

New members join the run day action

AFTER two hectic public runs in April and May, the June public run on June 25 returned to more normal proportions, with perfect winter weather.

It was a bit chilly early on and this may well have kept numbers down, but from a club perspective it was a perfect day – and one to savour.

There were four new members helping out at the June public run, plus we have four more membership applications, including three from AMRA who are interested in our garden railway project

The flags were also flying high for the first time in a number of years after pulleys on the flag pole had been repaired — see page 3.

Kathy Costall gave Cathy McCafferty a hand in the ticket office/canteen, to “learn the ropes” so she can run the “office” at the July 4 school holiday run and July public run on July 30, when Cathy is unavailable. Meantime, Jean continues to improve after her hip replacement and she should be back at the club again soon.



It was pleasing to see four new members throwing themselves into the action: Peter and Suzanne Smith and Terry Skinner are pictured with Ron Collins. Missing from the line-up is John Jenkin.
All photos: Tom Winterbourn



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Above: Another full load of passengers for Dave Robinson on his big Westrail diesel as he crosses the bridge over the tunnel exit tracks.



Above: 'Mr Ed' driving Ron Collins' 0-4-0 is framed by trackside foliage.

Right: Cathy and Kathy “manning” the ticket office for the June public run. Kathy (Costall) will be in sole charge at the July 4 birthday run and the July public run.



We must be doing something right!

IT is always pleasing to see interest in our society from the “outside world” and the past couple of months have been quite amazing. At the June run we had no fewer than four new members pitching in – and from all accounts they all enjoyed the experience.

John Jenkin is no stranger to many NDMES members, as he has been a member at SWMEA in Bunbury for some time. He helped out as a guard at the run day. The other three new members were Peter and Suzanne Smith and Terry Skinner. A warm welcome to our ranks to you all.

But the new memberships do not stop there. Following our promotion at AMRA, we have received four more membership applications, three from AMRA members, who are interested in our garden railway project. These will be discussed at the July committee meeting and, if they are approved, it will take our membership to over 70. So we must be doing something right!

AND... public support for our monthly running days is at record levels.

Meanwhile, many projects continue to progress, including the garden railway, where a new “roof” is being built over the marshalling yard to protect it from little seeds dropping from the trees above. Power and water will also be laid on while a second rail circuit will be laid when triple points arrive from the UK.

One of the non-M.E. projects under way is the landscaping on top of the tunnel, being undertaken by Peter Maschette and Scott Andrews. Safety guard rails have been installed above both tunnel portals and then followed the “hard labour” of moving the limestone blocks which Pete had acquired for gratis into position to provide a tiered embankment on the western side.

An approach has now been made to the City of Stirling for the provision of suitable shrubs to plant in the tiers. When this work has been completed and a high metal fence has been laid at track level on the western side, the area will be opened up as a public viewing area on public run days, with maybe another pergola or rotunda erected at some time in the future.

With work on the new shared toilet block nearing completion, I have also approached the council to help with some appropriate railway-themed murals on the large cream wall alongside our path on the southern side of the building.

It was pleasing for me personally, and I am sure many other members, to see the three flags flying proudly on the flag pole at the June public run. Again

President's Report



by Tom Winterbourn

thanks to Pete and Scott for arranging for the necessary maintenance to be done, using a cherry picker provided by former CMR president John Palm — see page 3.

With the increasing patronage we are receiving for our public runs now that our Facebook page is up and running again, the committee has decided to build two new carriages. This work is being undertaken by our multi-skilled secretary, Steve Briggs. At present we are waiting on the arrival of four sets of braked bogies purchased from DNC Technologies in NSW before Steve can start

the fabrication, as the bogie dimensions are different from those already in use.

Planning for a new footbridge taking passengers from the station back into the picnic grounds is progressing, with Ron Collins confirming the concept has been completed and detail design started. While this project has received committee approval, before any money is spent and work can start, it will have to be approved by members at a members' meeting. Ron said the bridge can be built and assembled at his old property in Alice Road, Mt Helena, where there is a 2-tonne crane. It can then be transported to Balcatta, with the help of Harry Roser.

