be installing some additional power points for the new workshop equipment once the committee approves this expenditure.

A group of members is looking at a few options in relation to the construction of a new workshop shed in the north-west corner of the grounds, replacing the container.

This workshop will be intended to provide facilities that members may not have in their home workshops. It may include a stationary engine steaming shed to allow the public to

view this side of our hobby and possibly a loco maintenance facility. The idea at this stage is to come up with a workable workshop layout and a few options around the building construction. The building will also need to house the gardening equipment.

At this early stage, I would prefer not to introduce budgetary constraints, but rather develop a plan for the club's preferred options. Once we know what we want in this building, we will be able to scale it back to something we can afford. All members should feel free to have input into this project.

We are in the process of preparing a “members only” area on the NDMES website, in which we can include all club and member information we don't necessarily want to share with the public. This is a work in progress and we will keep everyone informed once it is possible for access to be provided.

Our Compliance Committee has made recommendations for the management of people when we eventually re-open to the public. Most of the membership appears unwilling to open to the public under these fairly onerous conditions and has shown a preference to remain closed to the public for the time being.

(Continued on page 3)



The limestone blocks as delivered to site. Phill Gibbons (at right) seems to be wondering how they are going to get to the tunnel portals...

Photo: courtesy Geoff Wilkinson

President's Report (cont...)

(Continued from page 2)

Please understand that as it has been impossible to hold meetings, we have just been getting a broad informal assessment of members' opinions in relation to this matter. Around the middle of July, we will again review with the membership the possibility of re-opening to the public, perhaps for the July public run day.

We are working towards introducing a "Come and Try" day. According to new member Rob Gleave, this was used quite successfully at his UK club as a way of introducing people to the hobby and increasing membership. We would probably run these courses over a couple of Saturdays to appeal to people who are in the workforce, without impacting our normal Sunday running.

At this stage we envisage the course, including a short introductory classroom session, followed by driving the club battery and petrol locos. A second session would be devoted to preparing, steaming and driving the club steam locos (and any other locos as offered by members for the day) then finishing up with a clean up, a beer and a chat. Members' ideas and input into this will be most welcome.

Essential for this to be successful, is a core of members who are prepared to devote their time to provide one-on-one training and supervision. Please let me know if you want to take part in this. Eileen Briggs is currently developing a Facebook page to introduce this concept to the public. We are probably a few weeks away from being in a position to launch this initiative.

All in all, I think we're in good shape moving forward with a few exciting projects under way.

I think that provided the weather holds off, we should have a successful club run day on Sunday June 28.

Hope to see you all then!

Geoff Wilkinson, president

Right: New member Russell Williams "hanging around" while we were all working!

(Not really — he volunteered to upgrade the plumbing for the rain water catchment from the steaming bay roof. Thanks Russell!).
Photo: Geoff Wilkinson



Calendar of Events for 2020

Club run day (members only) Sunday 28 June 9:00am onwards

Other member's days and activities are now happening — details will be updated by email or contact Geoff Wilkinson (see below).

Know your Society

President	Geoff Wilkinson	0424 080 979	president@ndmes.org.au
Vice President	Phill Gibbons	9390 4390	
Secretary	David Naeser (acting)	0433 088 703	secretary@ndmes.org.au
Treasurer	Suzanne Smith	0410 492 083	treasurer@ndmes.org.au
Committee Members	Garth Caesar	0418 950 755	
	Ron Casotti	0407 464 747	
	Charles Coppack	0409 044 969	
	Peter Smith	0407 472 770	
	Ron Collins	0427 461 279	
Boiler Inspectors	Phill Gibbons	9390 4390	
	Steve Reeves	0408 955 692	
	Noel Outram	9525 1234	
	John Martin	0406 509 400	
Librarian	Paul Costall	0407 010 252	costall.paul@gmail.com
Birthday Bookings, Run Days	Phill Gibbons	9390 4390	
Driver Training	David Naeser	9276 8709	
Safety Compliance Officer	Jim Clark	0407 988 746	jimclark@hardwareandsoftware.com.au
Newsletter Editor			www.ndmes.org.au
Website			

Society Grounds and Track Site Vasto Place (off Balcatta Road), Balcatta

Postal Address NDMES, PO Box 681, Balcatta 6914, Western Australia

Protecting your new steel boiler

Continued from the May-June issue... this time we will conclude the series with a summary by Steve Reeves and David Naeser.