AMRA has come and gone for another year and while we received good public support and membership enquiries which have since firmed up into membership applications (see above), our members were somewhat disappointed with the promotion we received from the organisers, particularly in relation to the traction engines outside the pavilion — so much so that the traction engine boys did not return on the Monday. We have a wash-up meeting at AMRA in Balcatta on July 15, and some of our concerns will be raised then. I am also hearing of AMRA plans to expand our operation next year into a full circuit. The cost to us will be a big factor, so watch this space!!

A safety audit has been carried out on the picnic grounds and although I have yet to receive a written report, a verbal report indicates that everything is OK with our trees. The committee is now looking at an emergency evacuation procedure from the picnic grounds, should this ever be necessary. The new bridge will form part of this planning, along with a double gate near the front entrance to our grounds. It is also planned to replace the “tired-looking” wooden fence with metal fencing.

With Cathy unavailable for the first of the two July school holiday runs and also the July public run, we were indeed fortunate to have Kathy Costall step forward to run the ticket office/canteen on those days. To this end, she helped Cathy at the June public run to familiarise herself with the Eftpos machine.

(Continued on page 3)

President's report (cont...)

(Continued from page 2)

We have bought some new plastic chain to replace the heavy metal chain at the front gates. We have found having the chain is necessary to stop BMX members parking there and blocking access to our grounds on Friday nights, when committee and members' meetings are held. The plastic chain will be much easier to handle.

And finally, in a spontaneous act of goodwill towards another member, Andrew Manning, Paul James and John Shugg, with whipper snipper and other equipment, went to

Dennis Lord's home on Tuesday morning, June 27, to clean-up his front yard. Dennis has, unfortunately, been in hospital for about three weeks and so with recent rain, weeds were beginning to take hold. Dennis will be 97 in a couple of months' time. I am sure we all wish him a speedy recovery and look forward to him being back at the club on his trusty Gopher – certainly in time for his 97th birthday celebrations.

Tom Winterbourn, President.



Left: New member John Jenkin with his new Jumbuck loco at the April run day.
Photo: Steve Reeves



Three AMRA members with locos and cars visited our Garden Railway on the June Members' Run Day. They were quite pleased with our track thus far. The scene shows Nick Blinco watching a Black 5 loco steam past with a five car passenger rake in tow.

Photo: John Shugg.

Flag pole is useless no more!

WHAT'S the use of a useless flag pole?

Not much, so a couple of our guys, with a little help from a friend, have rectified our flag pole dilemma.

For some time now, the rope has been missing from the top pulley and so we have been waiting for a friendly cherry picker to come along. And that happened on May 14.

After hearing the wailings of the president about the lack of anybody willing to scamper up the flagpole to check the pulley and insert a new rope, Scott Andrews and Peter Maschette decided to act.

After first ascertaining that Scott standing on Pete's shoulders fell well short of the target, they enlisted the help of former CMR president John Palm, who just happened to have access to a cherry picker.



Scott Andrews with the revitalised flag pole and its three flags.

John duly turned up at the club with the cherry picker on May 14, positioned the machine close to the flag pole and then secretary Steve Briggs produced his rigger's ticket (now there's another surprise!) and was hoisted aloft to change the pulley and thread a new seven-strand wire rope through it.

Steve also ensured the other two pulleys were OK.

Scott and Pete then attached the flags and bingo! — we had the Australian, City of Stirling and club flags fluttering proudly in the breeze in their first airing for several years.

So, a new duty is to be added to the club's public run day roster: Flag raiser and lowerer, morning and afternoon.

Any volunteers?

Axle box lubrication

As a lot of you will know, I am fiddling around with Tom Winterbourn's Black 5 chassis. Tom is very lucky as the main axle boxes are well made with good bronze but have been let down by our old friend lubrication.

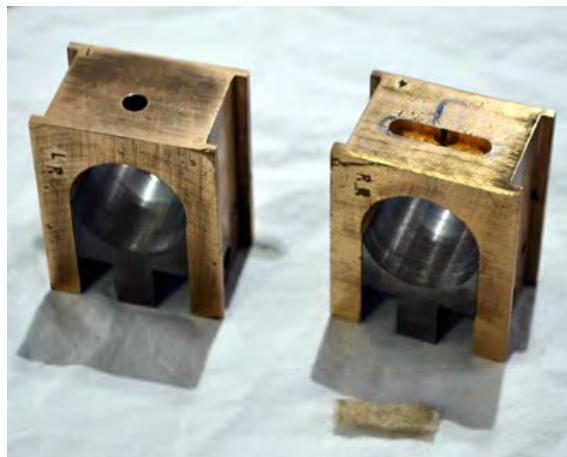
There was only one 1 mm hole right in the middle of the top of the axle box. This of course is the wrong place to lubricate — oil should be introduced on the no-load section of the bearing then rotated round to the loaded section with nothing to break that oil film.

The boxes now have a 6 mm wide slot 6 mm deep across the width of the box minus 3 mm each end. There are now two oil feed holes 2.5 mm diameter, one at each end of the slot. So with a 3 mm thick felt pad pushed into the full width of the slot, each box has the oil introduced in the right place through a decent hole that will not clog up and a felt pad to filter and regulate the oil flow.



Engineering Matters
with boiler inspector
Phill Gibbons

I expect these modified boxes to run trouble-free for many years to come.



Left: the original axle box with its single oil hole.
Right: Phill's modified version with the slot and two oil holes, and in front is the felt pad that will go into the slot. *Photo: Jim Clark*

Calendar of Forthcoming Events

General Meeting	Friday	14 July	7:30 pm
Club Run Day	Sunday	16 July	9:00 am — 2:00 pm
Public Run Day	Sunday	30 July	10:00 am — 2:00 pm
General Meeting	Friday	11 August	7:30 pm
Club Run Day	Sunday	13 August	9:00 am — 2:00 pm
Public Run Day	Sunday	26 August	10:00 am — 2:00 pm

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Editorial

IN this issue we are starting a discussion on loco firing using alternatives to char. The subject has previously been well covered in AME, but it would be interesting to share our members' experiences using the various fuels available here in the West.

Paul Costall has provided an article on this (see page 10). If you have comments or opinions based on your own experiences, please send me your thoughts too.

Correction: In the May-June edition of Steam Lines, we stated that Damien Outram won the DNC Systems Technology award for best kit-built loco. In actual fact, Damien won the DNC Systems Technologies Shield for the best first attempt in building a loco. We apologise for this error.

For those who are tired of paying exorbitant gas bottle rentals, BOC now have a so-called 'D Plan' whereby you can rent a D size gas cylinder and receive one free gas refill per year at a much more reasonable rate.

For example, a D size oxygen cylinder is \$79 per year including one gas refill, which should easily cover most model engineer's requirements. Much better than the \$197 per year rental only that I was previously paying!

You can exchange the part empty cylinder for a new full one at the end of the year, claiming your free refill, thus ensuring you start each year with a full tank.

This deal isn't widely advertised, so if you are interested, contact your local BOC branch and ask about their 'D Plan'.

Jim Clark

Notes from the Boiler Group

A number of boilers have now been completed and successfully hydrostatically tested, pending the return from holidays of boiler inspector Phill Gibbons. A few initial dramas occurred for some builders where more water came out than went in, but these shall remain nameless! Only one or two builders have joined that elite (lucky?) group who can say "no leaks first time".

One thing that has been demonstrated is the streamlined efficiency of the Wednesday group's silver brazing techniques and the great help that the lifting, heating and pickling facilities in Ron's workshop have

been in producing so many excellent boilers in the past year. After final testing, one re-work session is normally all that is needed to produce a leak-free boiler that passes its hydro test perfectly. The re-work is usually completed on the same day as the initial test.