Steve Reeves goes into further details:

I ran 'Sarah' at Castledare for 11 years. During this time I stored the boiler dry. The boiler was washed out every two years just after the boiler certificate expired, then made ready for the boiler inspector. This boiler is 50 litre capacity to the Briggs design with a steel coil in the fire box.

After nine years the boiler was taken off the chassis and an internal inspection done. This showed a water mark along the boiler barrel at the normal operating level but no pitting. All internal plate work was a gloss black colour with no signs of pitting or corrosion. The coil was found to be in good condition.

When I began to run 'Hevyazel' I decided to experiment and store the boiler wet. This boiler is of 45 litre capacity and to the Briggs design with Y-shaped water circulators in copper.

This, however, did not go too well. Firstly, it was difficult to keep the boiler completely full of water. Perhaps there was some leakage due to a fitting or a leaky valve which I did not notice, however the engine had lost some water each time I checked it.

Secondly, I would blow down a water glass full of water at working pressure once at the beginning of the day and once at the end of the day. Brown deposits were seen around the outlet edges of the blowdown pipe.

Water treatment was managed by adding Tandex DM to the tank water. This caused fittings to leak and the injectors to play up after a few steamings. This increased the maintenance required between steamings.

At the first wash-out, scale came out. I immediately went back to storing the boiler dry. All the problems listed above went away.

I ran Keith Watson's original Heidi for several years. The boiler had been stored water-wedged for several years. A custard-like deposit was found along the bottom of the boiler barrel. Due to its viscosity I was unable to wash it out, even when using a lance.

I managed to get rid of it by frequently blowing down the boiler, which took a long time. Sometimes the blowdown valve partially blocked up and required taking apart to clean when the engine was cold.

Clive Chapman used to be the chief engineer on the paddle steamer 'Decoy'. I asked him how they managed the boiler. The 'Decoy' is shut down for about four months during winter and is water-wedged. A few weeks before the new steam season began it was drained, thoroughly washed out and made ready for the boiler inspector. It always passed.



Engineering Matters
with boiler inspector
Phill Gibbons

I believe that boilers should not be water-wedged for an extended length of time. If a boiler is being steamed often, every week for example, it can be left with water in it, but it needs to be carefully managed.

I recommend the following dry storage: To blow down, the fire must be extinguished and boiler pressure dropped down to 30 psi (210 kpa). The blowdown valve can now be opened and the boiler completely blown down. When all the water has been expelled and only steam is coming out (detected by the change in sound at the blowdown valve)

all steam fittings should be opened so that the heat of the boiler can evaporate any left over condensation. These valves, including the regulator, should all be left open while in storage.

When the boiler certificate needs renewal, the boiler must be washed out and an internal visual inspection done, the safety valves cleaned out and the fusible plug renewed. These processes should be supervised by the boiler inspector. Although not stated in the code, steel boilers should be ultrasound tested after 20 years.

David Naeser sums up his experiences:

Below are three methods of storing boilers out of service, based on my notes and other experience. They apply to full size, but are also of interest for our sizes:

1. Wet Storage — 1 to 3 months

- ◆ The boiler is drained and washed out — all scale and mud to be removed.
- ◆ The boiler is completely filled with water once cold.
- ◆ The upper-most fitting should be opened while filling with water to allow all air to be expelled.
- ◆ Water should be dosed with the operating chemicals and pH tested to be in alkaline region.
- ◆ Ideally deoxygenated plant water should be used. (*Warmed rain water should suffice*)
- ◆ Water level is to be monitored and topped up as required during storage.
- ◆ Benefits – can be quickly returned to service.

2. Dry Closed Storage — Medium term storage

- ◆ The boiler is drained and thoroughly washed out — all scale and mud to be removed.
- ◆ The boiler is dried out and all moisture removed.
- ◆ Moisture absorber or desiccant can be placed in the boiler to absorb condensation or moisture. (*Not in contact with boiler surfaces*)
- ◆ Desiccant must be monitored and replaced or regenerated when moisture fully absorbed.
- ◆ Benefits – can be returned to service relatively quickly. Easy to monitor by checking the desiccant.

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Protecting your steel boiler (cont...)

(Continued from page 4)

3. Dry Open Storage — Long term storage

- ◆ Boiler is drained. All fittings are removed and boiler washed out — all scale and mud to be removed.
- ◆ Boiler is dried out and all moisture to be removed.
- ◆ Moisture absorber or desiccant is placed inside the boiler. (*Not in contact with boiler surfaces*)
- ◆ Desiccant must be monitored and replaced when moisture fully absorbed. (*e.g. colour changes*)
- ◆ Boiler openings should be covered but not sealed, to allow some air to circulate.
- ◆ Benefits: Best long term storage as the internals are continually aired. Easily monitored and the fittings do not corrode. Takes more time to return to service.