Boiler Group Hint:

When fitting the front plate of a boiler into the barrel over the nest of tubes, it is very fiddly getting all the tube ends through the holes. Using dowel wood, you can make a set of "pencil points" that fit into the tubes and will guide them all into place in a matter of seconds. Keep your set for your next boiler, or lend them to someone else who is using the same size tubes.

Thanks to Keith de Graauw for this useful hint.



Weet-Bix engineering! Paul James working out the fitting of tender plates for his traction engine using clothes pegs and cardboard cut-outs taken from cereal packets. Advice is being provided by Stan Armstrong and Ron Collins: "Paul, that cardboard isn't waterproof..."



Here are all the bits you'll need. (Looks a bit like a secret missile silo, quite appropriate given Keith's Navy background).



Half-way there, all the points are emerging through the correct holes.



A final tap tap — and all tubes are in place in less than two minutes!

Photos: Jim Clark

Remembering Brenton England

BRENTON England has been a friend of the miniature railway and model engineering fraternity for many years, being a member of SWMEA at Bunbury, CMR and NDMES at various times.

His involvement in all three organisations was very active. Many NDMES members will remember him at AMRA three years ago with his proposal for a \$1 million station project he had masterminded at Forrest Park Railway in Bunbury.

His lasting legacy at NDMES will be the club T-shirts most of us are now wearing. Brenton and wife Mary had them made in a factory he set up in the Philippines for the benefit of Mary's family members. He also supplied the blue tops for SWMEA. Earlier this year he returned to the Philippines for one last time.

Despite suffering the advanced effects of the incurable asbestos related cancer Mesothelioma, he was active at the 2016 Sandgroper Gathering in Bunbury last November. It was with great satisfaction that he was able to get his big new 7¼" gauge Pennsylvania Railroad battery-powered electric loco operational at the Sandgroppers event.

One of the big things to happen to Brenton in recent years was his relationship with and marriage to Mary. Her devotion to him during his time of need was incredible.

I travelled to Subiaco many times over recent years to have a coffee with Brenton either at his home or at a particular café near to the station. Sometimes we were joined by Mary and/or her sister.

Before I left on my recent trip to Nepal, Jen and I spent some time with Brenton and Mary in Bethesda Hospital in Claremont. The advanced stage of the illness was clear to see.

His gentle nature and enthusiasm for all things railways will be greatly missed.

I am sure I speak for all members when I say our thoughts and prayers go out to Mary at this very difficult time.

Tom Winterbourn



Brenton and Mary England at Sandgroppers at Balcatta in November, 2015, with a little trade stand they had set up.

Photos: Tom Winterbourn

Phill Gibbons remembers Brenton: "I first met Brenton at Castledare railway when he was a young man with dreams of doing things differently.

He was a graphic artist with the Swan Brewery, a job that seemed to suit him perfectly, as he had a free range to put all the ideas whirling around in his head to a practical application — selling beer.

At the time I was working at Willis Engineering where we had a contract to build an 18" gauge loco for Semaphore Railway in Adelaide. Brenton offered to make all the patterns from polystyrene foam, and they worked a treat. This was the first time I had heard of this, but to Brenton it was of course old news.

There was always something new and exciting down the track — he pioneered recycling in WA and was very much responsible for a big plant south of the river.

Brenton suffered from a few problems later in life but was revitalised when he met and married the love of his life Mary."

Phill Gibbons



At Sandgroppers in Bunbury last November with Brenton's recently completed

AMRA report by Steve Reeves

Although we had train rides for the kids, more effort was put into the model engineering display and recruiting new members. We had several serious inquiries and a membership application handed in.

All photos by Steve Reeves.



Paul Costall (background) steams up his traction engine outside the exhibition hall on the Sunday. In the foreground is Ron Collins' Fowler.



Peter Maschette put on a nice display on construction of a loco using his blowfly project.



Clive Jarman also ran his traction engine on the Saturday.



Above: Clive Jarman ran his Internal Combustion engine on the stand.



Right: Paul James' vertical boiler — one of the first to come out of the Wednesday boiler group meetings.



Left: Clive Chapman's Juliet (nearest camera) was among other exhibits on the display stand.

Below left: A general view of the NDMES display stand.