Personally, I think that Method 3 may still lead to corrosion if the circulating air becomes damp and the boiler is colder than ambient. Warm weather after a few cold and wet winter days causes condensation problems in my own workshop.

Of course the desiccant is supposed to keep the interior dry, but how frequently is it checked? I have heard (from WorkSafe) of pressure vessels that were shipped from overseas to Perth with desiccant bags inside and then kept on site for months before being installed. By then the desiccant had become sodden and severe corrosion had taken place around where the bags had been lying. (The desiccant bags should have been suspended, but in any case they should have been monitored.)

What I don't like about wet storage is that the water may be oxygenated, unless it has been preheated, and the pH may not be ideal unless great care is taken. Also it may be impossible to completely fill the boiler and corrosion may take place at the air/water interface where air pockets are trapped.

For our size boilers, blowing down while hot may suffice in the short term to remove mud from the boiler. Closing up while still hot after completing the drain and all steam has been vented should ensure that it remains dry. In the longer term, a washout with a high pressure jet, as done by Steve Reeves, would be best to remove sludge. In the South African Railways, washouts were done every four weeks, or more frequently if the service and water quality required it. But these locos were in near continuous use.

Mick Platts (a WorkSafe-accredited boiler inspector) recommended that a small light bulb in the boiler would keep it warm enough in our sizes to stop condensation.

Incidentally, the gloss black deposits mentioned by Steve and others are magnetite deposits and are a sign of good operation with high pH (8 to 9). These deposits will act to prevent corrosion once formed. However, too high a pH (>10) can lead to foaming and priming problems as mentioned by Richard Stuart.

This concludes the discussions on this subject. I hope there are some ideas here for you to take away and use when operating and storing your own steel boiler.

Phill Gibbons

Repairing an under-size axle

A little while ago I was given an unfinished loco. I had built the boiler for the loco about 40 years ago and gave it to the owner — well, the loco was never finished and as you can imagine after sitting that long it needed stripping down completely, so it was.

I mainly intended to pin the crankpins so that the stress of turning the valve gear didn't move the crankpins. Then of course when it was stripped back to its individual parts a major problem was revealed: one wheel had .010" clearance on the axle! The original builder had centre punched the axle and applied lots of Loctite to try and fill the gap. This was a failed repair as the wheel wobbled and could be pushed off easily, so it would have failed in service.

The only way I have had success when dealing with poor press fits is to replace the missing metal with more metal. So the key was removed, bearing pressed off and then the axle end was carefully bronze brazed. The bronzed end was then machined to a .0005" press fit. The bearing was replaced, key fitted, wheel and axle smeared with a little Loctite and pressed on — repair complete!



Above: The wheel and axle set dismantled — the bore diameters were carefully measured and marked, the undersize axle end was bronze brazed.

Right: The finished axle end turned to size, keyed and ready for the wheel to be press fitted.

The Loctite acted as a lubricant when pressing and would have filled in any tiny imperfections. In my experience a metal to metal press fit is always the best repair.

Article by Phill Gibbons

The Lawley project

I bought the castings and patterns and frames from Bob Hawrylak (try saying that after a few beers) about four years ago as my “mate” suggested I would need a project after finishing the Fowler traction engines. (Bob is a retired career fireman and has a restored 1930s Dennis fire engine and several stationary engines.)

The engine is a $7\frac{1}{4}$ " 4-4-0 outside frame engine as used on the Beira two-foot narrow gauge railway in Mozambique in Africa about 1890, to gain access to the gold and diamond mines in Rhodesia (now Zimbabwe).

The project came with some ‘cartoons’ of a 5 inch design from South Africa which I have used as a reference. The first problem arose when cleaning up the oxy-cut frames when I realised they were bowed and also not thick enough. So on to AutoCAD and redraw them with all holes ready for laser cutting. At this time I also realised the tender frames were wrong. It has a six wheel tender but is a very short tender, so I stretched it 300mm to suit my own 6’5” frame.

Chris Smith from our club found out I was building a Lawley and lent me some more drawings which helped when redrawing the loco. I also contacted Andries Keyser in South Africa (*Google ‘Keyser locomotives’*) who has built, amongst other engines, a Lawley and converted it from Stephenson’s link to Walschaerts valve gear. Andries is a great guy, well worth a look at his Youtube videos — he and his engine hold the Guinness Record for 24 hours continuous running.

Next up was machining the wheels, axles and horn blocks. Like the traction engine, the physical size of the parts is a bit of a challenge. However, I did manage to bolt the two frames together and machine the horn blocks on my mill.



Ron Collins drew up the steel boiler for me and I got the parts laser cut, making sure they were certified boiler plate 10 and 12mm thick.

Then Mark and myself welded it all up. Copper tubes were swaged in and all tested OK (*photo at left*).

It’s too heavy now for two guys to lift so it’s a block and tackle job to move it. I’ve just painted the boiler and lagged it. I’ve also just painted the smokebox and the smokebox door, cast in our very own C&C Foundry.

I drew up the motion gear and we put it through Ron’s programme to check it and as you can see in the photos, it’s all back together and as a bonus it appears to work!

Pistons are cast iron $2\frac{1}{2}$ " diameter and 100mm stroke with $2 \times \frac{1}{8}$ " rings running in cast iron cylinders. It has slide valves on top with a transfer link which is unusual in that it uses a die block and expansion link to get the valve drive from eccentrics on the front drive axle inside the frames to outside the frames and then through the Stephenson’s link. This is similar to the Fowler traction engine. I have also fitted an eccentric driven axle pump for boiler water feed.

The front bogie was a bit of a challenge as there is limited space for the leaf springs and compensator links.

Several attempts were made here but it now appears to work. All the leaf springs were made from annealed spring steel which I rolled to shape and made a tool to roll the ends round for the links.

Then they were hardened and tempered. They feel quite stiff but when the boiler and everything is fitted I’m sure it will settle down a bit. Drive wheels and tender wheels are also leaf sprung as can be seen in the photo (*below*).



Connecting rods are stainless steel machined from 50 x 25 bar, pity I didn’t save the swarf for the “Great Swarf Off” — a lot ended up in the soles of my boots!

The cow catcher on the front was also a challenge with lots of bending and cursing but it’s turned out well (*photo at right*). I’m thinking of building a similar one for my Ute!

Hope this gives you some idea of where I’m at with this project. It should be a good hauler when it’s finished, and I should then get back to the C38.

Article and photos by Paul Costall



Bill Wall's travels

The following story was received from Bill Wall back in March 2020:

"Hi gang, well, I heard a whistle whilst strolling along the foreshore parade in Semaphore, Adelaide, and investigated to find a steam locomotive pulling passengers along the sea front. It is about a 30 minute round trip up and back.



When it pulled into the station I was pleased to see the name on the loco was BILL! (photo at left).

Then reading the ID plate it was a Willis loco built in Rivervale, WA. It is loco number 43 built in 1992.

It had a young lad driving and I overheard him saying the superheaters were leaking and he was worried about the amount of water used on each run. But overall it was in good nick, it steamed easily and had no effort in pulling away with a full four carriage load.

I'm not sure of the gauge — about 15 inch I think, but I had no Vernier on me at the time.

I later tried to visit the SASME track but it was closed to the public! It looked like a good setup similar in size to our club with two loops running around with a twin tunnel, neatly bricked. They also have a lake and I could see a full size static engine under cover. I was disappointed not to get in for pictures etc.

I also visited the Birdwood Motor Museum, which is very good with lots of old and new gear and a few local inventions. I will send pics and a few notes later.

I am now sitting in a shopping centre sending this as I have no Internet at the house we are sitting.

Over and out from the roving reporter!"

Article and photos by Bill Wall



Above: The Semaphore to Fort Glanville steam train departs from the jetty end of the popular Semaphore Road cafe strip and runs parallel to the Esplanade, before passing through sand dunes to Fort Glanville.

See <https://kidsinadelaide.com.au/semaphore-steam-train/>

Below: Motion work is clean and in good condition after nearly 30 years.



Vale Barry Glover, OAM

BARRY Glover, the man who guided the Australian Association of Live Steamers (AALS) as inaugural president for 26 years, passed away on Tuesday, June 16.

His "larger than life" character had a big influence on the AALS, the umbrella organisation for all Australian model engineering societies and miniature railways.

He was a founding member of the Illawarra Live Steamers in NSW about 50 years ago and became AALS president in 1983, holding office until 2009.

He became the AALS' first life member on relinquishing the presidency. He was also chairman of the Australian Miniature Boiler Safety Committee (AMBSC) from 2015 until 2018.