Paul James' Highland Lassie and Scott's Rob Roy.



May public run day

The May public run day was our second busiest on record, due mainly to excellent weather and good coverage on Facebook.

All photos: Steve Reeves.



George Palmer on Steve Reeves' battery loco 'Ocker'.

Right: Noel Outram gave his H Class its first run at Balcatta since returning from the Lake Macquarie AALS convention over the Easter weekend.



Right: Scott Andrews' new tram which is still under construction was given its first track test after public running at the May run.



June club run day

The June club run day was a well attended event with about 15 members present and 6 locos running.

All photos: Steve Reeves.



Left: Geoff Wilkinson steam-tested his father's SAR loco.

Below: Clive Jarman received a boiler certificate and ran his new Juliet loco named 'Romeo'! (seen here on the NDMES stand at the AMRA Exhibition over the June long weekend).



Left Paul Costall and Ed Brown enjoyed the day with Ed's WAGR E Class.

Being a model engineer

by Les Harris

About a year after I joined the Balcatta club, a long standing member told me that I was not a model engineer and should not be in this club. I suppose it was because I bought my loco rather than built it. I am still asking the question: What is a model engineer?



When I first bought my 2-8-0 Loco.

When I left school I did a 5 year apprenticeship at Jones and Shipman's as a machine tool fitter making quality grinding machines. After my apprenticeship I worked for Herbert Ingersoll making automated transfer lines for the automotive industry and very large rail mills.

In 1972 my wife and our two very young boys emigrated to Perth, where I got a job at Veem Engineering making their bench size manual lathes. After that, I started the service department for 600 Machinery servicing Colchester lathes and Pacific milling machines

I then joined McPhersons (later called Macson's) as their service engineer — this involved servicing all their machine tools up north in the mining industry and metal, sheet metal and woodworking machinery throughout WA. I was in this position when the first NC machines came into use in WA. 'NC' being Numerical Control which were basic machines with paper tape readers and point to point control. This then progressed into CNC which is Computerised Numerical Control which means it has a memory.

I was very fortunate to be in this position, because firstly when I arrived in WA there were only two of us as qualified Machine tool fitters and I do believe this is still the case. Secondly, being there with the first NC controls I was able to learn and also grow with the development of CNC in Australia. Fellow NDMES member Bill Walker was part of this when in 1983 I sold BHP a Mori Seiki CNC lathe to machine their loco wheels and axles — the first one in WA mining and I was told the first one in Australia.

Bill was the Superintendent Rolling Stock Maintenance at BHP's Mt Newman Mining operations in Port Hedland at the time.

In 1991 I started my own company Harris Machine Tools as exclusive agent for Mori Seiki machine tools who were Japan's leading CNC machine tool manufacturer. There were several other Japanese machines that I sold and serviced, including Toshiba, Amada sheet metal, Brother wire cutting and many others.

In the past 10 years the machines I was selling and servicing mostly were the very large multi-tasking machines which are lathes with milling functions from 2 axis control up to 9 axis control, then with Fanuc Robots with 8 axis controls for loading/unloading. In all, a very interesting journey, but now I am enjoying retirement and especially the Wednesday boiler group as I am learning so much about scaled locos and how boilers are made.

I thank Tom and Bill for getting my interest back and to Ron, Phill and all the other Wednesday crew for having the patience to show and tell me all about model engineering. Now I have my own loco running thanks to Ron and Paul. I also have to put in some time to finish laying down my 300 metres of track which I have at home.

Les Harris

My wife Sue who is also the guard she tells me, checking out some of the track.



This is what model engineering was and is all about for me — my Loco and my family sharing it.

All photos: Les Harris

Welsh steam coal observations by Paul Costall

Members of our club recently purchased bags of various sized Welsh steam coal (anthracite) and there has been some discussion over the firing of this “new” fuel. I think this was the new so-called ‘smokeless’ coal introduced in the UK in the 1960s.

There were two very good articles in AME (see issue 184 January-February 2016) by Robin Levin and Graeme Kirkby regarding their testing of this fuel.