Barry Glover received the Order of Australia Medal (OAM) for service to Veterans and their families in the 2018 Queen's Birthday Honours. He served with the Australian Army in Vietnam and rose to the rank of major, was chairman of Illawarra Diggers for 13 years and a board member for 30 years.

Although in failing health, he attended the 2018 AALS convention in Bunbury, which NDMES organised and co-hosted with SWMEA.

Barry Glover lost his wife of 40 years, Lorraine, 20 years ago from cancer. He is survived by two daughters and four grandchildren.

Tom Winterbourn

Angel's Breath

ONCE upon a time or so the saying goes, a young lad was indentured to an elderly first class machinist as his apprentice. The young lad and elderly machinist became firm friends despite the age disparity.

The machinist mentored and taught the young lad, imparting all the accumulated knowledge and tips acquired over the many years.

The elderly machinist was a first class tradesman — a craftsman — and he taught the young lad how to utilise and obtain the best performance from the lathes, shapers, drilling and milling machines, in fact all the equipment.

He taught, with great patience, how to make and set up jigs and fixtures to ensure that the components were machined to size consistently and quickly.

He taught the lad how to drill nice neat round holes and tap all types of material, ensuring that the threads were clean and fully formed without tears and misshapen threads, and without breaking taps. He taught the young lad the secrets of getting great finishes on the lathe, milling machine and the other equipment.

The young lad to his credit absorbed all this information like a sponge, understood what he was being taught and then utilised his new found knowledge to great benefit. The young lad obtained every morsel of information from the elderly machinist, except one vital piece of information.

The elderly machinist would not relinquish, despite the lad's many repeated attempts, the secret of the "Magic Elixir" he used to brush on the drills, taps and cutting tools to provide the professional and quality workmanship that he was renowned for.

The "Magic Elixir" was kept in an old brown flagon in the elderly machinist's locker and small portions were provided to the young lad in a small bottle with the instruction to use it sparingly.

The young lad knew the worth of the "Magic Elixir" as any other cutting oil or proprietary tapping and cutting fluid did not hold a candle to the elderly machinist's "Magic Elixir". Any job with a few drops of the "Magic Elixir" was transformed in finish and quality. Not only that, the "Magic Elixir" smelt pleasing and it was smooth and soothing on hands.

Several years passed and the young lad progressed to being an excellent tradesman in his own right, and he remained firm friends with the elderly machinist.

The lad was still given small portions of the "Magic Elixir" even as a tradesman, but despite many, many requests to the elderly machinist, he would not divulge the recipe for the "Magic Elixir".

Finally the day arrived when the elderly machinist decided to retire — a large celebration was arranged as the elderly machinist had been with the company for a very long time. Speeches were made, the watch was

presented; food and drink was consumed and good wishes were provided by all and sundry.

With a heavy heart, the lad escorted the elderly tradesman, his mentor and good friend, to the factory gate for the last time.

The lad expressed his best wishes, shook hands and clasped the elderly machinist around the shoulders in a farewell hug. The elderly machinist, a bit cut up with the occasion, never said a word, he just pressed a tatty piece of paper into the lad's hand, turned and walked away.

The lad went back into the factory with a heavy heart. As he was walking back he remembered the scrap of paper pressed into his hand by the elderly machinist as he was leaving. The lad initially had difficulty in reading the scrap of paper as it was quite tatty and dirty with a scratchy, cursive handwriting.

He suddenly realised that he held the recipe for the "Magic Elixir" or **Angel's Breath** as the elderly machinist had titled the piece of paper. The paper read:

Angel's Breath

1 Part Pure Gum Turpentine

2 Parts White Spirit

3 Parts Olive Oil

4 or 5 Drops Wintergreen Oil

Note: It is important to use the correct ingredients. **Pure Gum Turpentine** (not Mineral Turpentine) is a solvent derived from distillation of Pine Tree resin, whereas Mineral Turpentine is a hydrocarbon derived from petroleum.

Likewise, **White Spirit** (not Methylated Spirits or Shellite) is a hydrocarbon solvent used for cleaning and degreasing derived from petroleum (Paraffin), whereas Methylated Spirits is a mixture of grain alcohols and Shellite is a form of purified pure petrol (Naphtha).

Footnote: If anyone wishes to sample a small amount of Angel's Breath Elixir prior to making their own, please contact me with a "Small Bottle". I have a very small quantity of pure Wintergreen Oil should anyone wish to have several drops put in their mixture.

I suggest that the Angel's Breath Elixir is poured into small plastic bottles with a small spout or tube for dispensing. As a small quantity goes along way, you can direct a few drops with the spout or tube directly on to the machining site.

Article by Ron Collins



The Great Swarf Off and other challenges

THIS year has certainly laid on some significant challenges, for us individually and for the world at large.

Charles Coppack put out a challenge of his own to distract members from the more serious problems of the world and to help keep us in touch with each other — the Great Swarf Off. Who can generate the most swarf while making something in their workshop?

Although many of the restrictions are now easing, this challenge continues, so don't be hesitant about putting forward your contribution with a photo and a few words about what you've been up to in your workshop.

A couple of 'excellent' prizes for the Great Swarf Off are up for grabs as shown in the photos below.



Left: First prize, yay, cleaning cloths. Well done — now you better clean down that machine!

Below left: Over fifty's encouragement prize. Looks like you might need some better tooling!



Below: As a starting point, a modest entry from a Hill Billy.



Another idea that Charles came up with was a crossword challenge aimed at model engineers — so, armed with Tubal Cain's "Model Engineers Handbook" and back issues of various ME and AME magazines, my wife Pamela has developed an ongoing series of Great Crossword Challenges which appear to have given quite a few people an enjoyable diversion from the workshop.

The winners of the Crossword Challenges so far are:

No.1 — John Martin

No.2 — Richard Turner

No.3 — John Shugg

Congratulations! A small prize of doubtful value but possibly tasty contents awaits each of you.

We will continue circulating a few more in this series of crosswords for a while longer, so don't put away your pencils yet.

If you have something of interest, especially in context of our recent enforced home time, please let me have a photo or two and some notes on what you've been up to for our future newsletters.

Jim Clark

What is it?

Now for something completely different.

We all know that this is a railway lamp of some sort, but what is it's name and where was it used?

George, you should get this one!!

(Answer will be in the next issue)

Charles Coppack



Don't let your bottle fall over...



THE small bottles we use often use for dispensing cutting fluids, such as the Angel's Breath Elixir described in my article on page 8, are prone to falling over and possibly spilling their valuable contents, as well as making a mess.

I suggest placing a couple of ounces of lead shot in the bottom of the bottle which provides a stable base, minimising the chances of the bottle falling over.

A suitable type of bottle with a small spout is shown in the photo at right, with about the right amount of lead shot in the cap beside it. The lead is not affected by the cutting fluid.

I have several kilos of lead shot and small quantities are available for free, should anyone wish to avail themselves of this tip.

Thanks to Ron Collins for this handy hint.



NDMES: a 'new boy's' perspective

Continued from May-June issue... new member Dave Barlow concludes his story by detailing his background.

I originally hailed from Crewe in Cheshire, a railway hub, and like most boys of my age was an avid "train spotter". My father was also a keen steam loco man, having to get a train to school from his village. Shortly after my birth in 1947, my dad started building a 3½" Juliet, which he named 'Beryl' after a nurse who looked after him in a tuberculosis sanatorium. The loco was finished in 1951 and I enjoyed running it with my dad at his local club.

In the late '80s, dad handed over 'Beryl' to me, along with some of his ancient workshop tools. We did run her at a local club in Scotland, where I lived at that time, to show me the rudiments of steam loco driving, but due to my career the loco lay in the back of the shed until I retired in 2012.

Then, while taking my grandson to the local park in Barrow-in-Furness, where I now lived, I came across a miniature railway I didn't know existed! To cut a long story short, I approached the two guys who seemed to be in charge and enquired about the cost of getting 'Beryl's' boiler tested and certified. I was told they did not do boiler testing on a commercial basis, but it was free for club members, so I quickly joined the club, had 'Beryl's' boiler tested successfully, did a mini-refit, a poor-quality paint job and proceeded to run her.

In parallel I was taught how to steam the club's 5" gauge locos: a freelance 2-6-2 tank engine, a Springbok 4-6-0 and a Simplex 0-6-0 and, when proficient, was let loose pulling the public, which I thoroughly enjoyed — and still do. The track is a raised kidney shaped layout about 470 yards (450 metres) long. We usually ran two trains, a steam and a diesel, with another couple ready to go and swapped locos around to provide variety.

The Furness Model Railway Club has a dual small gauge electric (mainly 00 and N gauge) and a model engineering section. We had a club newsletter produced in black and white and hard copy only. I provided the editor with an article relating to the ME section, but when he decided to give it up, I said I would take over, providing it was in colour and that it could be produced and sent out by email.

I did that and was able to swap newsletters with other clubs, along with NDMES, and raise the PR of our club. Unfortunately, now that I have left, the club has reverted to the black and white hard copy only system again.