If you have a copy then have a read, or I can lend you my copy. Without compromising copyright details I would like to summarise some of their findings which may help us fire our own engines with anthracite.

From the supplier’s advert the anthracite heat output is 14,400 Btu/lb (divide by 0.43 to get kJ/kg) = 33,488 kJ/kg. Char is around 33,000 kJ/kg, so they are similar in heat output, although the volume of char is greater.

Most of us would prefer to use char if we could, because it is clean and easy to use — it doesn’t matter if we load up the firebox to the fire door, it just keeps burning. However, with anthracite it appears that we need to increase the draught through the fire especially with a light load. It fires better with up to 50% grate to draught area, (normally about 30%). As Les Harris and I found out, when the loco is left for more than five minutes, it needed help to re-start the fire, whereas char will pick up with the blower easily.

The AME articles also suggest a low to medium fire depth, presumably to get the air flow around the fuel. There is a photo of the colour of the fire, which confirms my own observation that the fire does not look as hot as char, but it’s certainly plenty hot enough as the engine was blowing its safety valves.

Anthracite is a slower burning fuel, so add a little and not so often and think ahead more than with char. The articles advise not to use a poker as it can collapse the fire and smother it. My own experience was when I had finished running Firefly at the public run day and dropped the grate, the fire stayed in the firebox and had to be poked out!



Paul Costall on Firefly at the June public run day.

There is also a note in the article that there was a small amount of calcified deposits but no clinker. Our own experience was that quite a lot of ash was found in the smoke box and ash pan — see photos below. On the plus side we noted that the ash which did get past the spark arrestor was not alight, so less of a problem if it gets in your eye (still hurts though — just ask Ron!)

I might try a bit more poker work to get the ash to fall down into the ash pan instead of going through to the smokebox, but as previously noted, too much poker can cause the fire to collapse and clog up the grate. More experiments are needed!

I used Welsh steam coal in my traction engine one Saturday after starting it on char and it went well. I ran the firebox about half full and it fired well. There must be a point where you need a minimum volume of coal to get enough heat to raise the water temperature to raise steam, so if your grate area is not big enough you will end up with a deep fire just to get enough heat, which may cause problems with keeping it alight.

At Sandgropers I used the “good quality” Collie coal and couldn’t get above 40 psi. Steve from Batavia and Steve Reeves also had difficulty getting a good fire going with Collie coal. The same problem may occur with that. I hope this helps out with your firing and if you read the article and wish to comment, please do, I don’t profess to be an expert at all. Happy steaming!

Paul Costall



Photos show the amount of ash in the smoke box after 2½ hours running. Left: Bottom two rows of tubes are covered and blocked. Right: Ash might need to be shovelled out after about every 2 hours running.



Steam can be dangerous by John Shugg

Steam from locomotive boilers is dangerous — RIGHT? Locomotive boilers are very hot and at working temperature and pressure the steam they generate is very capable of causing scalding burn injuries to a driver or operator and possibly to nearby spectators in the event of a failure.

At an operating pressure of 95 psi, the water and saturated steam temperature is around 168°C (334°F).

What are the odds of a boiler failure? Fortunately, provided it has been designed and built to the AMBSC code, the odds are fairly remote, just maybe.

QUESTION: What part of a boiler is potentially likely to cause you most harm in the event of a catastrophic failure?

ANSWER: A broken Water Gauge glass.

QUESTION: What part of your anatomy is most vulnerable to injury from scalding or glass shards when driving, especially in sit-in or sit-on tenders or close-coupled driving trucks?

ANSWER: You work it out!

QUESTION: What is the main cause of water gauge glass breakage?

ANSWER: A coal shovel.

Other factors causing breakage can be misalignment of the glass and its fittings, possibly exacerbated by

heat expansion of the fittings. Glass can also corrode or erode over time from some chemicals in the water.

If you replace the gauge glass every four years, when your boiler is due for its inspection by your club boiler inspector, you should minimise that hazard. It ought to be an AMBSC Code requirement!