My Royal Navy apprenticeship was as a fitter, but on joining the fleet I soon realised my skills were more attuned to operating rather than hands-on maintenance. As soon as I had achieved the requisite tickets in the surface fleet, I volunteered to join nuclear submarines as a nuclear engineer and was soon promoted to more



Dave Barlow's last day driving at the Furness Model Railway Club in September 2019. It is a freelance 5" gauge 2-6-2 tank of 1930s vintage, recently re-boilered. *Photo: Dave Barlow*

managerial positions where I didn't get my hands too dirty! My last job in the RN was as an instructor on the normal and emergency operations of the nuclear submarine reactor and propulsion system, a far cry from model engineering.

But I digress! By now I was thinking of building my own loco, but because of my limited skills in model engineering and lack of hands-on practical engineering generally, I looked at some of the kit builds, such as the Polly range. By coincidence, the widow of a past club member said she had a part built loco which she would rather sell to a club member and I was given first refusal.

Not knowing too much about what I was buying, I took along an experienced member who recommended the purchase, saying that it shouldn't take too much to complete. It was a WD Austerity 2-8-0 to the Clarkson drawings of the 2-10-0 version, which has since caused a lot of head-scratching due to mistakes in the original drawing and by the past owner when he converted it.

It was allegedly 80 per cent complete, but that turned out to be way off the mark. Anyway, I got stuck in, started on the tender and completed it to the state where it was useable. I still had the brakes to do and accessories like the ladders, but decided to start on the loco itself. I soon found myself struggling and, to be honest, was out of my depth and getting increasingly despondent and considering giving up.

I had bought a pillar drill and a small 330mm between centres Chester lathe, but couldn't justify a milling machine to my wife, who thought, as I did, it was just a matter of putting the parts together. I hadn't touched a lathe since shortly after my apprenticeship in the '60s and had never used a milling machine apart from a brief

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NDMES: a 'new boy's' perspective (cont...)

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familiarisation course back in the '60s. I did, however, learn to operate and carry out some basic milling on the club milling machine, but nothing fancy.

Then, during one of my annual visits to Australia, I showed Phill photos of the progress I had made and he said if I ever came out permanently, he would help get it on the tracks. True to his word, he is doing just that, along with Ron Collins — two of the finest ambassadors for model engineering you could meet. I don't profess to be a skilled model engineer, especially when I see some of the superb examples produced by NDMES members, but just a retired enthusiast who enjoys having a go with, hopefully, the end result being a loco good enough to drive and pull passengers.

I am gradually getting my feet under the table and trying to attend as much as I can. I really enjoy the Wednesday mornings at Ron's, which my wife refers to as the "Hilly Billys" and, of course, the running days. Everyone I have met at the club has been so welcoming and it is very noticeable that there doesn't appear to be any cliques. I enjoy the banter and, like in most clubs, you have to have a good sense of humour and have very broad shoulders which, fortunately, I have.

Now that I have bought a house and am settling in well, I hope to be able to devote more time to the other aspects of the club rather than just turning up on the running days.

Ron suggested I get my dad's Juliet tested as the club wouldn't accept a UK test certificate, even though it was



Giving 'Beryl' (3½" Juliet) a run out with my grandson at the Furness Model Railway Club

still in date. I removed the boiler to make the test easier and it passed with no problems.

The other reason I stripped her down was to do a decent paint job. Ron advised me where to get the paint and, duly bought, I stripped the chassis down to Ron's instructions and was all ready to go up at Parkerville when our government effectively banned non-essential travel. So, the Juliet is on the back burner for now and I am back pottering about with the WD.

Phill has given me enough work within my skills set to be ready for when we are allowed to re-commence our hobby again and get back to the club.

Article and photos by Dave Barlow

Friends of NDMES pass on

THE miniature railway world has been saddened by the loss of two of its members in the past month on opposite sides of the world, both with an NDMES connection.

Dave Burman, who spent almost two months at NDMES during a vacation from the UK in August/September, 2017, died of a stroke in late May. He was a member of the Halesworth and District Model Engineering Society in Suffolk. Many NDMES members would have met Dave, who was just about "ever-present" whenever we opened our gates.

A quiet, affable and down-to-earth person, he was very active at Balcatta during his time with us. In particular, he spent considerable time painting the green picket fence around the picnic grounds, along with Lesley and Alan Hodges.