QUESTION: How could you minimise or even eliminate the gauge glass breakage hazard?

ANSWER: Fit a gauge glass protector over each gauge glass fitted to the backhead. Make it readily removable. A plain glass shield mounted over the gauge glass should minimise or eliminate accidental shovel contact with the glass. A shield will also deflect escaping steam and allow you to close the cocks top and bottom... You have fitted those cocks, haven't you?

SUMMARY: Steam and hot water scald burns are painful, to state the obvious. Once you have experienced such you will be a convert to safer boiler fit-ups. So why wait for that eventuality? Retrofit your gauge glass fittings with gauge glass protectors.

It may not be you that you save from a scalding but some other club member driving your loco — so think about your duty of care obligations, and fit Gauge Glass protectors!

John Shugg

(See the following article for some suggested methods)

Some ideas for gauge glass protectors



Here is a 'Rolls Royce' version built by Phill Gibbons, based on the design of full size gauge glasses. It features small strips of glass held in slots milled into the top and bottom plates. Phill has noted that gauge glass protectors which fully enclose the gauge glass have a tendency to fog up, especially if there is a small steam leak around the glass seals.

Photos: Jim Clark

There are quite a few suggested methods for making and fixing gauge glass protectors. The idea to keep in mind is that the primary purpose of the protector is to prevent accidental contact with the gauge glass tube.

The fixing points for the protector must be on to the fittings above and below the glass, or onto the backhead, but never touching the glass, so that if you do hit the protector, the force is not transferred to the gauge glass tube itself, which will shatter instantly.

One way is to follow full size practice and make top and bottom brass plates separated by spacers holding glass plates, as shown in Phill Gibbons' example.

Another method is to fabricate a brass channel that fits over the fitting nuts, then mill a slot into the front.

You can fit a thin sheet of glass or clear polycarbonate behind the slot. An example of this type is shown as fitted to Jim Clark's traction engine.

A third suggestion is to take a piece of thin-wall K&S brass tubing (available from hobby shops), mill a slot in the front then turn it 180° and slit it up the back so that it can be clipped over the gauge glass nuts. We don't have an example of this to show, so this idea may need some refinement. Any ideas of your own to add?



Gauge glass protector on Jim Clark's Allchin. Note the side slots to let extra light in behind the gauge glass and to help reduce fogging up of the polycarbonate front sheet.

The Bark Mill Museum, Tasmania

by Jim Clark

Collecting and processing bark to extract the tannin used for tanning leather was a significant industry on the east coast of Tasmania, from the 1880s until the 1960s. The main source of bark was the native Black Wattle tree and collectors would roam the countryside stripping the bark from mature trees and bringing it into Swansea for drying and crushing, before it was boiled in vats to make the tanning solution.

Some enterprising local businessmen designed and built the Swansea bark mill, which was driven by a Marshall portable steam engine. This complex processing plant would have been a real test of local ingenuity to build and operate. It has been faithfully resurrected and preserved as the main exhibit in today's Bark Mill Museum.

The Marshall no longer runs under steam, but the whole mill, including the engine, is driven from an electric motor, giving a realistic impression of its operation. There is also a surprisingly large and varied collection of other displays of local agricultural history and machinery in the extensive museum layout.



A complex system of belts and drive shafts transfers power around the mill, driving conveyors, shakers and the crushing mill itself.

If you are in Tasmania and have the opportunity, the Bark Mill Museum in Swansea is well worth a visit. The food at the adjoining bakery/tavern is pretty good too!

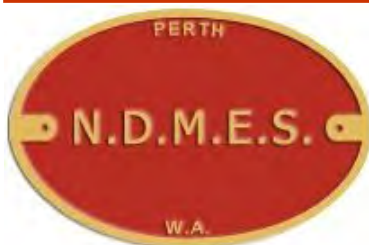
All photos: Jim Clark



Some of the complex arrangement of feed chutes, choppers and conveyors used to process the incoming bark before crushing it.
(The operator is a dummy — the plastic variety)



The Marshall portable engine in its very atmospheric setting...



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