It was also discovered at a boiler group meeting in Ron Collins' Parkerville workshop that, as a teenager, Dave was unceremoniously removed from Buxton locomotive shed in Derbyshire, UK, by the shedmaster

after being caught "bunking" the shed without a permit. That shedmaster turned out to be our very own Bill Walker! This long-ago "meeting" was recorded in the November-December, 2017 edition of Steamlines.



Above: Dave Burman at the club in August 2017

The other passing was that of Bill Bagley, from Caloundra in Queensland, who probably visited every club in WA, including NDMES, while over here for the 2009 AALS convention at CMR.

Bill owned and drove a 7¼" BB18¼ Pacific, notable because of the wing mirrors he had fitted to it. The UK-built prototype's designation is derived from its three driving axles (BB) and its cylinder diameter (18¼). For parts of his stay in WA, Bill and wife Jen stayed with Tom Winterbourn and Jenny De Gouw at Jen's Swan Valley property. His funeral service was on June 12.

Article and photo by Tom Winterbourn

A simple guide to on-line purchasing

THESE days in model engineering the use of small metric fixings instead of BA is becoming more popular. While our local stores all have the larger sizes, ones smaller than M4 often have to be ordered in. I can highly recommend Bolt and Nut Australia Pty Ltd. Their eBay site is called Fasteners Galore. I have been purchasing from both outlets for a few years.

I can hear people saying "I can't order online, it's too hard, one wrong click and my life savings will disappear to Nigeria!" Not true. I will walk you through it.

First, just do a Google search for Bolt and Nut Australia and it usually comes up as the first listing.

Click on it to open up the site. There is a blue bar with all their products which you can navigate down through, but if you don't want to do that I will give you my example.

At the top right in the "search for your products here" box, type "m3 button head screws" and click on the magnifying glass to the right, which will start the search. Wait a second or two and up will come a page with M3 button head screws in 316 stainless steel, 304 stainless steel, zinc plated and plain black.

I wanted plain black so I click on VIEW RANGE AND ORDER and another page will come up where you can select your options. They are available from 5mm to 40mm long — a good range.

I wanted 10mm length under head so I click on that. Next under PRICE AND PACK OPTIONS choose how many you want. You will notice a single screw will cost \$4.30 and a pack of 50 will cost \$13 — note this is POST FREE. Obviously a single screw costs a few cents and the rest is postage, so the more you buy the cheaper they are. OK, I wanted 50 so I click on that option.

Under NUMBER OF PACKS, I want 1.

Then I click on ADD TO CART.

Now I want some nuts so I will take you another way this time. In the blue bar hover your cursor over NUTS.

Go down and to the left, I want Nyloc insert nuts so click on that. A page with dozens of Nyloc nuts will appear, don't be bothered about that, on the left under SIZE X PITCH click in the square box for M3X0.5p Coarse. Nyloc nuts go down to M2 if you want any that small!

Three nuts appear: 316 and 304 SS and zinc plated. I want zinc so it's the same thing again, under VIEW RANGE AND ORDER click a pack of 50 which costs \$10. Number of packs is 1 then click ADD TO CART.

Now the bit where you part with your money. Click on the top right CART red box which should contain your items (two in this example).

Click VIEW CART AND CHECKOUT, scroll down a bit and we have a total of \$23 and hey! they have given us a discount of \$1.15. Grand total is now \$21.85.

If you have made a mistake or want to get out of it just click the dustbin sign or you can update your order right to the end. Now click PROCEED TO CHECKOUT.

You have a choice of delivery options. I have always used the free postage and it is in my letter box in a week.

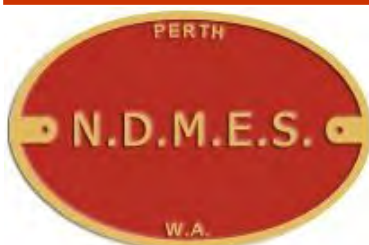
You also have a choice of payment options. I know people who avoid PayPal like the plague but I've been using it for almost twenty years and I have never had a problem and it's secure. It's your choice: you can also give your card details or do a Bank Transfer.

Note in the bar at the top left of your screen beside Bolt and Nut should be a padlock sign that means it's a secure web site. Fill in your details, complete your preferred payment method and click PLACE ORDER. Simple!

Have a browse through their small mm sizes of hex head and socket head screws. Once you have navigated through this site a few times it becomes easy. If you get confused you can always click on the left arrow, top left of page which takes you back to the last page.

I may take you through the delights of the dreaded eBay another time. I can hear it now: "It's all rubbish from China" but again, not always true!

Article by Richard Turner



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